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1.1 libjpeg 6b

1.1.1 Notifications :

This software is based in part on the work of the Independent JPEG Group.

1.1.2 Available under license :

The Independent JPEG Group's JPEG software

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README for release 6b of 27-Mar-1998

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This distribution contains the sixth public release of the Independent JPEG Group's free JPEG software. You are welcome to redistribute this software and to use it for any purpose, subject to the conditions under LEGAL ISSUES, below.

Serious users of this software (particularly those incorporating it into larger programs) should contact IJG at jpeg-info@uunet.uu.net to be added to our electronic mailing list. Mailing list members are notified of updates and have a chance to participate in technical discussions, etc.

This software is the work of Tom Lane, Philip Gladstone, Jim Boucher, Lee Crocker, Julian Minguillon, Luis Ortiz, George Phillips, Davide Rossi, Guido Vollbeding, Ge' Weijers, and other members of the Independent JPEG Group.

IJG is not affiliated with the official ISO JPEG standards committee.

DOCUMENTATION

ROADMAP

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This file contains the following sections:

- OVERVIEW General description of JPEG and the IJG software.
- LEGAL ISSUES Copyright, lack of warranty, terms of distribution.
- REFERENCES Where to learn more about JPEG.

ARCHIVE LOCATIONS Where to find newer versions of this software.

RELATED SOFTWARE Other stuff you should get.

FILE FORMAT WARS Software *not* to get.

TO DO Plans for future IJG releases.

Other documentation files in the distribution are:

User documentation:

install.doc How to configure and install the IJG software.

usage.doc Usage instructions for cjpeg, djpeg, jpegtran,
rdjpgcom, and wrjpgcom.

*.1 Unix-style man pages for programs (same info as usage.doc).

wizard.doc Advanced usage instructions for JPEG wizards only.

change.log Version-to-version change highlights.

Programmer and internal

documentation:

libjpeg.doc How to use the JPEG library in your own programs.

example.c Sample code for calling the JPEG library.

structure.doc Overview of the JPEG library's internal structure.

filelist.doc Road map of IJG files.

coderrules.doc Coding style rules --- please read if you contribute code.

Please read at least the files install.doc and usage.doc. Useful information can also be found in the JPEG FAQ (Frequently Asked Questions) article. See ARCHIVE LOCATIONS below to find out where to obtain the FAQ article.

If you want to understand how the JPEG code works, we suggest reading one or more of the REFERENCES, then looking at the documentation files (in roughly the order listed) before diving into the code.

OVERVIEW

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This package contains C software to implement JPEG image compression and decompression. JPEG (pronounced "jay-peg") is a standardized compression method for full-color and gray-scale images.

JPEG is intended for compressing "real-world" scenes; line drawings, cartoons and other non-realistic images are not its strong suit. JPEG is lossy, meaning that the output image is not exactly identical to the input image. Hence you must not use JPEG if you have to have identical output bits. However, on typical photographic images, very good compression levels can be obtained with no visible change, and remarkably high compression levels are possible if you can tolerate a low-quality image. For more details, see the references, or just experiment with various compression settings.

This software implements JPEG baseline, extended-sequential, and progressive

compression processes. Provision is made for supporting all variants of these processes, although some uncommon parameter settings aren't implemented yet. For legal reasons, we are not distributing code for the arithmetic-coding variants of JPEG; see LEGAL ISSUES. We have made no provision for supporting the hierarchical or lossless processes defined in the standard.

We provide a set of library routines for reading and writing JPEG image files, plus two sample applications "cjpeg" and "djpeg", which use the library to perform conversion between JPEG and some other popular image file formats. The library is intended to be reused in other applications.

In order to support file conversion and viewing software, we have included considerable functionality beyond the bare JPEG coding/decoding capability; for example, the color quantization modules are not strictly part of JPEG decoding, but they are essential for output to colormapped file formats or colormapped displays. These extra functions can be compiled out of the library if not required for a particular application. We have also included "jpegtran", a utility for lossless transcoding between different JPEG processes, and "rdjpgcom" and "wrjpgcom", two simple applications for inserting and extracting textual comments in JFIF files.

The emphasis in designing this software has been on achieving portability and flexibility, while also making it fast enough to be useful. In particular, the software is not intended to be read as a tutorial on JPEG. (See the REFERENCES section for introductory material.) Rather, it is intended to be reliable, portable, industrial-strength code. We do not claim to have achieved that goal in every aspect of the software, but we strive for it.

We welcome the use of this software as a component of commercial products. No royalty is required, but we do ask for an acknowledgement in product documentation, as described under LEGAL ISSUES.

LEGAL ISSUES

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In plain English:

1. We don't promise that this software works. (But if you find any bugs, please let us know!)
2. You can use this software for whatever you want. You don't have to pay us.
3. You may not pretend that you wrote this software. If you use it in a program, you must acknowledge somewhere in your documentation that you've used the IJG code.

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- (2) If only executable code is distributed, then the accompanying documentation must state that "this software is based in part on the work of the Independent JPEG Group".
- (3) Permission for use of this software is granted only if the user accepts full responsibility for any undesirable consequences; the authors accept NO LIABILITY for damages of any kind.

These conditions apply to any software derived from or based on the IJG code, not just to the unmodified library. If you use our work, you ought to acknowledge us.

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We specifically permit and encourage the use of this software as the basis of commercial products, provided that all warranty or liability claims are assumed by the product vendor.

ansi2knr.c is included in this distribution by permission of L. Peter Deutsch, sole proprietor of its copyright holder, Aladdin Enterprises of Menlo Park, CA. ansi2knr.c is NOT covered by the above copyright and conditions, but instead by the usual distribution terms of the Free Software Foundation; principally, that you must include source code if you redistribute it. (See the file ansi2knr.c for full details.) However, since ansi2knr.c is not needed as part of any program generated from the IJG code, this does not limit you more than the foregoing paragraphs do.

The Unix configuration script "configure" was produced with GNU Autoconf. It is copyright by the Free Software Foundation but is freely distributable. The same holds for its supporting scripts (config.guess, config.sub, ltconfig, ltmain.sh). Another support script, install-sh, is copyright by M.I.T. but is also freely distributable.

It appears that the arithmetic coding option of the JPEG spec is covered by patents owned by IBM, AT&T, and Mitsubishi. Hence arithmetic coding cannot legally be used without obtaining one or more licenses. For this reason, support for arithmetic coding has been removed from the free JPEG software. (Since arithmetic coding provides only a marginal gain over the unpatented Huffman mode, it is unlikely that very many implementations will support it.) So far as we are aware, there are no patent restrictions on the remaining code.

The IJG distribution formerly included code to read and write GIF files. To avoid entanglement with the Unisys LZW patent, GIF reading support has been removed altogether, and the GIF writer has been simplified to produce "uncompressed GIFs". This technique does not use the LZW algorithm; the resulting GIF files are larger than usual, but are readable by all standard GIF decoders.

We are required to state that

"The Graphics Interchange Format(c) is the Copyright property of CompuServe Incorporated. GIF(sm) is a Service Mark property of CompuServe Incorporated."

REFERENCES

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We

highly recommend reading one or more of these references before trying to understand the innards of the JPEG software.

The best short technical introduction to the JPEG compression algorithm is Wallace, Gregory K. "The JPEG Still Picture Compression Standard", Communications of the ACM, April 1991 (vol. 34 no. 4), pp. 30-44. (Adjacent articles in that issue discuss MPEG motion picture compression, applications of JPEG, and related topics.) If you don't have the CACM issue handy, a PostScript file containing a revised version of Wallace's article is available at <ftp://ftp.uu.net/graphics/jpeg/wallace.ps.gz>. The file (actually a preprint for an article that appeared in IEEE Trans. Consumer Electronics) omits the sample images that appeared in CACM, but it includes corrections and some added material. Note: the Wallace article is copyright ACM and IEEE, and it may not be used for commercial purposes.

A somewhat less technical, more leisurely introduction to JPEG can be found in "The Data Compression Book" by Mark Nelson and Jean-loup Gailly, published by M&T Books (New York), 2nd ed. 1996, ISBN 1-55851-434-1. This book provides good explanations and example C code for a multitude of compression methods including JPEG. It is an excellent source if you are comfortable reading C code but don't know much about data compression in general. The book's JPEG sample code is far from industrial-strength, but when you are ready to look at a full implementation, you've got one here...

The best full description of JPEG is the textbook "JPEG Still Image Data Compression Standard" by William B. Pennebaker and Joan L. Mitchell, published by Van Nostrand Reinhold, 1993, ISBN 0-442-01272-1. Price US\$59.95, 638 pp. The book includes the complete text of the ISO JPEG standards (DIS 10918-1 and draft DIS 10918-2). This is by far the most complete exposition of JPEG in existence, and we highly recommend it.

The

JPEG standard itself is not available electronically; you must order a paper copy through ISO or ITU. (Unless you feel a need to own a certified official copy, we recommend buying the Pennebaker and Mitchell book instead; it's much cheaper and includes a great deal of useful explanatory material.) In the USA, copies of the standard may be ordered from ANSI Sales at (212) 642-4900, or from Global Engineering Documents at (800) 854-7179. (ANSI doesn't take credit card orders, but Global does.) It's not cheap: as of 1992, ANSI was charging \$95 for Part 1 and \$47 for Part 2, plus 7% shipping/handling. The standard is divided into two parts, Part 1 being the actual specification, while Part 2 covers compliance testing methods. Part 1 is titled "Digital Compression and Coding of Continuous-tone Still Images, Part 1: Requirements and guidelines" and has document numbers ISO/IEC IS 10918-1, ITU-T T.81. Part 2 is titled "Digital Compression and Coding of Continuous-tone Still Images, Part 2: Compliance testing" and has document numbers ISO/IEC IS 10918-2, ITU-T T.83.

Some extensions to the original JPEG standard are defined in JPEG Part 3, a newer ISO standard numbered ISO/IEC IS 10918-3 and ITU-T T.84. IJG currently does not support any Part 3 extensions.

The JPEG standard does not specify all details of an interchangeable file format. For the omitted details we follow the "JFIF" conventions, revision 1.02. A copy of the JFIF spec is available from:

Literature Department
C-Cube Microsystems, Inc.
1778 McCarthy Blvd.
Milpitas, CA 95035
phone (408) 944-6300, fax (408) 944-6314

A PostScript version of this document is available by FTP at <ftp://ftp.uu.net/graphics/jpeg/jfif.ps.gz>. There is also a plain text version at <ftp://ftp.uu.net/graphics/jpeg/jfif.txt.gz>, but it is missing the figures.

The TIFF 6.0 file format specification can be obtained by FTP from <ftp://ftp.sgi.com/graphics/tiff/TIFF6.ps.gz>. The JPEG incorporation scheme found in the TIFF 6.0 spec of 3-June-92 has a number of serious problems. IJG does not recommend use of the TIFF 6.0 design (TIFF Compression tag 6). Instead, we recommend the JPEG design proposed by TIFF Technical Note #2 (Compression tag 7). Copies of this Note can be obtained from <ftp.sgi.com> or from <ftp://ftp.uu.net/graphics/jpeg/>. It is expected that the next revision of the TIFF spec will replace the 6.0 JPEG design with the Note's design. Although IJG's own code does not support TIFF/JPEG, the free libtiff library uses our library to implement TIFF/JPEG per the Note. libtiff is available from <ftp://ftp.sgi.com/graphics/tiff/>.

ARCHIVE LOCATIONS

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The "official" archive site for this software is <ftp.uu.net> (Internet address 192.48.96.9). The most recent released version can always be found there in directory <graphics/jpeg>. This particular version will be archived as <ftp://ftp.uu.net/graphics/jpeg/jpegsrc.v6b.tar.gz>. If you don't have direct Internet access, UUNET's archives are also available via UUCP; contact help@uunet.uu.net for information on retrieving files that way.

Numerous Internet sites maintain copies of the UUNET files. However, only <ftp.uu.net> is guaranteed to have the latest official version.

You can also obtain this software in DOS-compatible "zip" archive format from the SimTel archives (<ftp://ftp.simtel.net/pub/simtelnet/msdos/graphics/>), or on CompuServe in the Graphics Support forum (GO CIS:GRAPHSUP), library 12 "JPEG Tools". Again, these versions may sometimes lag behind the <ftp.uu.net> release.

The JPEG FAQ (Frequently Asked Questions) article is a useful source of general information about JPEG. It is updated constantly and therefore is not included in this distribution. The FAQ is posted every two weeks to Usenet newsgroups <comp.graphics.misc>, <news.answers>, and other groups. It is available on the World Wide Web at <http://www.faqs.org/faqs/jpeg-faq/> and other <news.answers> archive sites, including the official <news.answers> archive at <rtfm.mit.edu>: <ftp://rtfm.mit.edu/pub/usenet/news.answers/jpeg-faq/>. If you don't have Web or FTP access, send e-mail to mail-server@rtfm.mit.edu

with body
send usenet/news.answers/jpeg-faq/part1
send usenet/news.answers/jpeg-faq/part2

RELATED SOFTWARE

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Numerous viewing and image manipulation programs now support JPEG. (Quite a few of them use this library to do so.) The JPEG FAQ described above lists some of the more popular free and shareware viewers, and tells where to obtain them on Internet.

If you are on a Unix machine, we highly recommend Jef Poskanzer's free PBPLUS software, which provides many useful operations on PPM-format image files. In particular, it can convert PPM images to and from a wide range of other formats, thus making cjpeg/djpeg considerably more useful. The latest version is distributed by the NetPBM group, and is available from numerous sites,

notably <ftp://wuarchive.wustl.edu/graphics/graphics/packages/NetPBM/>.

Unfortunately PBPLUS/NETPBM is not nearly as portable as the IJG software is; you are likely to have difficulty making it work on any non-Unix machine.

A different free JPEG implementation, written by the PVRG group at Stanford, is available from <ftp://havefun.stanford.edu/pub/jpeg/>. This program is designed for research and experimentation rather than production use; it is slower, harder to use, and less portable than the IJG code, but it is easier to read and modify. Also, the PVRG code supports lossless JPEG, which we do not. (On the other hand, it doesn't do progressive JPEG.)

FILE FORMAT WARS

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Some JPEG programs produce files that are not compatible with our library. The root of the problem is that the ISO JPEG committee failed to specify a concrete file format. Some vendors "filled in the blanks" on their own, creating proprietary formats that no one else could read.

(For example, none of the early commercial JPEG implementations for the Macintosh were able to exchange compressed files.)

The file format we have adopted is called JFIF (see REFERENCES). This format has been agreed to by a number of major commercial JPEG vendors, and it has become the de facto standard. JFIF is a minimal or "low end" representation. We recommend the use of TIFF/JPEG (TIFF revision 6.0 as modified by TIFF Technical Note #2) for "high end" applications that need to record a lot of additional data about an image. TIFF/JPEG is fairly new and not yet widely

supported, unfortunately.

The upcoming JPEG Part 3 standard defines a file format called SPIFF. SPIFF is interoperable with JFIF, in the sense that most JFIF decoders should be able to read the most common variant of SPIFF. SPIFF has some technical advantages over JFIF, but its major claim to fame is simply that it is an official standard rather than an informal one. At this point it is unclear whether

SPIFF will supersede JFIF or whether JFIF will remain the de-facto standard. IJG intends to support SPIFF once the standard is frozen, but we have not decided whether it should become our default output format or not. (In any case, our decoder will remain capable of reading JFIF indefinitely.)

Various proprietary file formats incorporating JPEG compression also exist. We have little or no sympathy for the existence of these formats. Indeed, one of the original reasons for developing this free software was to help force convergence on common, open format standards for JPEG files. Don't use a proprietary file format!

TO DO

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The major thrust for v7 will probably be improvement of visual quality. The current method for scaling the quantization tables is known not to be very good at low Q values. We also intend to investigate block boundary smoothing, "poor man's variable quantization", and other means of improving quality-vs-file-size performance without sacrificing compatibility.

In future versions, we are considering supporting some of the upcoming JPEG Part 3 extensions --- principally, variable quantization and the SPIFF file format.

As always, speeding things up is of great interest.

Please send bug reports, offers of help, etc. to jpeg-info@uunet.uu.net.

1.2 javax-inject 1

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*/

Found in path(s):

* /opt/cola/permits/173667507_1695324641.7896898/0/annotations-13-0-sources-
jar/org/jetbrains/annotations/Nls.java
* /opt/cola/permits/173667507_1695324641.7896898/0/annotations-13-0-sources-
jar/org/jetbrains/annotations/Nullable.java
* /opt/cola/permits/173667507_1695324641.7896898/0/annotations-13-0-sources-
jar/org/jetbrains/annotations/NonNls.java
*

/opt/cola/permits/173667507_1695324641.7896898/0/annotations-13-0-sources-
jar/org/jetbrains/annotations/PropertyKey.java

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```
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 */
```

Found in path(s):

```
* /opt/cola/permits/173667507_1695324641.7896898/0/annotations-13-0-sources-
jar/org/jetbrains/annotations/TestOnly.java
* /opt/cola/permits/173667507_1695324641.7896898/0/annotations-13-0-sources-
jar/org/intellij/lang/annotations/JdkConstants.java
* /opt/cola/permits/173667507_1695324641.7896898/0/annotations-13-0-sources-
jar/org/jetbrains/annotations/NotNull.java
*
/opt/cola/permits/173667507_1695324641.7896898/0/annotations-13-0-sources-
jar/org/intellij/lang/annotations/MagicConstant.java
```

1.6 listenablefuture 9999.0-empty-to-avoid-conflict-with-guava

1.7 failureaccess 1.0.1

1.8 j2objc-annotations 1.3

1.8.1 Available under license :

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1.9 bean-validation-api 2.0.1.Final

1.9.1 Available under license :

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1.10 giflib 5.2.1

1.10.1 Available under license :

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1.11 error_prone_annotations 2.3.4

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```

Found in path(s):

```
* /opt/ws_local/PERMITS_SQL/1059106420_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-
jar/com/google/errorprone/annotations/Immutable.java
* /opt/ws_local/PERMITS_SQL/1059106420_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-
jar/com/google/errorprone/annotations/ForOverride.java
* /opt/ws_local/PERMITS_SQL/1059106420_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-
jar/com/google/errorprone/annotations/Var.java
*
/opt/ws_local/PERMITS_SQL/1059106420_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-
jar/com/google/errorprone/annotations/SuppressPackageLocation.java
* /opt/ws_local/PERMITS_SQL/1059106420_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-
jar/com/google/errorprone/annotations/IncompatibleModifiers.java
```

* /opt/ws_local/PERMITS_SQL/1059106420_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-jar/com/google/errorprone/annotations/CanIgnoreReturnValue.java
* /opt/ws_local/PERMITS_SQL/1059106420_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-jar/com/google/errorprone/annotations/CompileTimeConstant.java
* /opt/ws_local/PERMITS_SQL/1059106420_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-jar/com/google/errorprone/annotations/concurrent/LazyInit.java
* /opt/ws_local/PERMITS_SQL/1059106420_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-jar/com/google/errorprone/annotations/RequiredModifiers.java

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* /opt/ws_local/PERMITS_SQL/1059106420_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-jar/com/google/errorprone/annotations/DoNotCall.java

* /opt/ws_local/PERMITS_SQL/1059106420_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-jar/com/google/errorprone/annotations/concurrent/GuardedBy.java

*

/opt/ws_local/PERMITS_SQL/1059106420_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-jar/com/google/errorprone/annotations/OverridingMethodsMustInvokeSuper.java

* /opt/ws_local/PERMITS_SQL/1059106420_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-jar/com/google/errorprone/annotations/CheckReturnValue.java

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* /opt/ws_local/PERMITS_SQL/1059106420_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-jar/com/google/errorprone/annotations/concurrent/UnlockMethod.java
* /opt/ws_local/PERMITS_SQL/1059106420_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-jar/com/google/errorprone/annotations/NoAllocation.java
*

/opt/ws_local/PERMITS_SQL/1059106420_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-jar/com/google/errorprone/annotations/concurrent/LockMethod.java
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Found in path(s):

* /opt/ws_local/PERMITS_SQL/1059106420_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-jar/com/google/errorprone/annotations/FormatString.java
* /opt/ws_local/PERMITS_SQL/1059106420_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-jar/com/google/errorprone/annotations/DoNotMock.java
* /opt/ws_local/PERMITS_SQL/1059106420_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-jar/com/google/errorprone/annotations/CompatibleWith.java
*

/opt/ws_local/PERMITS_SQL/1059106420_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-jar/com/google/errorprone/annotations/RestrictedApi.java

* /opt/ws_local/PERMITS_SQL/1059106420_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-jar/com/google/errorprone/annotations/MustBeClosed.java

* /opt/ws_local/PERMITS_SQL/1059106420_1592475238.99/0/error-prone-annotations-2-3-4-sources-1-jar/com/google/errorprone/annotations/FormatMethod.java

1.12 jctools-core 3.1.0

1.12.1 Available under license :

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```
<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/maven-v4_0_0.xsd">
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</instructions>
</configuration>
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</additionalOptions>
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</plugin>
</plugins>

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</build>

<distributionManagement>

<repository>

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<name>jctools-jctools</name>

<url>https://api.bintray.com/maven/jctools/jctools/jctools-core/;publish=1</url>

</repository>

</distributionManagement>

<url>https://github.com/JCTools</url>

<inceptionYear>2013</inceptionYear>

<licenses>

<license>

<name>Apache

License, Version 2.0</name>

<url>http://www.apache.org/licenses/LICENSE-2.0.txt</url>

<distribution>repo</distribution>

</license>

</licenses>

<scm>

<url>https://github.com/JCTools/JCTools</url>

<connection>scm:git:https://github.com/JCTools/JCTools</connection>

<tag>HEAD</tag>

</scm>

<developers>

<developer>

<url>https://github.com/nitsanw</url>

</developer>

<developer>

<url>https://github.com/mjpt777</url>

</developer>

<developer>

<url>https://github.com/RichardWarburton</url>

</developer>

<developer>

<url>https://github.com/kay</url>

</developer>

<developer>

<url>https://github.com/franz1981</url>

</developer>

</developers>

<prerequisites>

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</prerequisites>

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<java.test.version>1.8</java.test.version>

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<maven.compiler.target>${java.version}</maven.compiler.target>
<maven.compiler.testSource>${java.test.version}</maven.compiler.testSource>
<maven.compiler.testTarget>${java.test.version}</maven.compiler.testTarget>

<hamcrest.version>1.3</hamcrest.version>
<junit.version>4.12</junit.version>
<guava-testlib.version>21.0</guava-testlib.version>
</properties>
</project>

```

Found

in path(s):

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/META-INF/maven/org.jctools/jctools-core/pom.xml

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* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/spec/Ordering.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/SpvcUnboundedAtomicArrayQueue.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/SpmcAtomicArrayQueue.java

*

/opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/MessagePassingQueueUtil.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/MpmcAtomicArrayQueue.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/util/UnsafeJvmInfo.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/LinkedListQueueAtomicNode.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/SpSCLinkedListQueue.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/MpscUnboundedXaddArrayQueue.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/spec/Preference.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/MpscAtomicArrayQueue.java

*

/opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/MessagePassingQueue.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/SupportsIterator.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/MpmcUnboundedXaddArrayQueue.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/MpscGrowArrayQueue.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/BaseSpSCLinkedListAtomicArrayQueue.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/AtomicQueueFactory.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/MpmcArrayQueue.java

*

/opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/SpSCAtomicArrayQueue.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/SpSCLinkedListAtomicQueue.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/SpMCArrayQueue.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/maps/AbstractEntry.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/MpmcUnboundedXaddChunk.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/MpscChunkedArrayQueue.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/maps/NonBlockingHashMapLong.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/MpscChunkedAtomicArrayQueue.java

*


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/opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/ConcurrentSequencedCircularArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/util/UnsafeLongArrayAccess.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/MpscBlockingConsumerArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/atomic/BaseMpscLinkedAtomicArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/maps/NonBlockingHashMap.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/BaseMpscLinkedArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/atomic/MpscGrowableAtomicArrayQueue.java
*
/opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/maps/NonBlockingIdentityHashMap.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/BaseLinkedQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/util/InternalAPI.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/maps/NonBlockingHashSet.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/util/Pow2.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/spec/ConcurrentQueueSpec.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/atomic/SpSCChunkedAtomicArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/maps/ConcurrentAutoTable.java
*
/opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
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* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/atomic/MpscUnboundedAtomicArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/LinkedQueueNode.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/SpSCUnboundedArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/util/PortableJvmInfo.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/ConcurrentCircularArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/maps/NonBlockingSetInt.java
*

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/opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/atomic/BaseLinkedAtomicQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/atomic/SequencedAtomicReferenceArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/MpscLinkedQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/util/UnsafeRefArrayAccess.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/MpscCompoundQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/SpSCChunkedArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/SpSCArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/atomic/AtomicReferenceArrayQueue.java
*
/opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/QueueFactory.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/MpscArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/util/UnsafeAccess.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/MpscUnboundedArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/atomic/SpSCGrowableAtomicArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/IndexedQueueSizeUtil.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/atomic/MpscLinkedAtomicQueue.java
*
/opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/SpSCGrowableArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/util/RangeUtil.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/package-info.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/BaseSpSCLinkedArrayQueue.java

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1.13 xerces-j 2.12.2

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jar/com/google/common/util/concurrent/TrustedListenableFutureTask.java
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jar/com/google/common/util/concurrent/ImmediateFuture.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/SimpleTimeLimiter.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/annotations/VisibleForTesting.java

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* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/reflect/TypeVisitor.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/thirdparty/publicsuffix/PublicSuffixType.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/HashingInputStream.java
*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/VerifyException.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/eventbus/SubscriberExceptionHandler.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/AbstractTable.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/Runnables.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Verify.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/eventbus/SubscriberExceptionContext.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/FilteredMultimapValues.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/CharSequenceReader.java
*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Utf8.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/WrappingScheduledExecutorService.java
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Found in path(s):

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/JdkBackedImmutableMap.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/BaseImmutableMultimap.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/JdkBackedImmutableBiMap.java

*

/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/IndexedImmutableSet.java

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* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/package-info.java

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*/

/*

- * This following method is a modified version of one found in
- * <http://gee.cs.oswego.edu/cgi-bin/viewcvs.cgi/jsr166/src/test/tck/AbstractExecutorServiceTest.java?revision=1.30>
- * which contained the following notice:
- *
- * Written by Doug Lea with assistance from members of JCP JSR-166 Expert Group and released to
- *
- the public domain, as explained at <http://creativecommons.org/publicdomain/zero/1.0/>
- *
- * Other contributors include Andrew Wright, Jeffrey Hayes, Pat Fisher, Mike Judd.
- */

Found in path(s):

- * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/MoreExecutors.java
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- */

Found in path(s):

- * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/FilteredKeySetMultimap.java
- * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/FilteredKeyListMultimap.java
- * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/AllEqualOrdering.java
- *
- */opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/TransformedListIterator.java
- * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/FilteredMultimap.java
- * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/FilteredEntrySetMultimap.java
- * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-

jar/com/google/common/collect/SortedMultisetBridge.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/CompactLinkedHashSet.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/CompactLinkedHashMap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/FilteredSetMultimap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/CompactHashMap.java
*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/AbstractSortedKeySortedSetMultimap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ImmutableEnumMap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/UnmodifiableSortedMultiset.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/ForwardingBlockingDeque.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ForwardingImmutableList.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ForwardingBlockingDeque.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ForwardingDeque.java
*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/TransformedIterator.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ForwardingImmutableMap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/TreeTraverser.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/CompactHashSet.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/DescendingMultiset.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/FilteredEntryMultimap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/RangeMap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ForwardingNavigableSet.java
*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/TreeRangeMap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/DescendingImmutableSortedSet.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/AbstractMultimap.java

```
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/RegularImmutableAsList.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/EvictingQueue.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ForwardingNavigableMap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ForwardingImmutableSet.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/AbstractNavigableMap.java
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*/
/**
* Holder for extra methods of {@code Objects} only in web. Intended to be empty for regular
* version.
*/
```

Found in path(s):

```
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/base/ExtraObjectsMethodsForWeb.java
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- * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ImmutableMapEntry.java
- * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/MultimapBuilder.java
- * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/MoreFiles.java

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- * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/Tables.java
- * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/thirdparty/publicsuffix/PublicSuffixPatterns.java

*

/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/Serialization.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/StandardTable.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ImmutableListMultimap.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/PeekingIterator.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/RegularImmutableMap.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-

jar/com/google/common/collect/ImmutableMultiset.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/SingletonImmutableBiMap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/RegularImmutableBiMap.java
*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ImmutableBiMap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ImmutableSortedSet.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ImmutableMapValues.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/Collections2.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ImmutableMapEntrySet.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ImmutableCollection.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/Table.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/EmptyImmutableListMultimap.java
*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/CollectPreconditions.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/HashBasedTable.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ImmutableMultimap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/Platform.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/TreeBasedTable.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/StandardRowSortedTable.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ImmutableMap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/Range.java
*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/UnmodifiableIterator.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ImmutableMapKeySet.java
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*/
/**
* Holder for web specializations of methods of { @code Shorts }. Intended to be empty for regular
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*/
```

Found in path(s):

```
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/primitives/ShortsMethodsForWeb.java
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express
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* the License.
*/
/**
* This method was rewritten in Java from an intermediate step of the Murmur hash function in
* http://code.google.com/p/smhasher/source/browse/trunk/MurmurHash3.cpp, which contained the
* following header:
*
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*/
```

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```
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
```

jar/com/google/common/base/SmallCharMatcher.java

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* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-

jar/com/google/common/collect/ImmutableRangeSet.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-

jar/com/google/common/math/LinearTransformation.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-

jar/com/google/common/io/CharSink.java

*

/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-

jar/com/google/common/hash/LongAddable.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-

jar/com/google/common/util/concurrent/SmoothRateLimiter.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-

jar/com/google/common/collect/FilteredKeyMultimap.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-

jar/com/google/common/reflect/Parameter.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-

jar/com/google/common/io/ByteSink.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/Closer.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-

jar/com/google/common/math/Stats.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-

jar/com/google/common/html/package-info.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-

jar/com/google/common/math/PairedStatsAccumulator.java

*

/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-

jar/com/google/common/reflect/Element.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-

jar/com/google/common/io/CharSource.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/reflect/package-info.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/reflect/ImmutableTypeToInstanceMap.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/math/StatsAccumulator.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/escape/package-info.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/reflect/MutableTypeToInstanceMap.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/SipHashFunction.java
 *
 /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/reflect/TypeCapture.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/cache/LongAddable.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/ByteSource.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/ChecksumHashFunction.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/reflect/Invokable.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/RateLimiter.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/StandardSystemProperty.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/AbstractByteHasher.java
 *
 /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/reflect/AbstractInvocationHandler.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/BaseEncoding.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/reflect/TypeToInstanceMap.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/math/PairedStats.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/cache/LongAddables.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/ListenableScheduledFuture.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/LongAddables.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/CartesianList.java
 *

/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/FileWriteMode.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/reflect/ClassPath.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/xml/package-info.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ImmutableRangeMap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/ServiceManager.java
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* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/graph/BaseGraph.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/graph/Traverser.java
*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/ClosingFuture.java
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/*
* This method was rewritten in Java from an intermediate step of the Murmur hash function in
* http://code.google.com/p/smhasher/source/browse/trunk/MurmurHash3.cpp, which contained the
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```
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jar/com/google/common/collect/Hashing.java
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*/
/**
* Outer class that exists solely to let us write {@code Partially.GwtIncompatible} instead of plain
* {@code GwtIncompatible}. This is more accurate for {@link Futures#catching}, which is available
* under GWT but with a slightly different signature.
*
* <p>We can't use {@code PartiallyGwtIncompatible} because then the GWT compiler
wouldn't recognize
* it as a {@code GwtIncompatible} annotation. And for {@code Futures.catching}, we need the GWT
* compiler to autostrip the normal server method in order to expose the special, inherited GWT
* version.
*/
```

Found in path(s):

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/Partially.java

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* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/graph/ImmutableGraph.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/graph/SuccessorsFunction.java

*

/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/graph/MutableNetwork.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/graph/ImmutableNetwork.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/graph/Graphs.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/InsecureRecursiveDeleteException.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/graph/Graph.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/RecursiveDeleteOption.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/graph/PredecessorsFunction.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/graph/MutableGraph.java

*

/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/graph/Network.java

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jar/com/google/common/reflect/Reflection.java

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jar/com/google/common/util/concurrent/AtomicDoubleArray.java

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jar/com/google/common/hash/LongAdder.java

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jar/com/google/common/cache/LongAdder.java

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jar/com/google/common/cache/Striped64.java

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jar/com/google/common/hash/Striped64.java

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* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/primitives/Shorts.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/primitives/Doubles.java

*

/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/SequentialExecutor.java

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* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/primitives/Booleans.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/primitives/Chars.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/net/PercentEscaper.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Joiner.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/primitives/Floats.java

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/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/escape/UnicodeEscaper.java

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* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Stopwatch.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Converter.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/primitives/Longs.java

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jar/com/google/common/primitives/Ints.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/base/internal/Finalizer.java
*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/net/InetAddresses.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/escape/Escaper.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/thirdparty/publicsuffix/TrieParser.java
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jar/com/google/common/collect/ForwardingSetMultimap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/MinMaxPriorityQueue.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/AbstractSequentialIterator.java
*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ForwardingListMultimap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/RowSortedTable.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ForwardingSortedSetMultimap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ForwardingImmutableCollection.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/UnmodifiableListIterator.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/SortedMapDifference.java
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jar/com/google/common/collect/SortedMultisets.java

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jar/com/google/common/collect/DenseImmutableTable.java

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jar/com/google/common/util/concurrent/ForwardingFuture.java

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jar/com/google/common/primitives/UnsignedBytes.java

*

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jar/com/google/common/net/HostSpecifier.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/AbstractExecutionThreadService.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/JdkFutureAdapters.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/primitives/SignedBytes.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/annotations/GwtIncompatible.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/SparseImmutableTable.java
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jar/com/google/common/net/UrlEscapers.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/cache/ReferenceEntry.java
*
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jar/com/google/common/collect/MapMakerInternalMap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/reflect/TypeResolver.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/escape/Platform.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/MapMaker.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/escape/ArrayBasedUnicodeEscaper.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/cache/CacheBuilder.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/Cut.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/io/ByteArrayDataInput.java
*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/SettableFuture.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/Callables.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/Service.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/AbstractIdleService.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/ForwardingFluentFuture.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/base/Platform.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/io/ByteArrayDataOutput.java

```

```

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/html/HtmlEscapers.java
*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/escape/ArrayBasedEscaperMap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/io/LineProcessor.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/xml/XmlEscapers.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/RegularImmutableTable.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/ForwardingListenableFuture.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/annotations/GwtCompatible.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/io/ByteProcessor.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/escape/ArrayBasedCharEscaper.java
*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/net/InternetDomainName.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/AbstractService.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/base/Splitter.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/cache/LocalCache.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/escape/Escapers.java
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*/
/**

```

```
* Not supported. <b>You are attempting to create a map that may contain a non-{@code Comparable}
* key.</b> Proper calls will resolve to the version in {@code ImmutableSortedMap}, not this dummy
* version.
*
* @throws UnsupportedOperationException always
* @deprecated <b>Pass a key of type {@code Comparable}
to use {@link
*   ImmutableSortedMap#of(Comparable, Object)}.</b>
*/
```

Found in path(s):

```
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ImmutableSortedMapFauxverideShim.java
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```

```
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express
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* the License.
*/
/**
* Holder for web specializations of methods of {@code Floats}. Intended to be empty for regular
* version.
*/
```

Found in path(s):

```
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/primitives/FloatsMethodsForWeb.java
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```

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- */

Found in path(s):

- * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ComputationException.java
- * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/DiscreteDomain.java
- * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ImmutableClassToInstanceMap.java
- *
- /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ImmutableSortedSetFauxverideShim.java
- * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ImmutableTable.java
- * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ImmutableAsList.java
- * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ArrayTable.java
- * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ForwardingTable.java
- * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/TableCollectors.java
- * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ImmutableEnumSet.java
- * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/RegularImmutableSortedSet.java
- *
- /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ImmutableSortedMap.java
- * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/SingletonImmutableList.java
- * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/SingletonImmutableTable.java
- * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ImmutableSetMultimap.java
- * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ComparisonChain.java
- * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/RegularImmutableList.java
- * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/AbstractIndexedListIterator.java
- * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/EmptyImmutableSetMultimap.java

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* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ContiguousSet.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/Monitor.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/net/package-
info.java
*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/SortedLists.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/ForwardingBlockingQueue.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/base/Ascii.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/base/Strings.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/annotations/package-info.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/primitives/package-info.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/Atomics.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/base/Equivalence.java
*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/annotations/Beta.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/ThreadFactoryBuilder.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/ListeningExecutorService.java
```

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/UncaughtExceptionHandler.java
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* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/AtomicLongMap.java

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* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/CommonMatcher.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-

jar/com/google/common/base/CommonPattern.java

*

/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-

jar/com/google/common/base/JdkPattern.java

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* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-

jar/com/google/common/graph/MutableValueGraph.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-

jar/com/google/common/graph/AbstractGraph.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-

jar/com/google/common/graph/AbstractUndirectedNetworkConnections.java

*

/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-

jar/com/google/common/collect/MoreCollectors.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-

jar/com/google/common/graph/ImmutableValueGraph.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-

jar/com/google/common/graph/ElementOrder.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-

jar/com/google/common/graph/ValueGraphBuilder.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-

jar/com/google/common/collect/HashMultimapGwtSerializationDependencies.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-

jar/com/google/common/graph/NetworkConnections.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-

jar/com/google/common/collect/Comparators.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-

jar/com/google/common/graph/GraphConstants.java

*

```

/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/graph/ForwardingGraph.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/graph/AbstractNetwork.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/graph/EdgesConnecting.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/graph/GraphBuilder.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/graph/UndirectedMultiNetworkConnections.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/graph/EndpointPairIterator.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/graph/ForwardingValueGraph.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/graph/AbstractValueGraph.java
*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/graph/EndpointPair.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/graph/DirectedNetworkConnections.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ImmutableMultisetGwtSerializationDependencies.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/graph/StandardMutableNetwork.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/graph/UndirectedNetworkConnections.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/graph/ValueGraph.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/graph/StandardMutableValueGraph.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/graph/UndirectedGraphConnections.java
*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/graph/ForwardingNetwork.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/graph/MultiEdgesConnecting.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/RangeGwtSerializationDependencies.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/LinkedHashMapMultimapGwtSerializationDependencies.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ArrayListMultimapGwtSerializationDependencies.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/graph/StandardValueGraph.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/graph/DirectedGraphConnections.java

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*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/graph/StandardNetwork.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/CollectCollectors.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/graph/MapRetrievalCache.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/graph/DirectedMultiNetworkConnections.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/graph/GraphConnections.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/graph/AbstractGraphBuilder.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/graph/NetworkBuilder.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/graph/MapIteratorCache.java
*
```

```
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/graph/AbstractDirectedNetworkConnections.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/graph/StandardMutableGraph.java
```

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```

```
*/
```

```
/**
```

```
* Holder for web specializations of methods of { @code Doubles }. Intended to be empty for regular
* version.
```

```
*/
```

Found in path(s):

```
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/primitives/DoublesMethodsForWeb.java
```

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 * express
 * or implied. See the License for the specific language governing permissions and limitations under
 * the License.
 */
/**
 * Holder for web specializations of methods of { @code Ints }. Intended to be empty for regular
 * version.
 */
```

Found in path(s):

```
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
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```
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ImmutableSortedAsList.java
```

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* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/CollectSpliterators.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ImmutableBiMapFauxverideShim.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/graph/package-info.java

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* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/Resources.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Predicates.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Function.java

*

/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Throwables.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/eventbus/AsyncEventBus.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/primitives/Primitives.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/FinalizableWeakReference.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/ExecutionList.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/eventbus/DeadEvent.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/Files.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/eventbus/package-info.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/package-info.java
 *
 /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/LineReader.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/AbstractFuture.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Predicate.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/package-info.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Preconditions.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/FinalizableSoftReference.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/FinalizableReferenceQueue.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Objects.java
 *
 /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Charsets.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/eventbus/Subscribe.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/MultiInputStream.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/Flushables.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Supplier.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/FinalizableReference.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/Interners.java
 * /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/Closeables.java
 *

/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/eventbus/EventBus.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/FinalizablePhantomReference.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/LineBuffer.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Suppliers.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/package-info.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/DirectExecutor.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/EnumMultiset.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/HashBiMap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/eventbus/AllowConcurrentEvents.java
*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/LittleEndianDataInputStream.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Defaults.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/CountingOutputStream.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/ListenableFuture.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/AbstractIterator.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Functions.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/CountingInputStream.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/LittleEndianDataOutputStream.java
*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/CharStreams.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/ByteStreams.java
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jar/com/google/common/hash/LittleEndianByteArray.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/AsyncCallable.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/hash/FarmHashFingerprint64.java
*

/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/io/ReaderInputStream.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/hash/MacHashFunction.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ConsumingQueueIterator.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/CombinedFuture.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/Platform.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/InterruptibleTask.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/AggregateFutureState.java

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* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/AbstractMultiset.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ForwardingMapEntry.java

*

/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/AbstractIterator.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/Sets.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ForwardingMultiset.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/Multimaps.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/BiMap.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/Multisets.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ForwardingQueue.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ForwardingConcurrentMap.java

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*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ReverseNaturalOrdering.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/SortedSetMultimap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/NullsFirstOrdering.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/SingletonImmutableSet.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/EnumHashMap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/Multiset.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ForwardingListIterator.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/Ordering.java
*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/TreeMultimap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/LinkedListMultimap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/AbstractSortedSetMultimap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ConcurrentHashMultiset.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/HashMultimap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
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jar/com/google/common/collect/ImmutableList.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/NullsLastOrdering.java
*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/AbstractBiMap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/AbstractListMultimap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/Multimap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/Iterators.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/Interner.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/Synchronized.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-

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jar/com/google/common/collect/ComparatorOrdering.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/CompoundOrdering.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ForwardingSet.java
*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/AbstractMapBasedMultimap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ForwardingIterator.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ForwardingSortedMap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/package-info.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ForwardingMap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/MutableClassToInstanceMap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/AbstractMapBasedMultiset.java
*
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jar/com/google/common/collect/TreeMultiset.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/NaturalOrdering.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/Lists.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ExplicitOrdering.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/RegularImmutableSet.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/LinkedHashMultiset.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ArrayListMultimap.java
*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ForwardingList.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ByFunctionOrdering.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ForwardingMultimap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ListMultimap.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ReverseOrdering.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/SetMultimap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/AbstractMapEntry.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/LexicographicalOrdering.java
*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/LinkedHashMultimap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/HashMultiset.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ForwardingCollection.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ClassToInstanceMap.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/Maps.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ForwardingSortedSet.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ForwardingObject.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/MapDifference.java
*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/EnumBiMap.java

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* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/primitives/ImmutableDoubleArray.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/primitives/ImmutableIntArray.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/ForwardingLock.java

*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/AbstractHashFunction.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/primitives/ImmutableLongArray.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/ForwardingCondition.java

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* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/primitives/Platform.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/Internal.java

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* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/Java8Compatibility.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/OverflowAvoidingLockSupport.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/math/ToDoubleRounder.java

*

/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/math/BigDecimalMath.java

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/Java8Compatibility.java

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* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/IgnoreJRERRequirement.java
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* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/JdkBackedImmutableMultiset.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/JdkBackedImmutableSet.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/hash/ImmutableSupplier.java

*

/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/ExecutionSequencer.java

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*/
/*
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 * and released to the public domain, as explained at
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 *
 * As of 2010/06/11, this method is identical to the (package private) hash method in OpenJDK 7's
 * java.util.HashMap
class.
*/
```

Found in path(s):

```
*/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/Striped.java
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*/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/RegularImmutableSortedMultiset.java
*/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ImmutableSortedMultisetFauxverideShim.java
*/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/GeneralRange.java
*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ForwardingSortedMultiset.java
*/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/SortedIterable.java
*/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/RangeSet.java
*/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/AbstractRangeSet.java
```

```
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/Count.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/SortedIterables.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ImmutableSortedMultiset.java
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* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/primitives/UnsignedInts.java
```

```
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/WrappingExecutorService.java
```

```
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/AbstractScheduledService.java
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```
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/UncheckedExecutionException.java
```

```
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/cache/Weigher.java
```

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* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/cache/CacheStats.java
```

```
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/hash/AbstractCompositeHashFunction.java
```

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* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/hash/Hashing.java
```

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* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/cache/AbstractLoadingCache.java
```

```
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/cache/package-info.java
```

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* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/cache/ForwardingLoadingCache.java
```

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*
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/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/cache/CacheBuilderSpec.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Optional.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/DescendingImmutableSortedMultiset.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Ticker.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Present.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/primitives/UnsignedInteger.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/Murmur3_32HashFunction.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/PrimitiveSink.java
*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/BoundType.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/AbstractHasher.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/cache/RemovalListeners.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/primitives/UnsignedLong.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/reflect/Types.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/reflect/TypeParameter.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/RegularImmutableMultiset.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/ForwardingExecutorService.java
*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/PairwiseEquivalence.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/CycleDetectingLockFactory.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/TreeRangeSet.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/RegularContiguousSet.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Absent.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/cache/RemovalNotification.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/AbstractListeningExecutorService.java

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* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/hash/Hasher.java
*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/ForwardingListeningExecutorService.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/hash/HashCode.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/net/MediaType.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/hash/AbstractStreamingHasher.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/hash/Crc32HashFunction.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/Uninterruptibles.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/net/HostAndPort.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/hash/Murmur3_128HashFunction.java
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/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
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* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/math/MathPreconditions.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/hash/MessageDigestHashFunction.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/primitives/UnsignedLongs.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/cache/RemovalListener.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/ListeningScheduledExecutorService.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/net/HttpHeaders.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
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*
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info.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/base/FunctionalEquivalence.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/AsyncFunction.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/cache/Cache.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/hash/BloomFilterStrategies.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-

```

jar/com/google/common/math/BigIntegerMath.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/cache/AbstractCache.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/ExecutionError.java
*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/math/IntMath.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/hash/HashingOutputStream.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/EmptyContiguousSet.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/math/DoubleMath.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/hash/Funnels.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/cache/CacheLoader.java
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* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/cache/ForwardingCache.java
*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/Queues.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/math/LongMath.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/math/DoubleUtils.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/AbstractSortedMultiset.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/cache/LoadingCache.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/primitives/ParseRequest.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/FutureCallback.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/hash/BloomFilter.java
*
/opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/hash/HashFunction.java
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*/
/**
 * Returns an array containing all of the elements in the specified collection. This method
 * returns the elements in the order they are returned by the collection's iterator. The returned
 * array is "safe" in that no references to it are maintained by the collection. The caller is
 * thus free to modify the returned
array.
 *
 * <p>This method assumes that the collection size doesn't change while the method is running.
 *
 * <p>TODO(kevinb): support concurrently modified collections?
 *
 * @param c the collection for which to return an array of elements
 */

```

Found in path(s):

```

* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ObjectArrays.java

```

1.16 httpcomponents-core 4.4.13

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1.17 httpcore-nio 4.4.13

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1.19 commons-logging 1.2

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```
* /opt/cola/permits/1135840457_1613613080.13/0/commons-logging-1-1-sources-9-
jar/org/apache/commons/logging/LogFactory.java
```

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* /opt/cola/permits/1135840457_1613613080.13/0/commons-logging-1-1-sources-9-
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```
* /opt/cola/permits/1135840457_1613613080.13/0/commons-logging-1-1-sources-9-
jar/org/apache/commons/logging/impl/WeakHashtable.java
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* /opt/cola/permits/1135840457_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/package.html

* /opt/cola/permits/1135840457_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/package.html

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* /opt/cola/permits/1135840457_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/LogConfigurationException.java

* /opt/cola/permits/1135840457_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/Log4JLogger.java

* /opt/cola/permits/1135840457_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/LogFactoryImpl.java

*

/opt/cola/permits/1135840457_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/Jdk13LumberjackLogger.java

* /opt/cola/permits/1135840457_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/SimpleLog.java

* /opt/cola/permits/1135840457_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/Jdk14Logger.java

```
* /opt/cola/permits/1135840457_1613613080.13/0/commons-logging-1-1-sources-9-
jar/org/apache/commons/logging/LogSource.java
* /opt/cola/permits/1135840457_1613613080.13/0/commons-logging-1-1-sources-9-
jar/org/apache/commons/logging/impl/NoOpLog.java
* /opt/cola/permits/1135840457_1613613080.13/0/commons-logging-1-1-sources-9-
jar/org/apache/commons/logging/impl/LogKitLogger.java
* /opt/cola/permits/1135840457_1613613080.13/0/commons-logging-1-1-sources-9-
jar/org/apache/commons/logging/Log.java
```

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```
* /opt/cola/permits/1135840457_1613613080.13/0/commons-logging-1-1-sources-9-
jar/org/apache/commons/logging/impl/ServletContextCleaner.java
```

1.20 commons-io 2.8.0

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1.21 commons-codec 1.14

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```
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* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/compiler/ast/Visitor.java
*
/opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/compiler/ast/Member.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/tools/reflect/CannotInvokeException.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/CtNewWrappedConstructor.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/LoaderClassPath.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/tools/rmi/AppletServer.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/CtConstructor.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/tools/rmi/ObjectNotFoundException.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/compiler/ast/ArrayInit.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/Mnemonic.java
```

```

*
/opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/CtNewClass.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/SignatureAttribute.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/CtArray.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/convert/TransformNewClass.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/Parser.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/util/proxy/DefineClassHelper.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/analysis/SubroutineScanner.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/CtMember.java
*
/opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/ExceptionTable.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/expr/ConstructorCall.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/tools/rmi/StubGenerator.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/FieldInfo.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/compiler/CodeGen.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/CodeAnalyzer.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/analysis/IntQueue.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/runtime/DotClass.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/URLClassPath.java
*
/opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/util/proxy/ProxyObjectInputStream.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/InstructionPrinter.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/NestMembersAttribute.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/tools/reflect/CannotReflectException.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/scopedpool/ScopedClassPoolFactoryImpl.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/LocalVariableAttribute.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/compiler/ast/CallExpr.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/AttributeInfo.java
*

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/opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
 jar/javassist/compiler/KeywordTable.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
 jar/javassist/bytecode/CodeIterator.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
 jar/javassist/compiler/SymbolTable.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
 jar/javassist/bytecode/analysis/Subroutine.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/runtime/Inner.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
 jar/javassist/util/proxy/DefinePackageHelper.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
 jar/javassist/bytecode/LineNumberAttribute.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
 jar/javassist/scopedpool/ScopedClassPoolFactory.java
 *
 /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/Modifier.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
 jar/javassist/bytecode/annotation/AnnotationsWriter.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
 jar/javassist/CannotCompileException.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/expr/Expr.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
 jar/javassist/convert/TransformFieldAccess.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/CtPrimitiveType.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
 jar/javassist/bytecode/stackmap/BasicBlock.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/tools/Callback.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
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 *
 /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
 jar/javassist/compiler/JvstCodeGen.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/expr/NewExpr.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
 jar/javassist/bytecode/stackmap/TypeData.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
 jar/javassist/bytecode/ClassFile.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/CtMethod.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
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 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
 jar/javassist/scopedpool/ScopedClassPool.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
 jar/javassist/compiler/ast/NewExpr.java
 *
 /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
 jar/javassist/tools/reflect/CannotCreateException.java

* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/EnclosingMethodAttribute.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/ast/BinExpr.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/SourceFileAttribute.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/util/proxy/SecurityActions.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/ClassMap.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/TypeChecker.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/ast/FieldDecl.java
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 /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/CodeConverter.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/tools/reflect/ClassMetaobject.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/NestHostAttribute.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/AccessFlag.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/ast/ASTree.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/StackMap.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/NotFoundException.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/tools/reflect/Metalevel.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/ast/Variable.java
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 /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/tools/reflect/Sample.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/expr/Instanceof.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/ClassFilePrinter.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/ast/Stmnt.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/tools/framedump.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/annotation/AnnotationImpl.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/ast/AssignExpr.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/Bytecode.java
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/opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/ConstantAttribute.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/runtime/Desc.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/util/proxy/ProxyFactory.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/util/proxy/FactoryHelper.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/CtNewMethod.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/tools/rmi/RemoteException.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/ast/InstanceOfExpr.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/ast/Declarator.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/CtClassType.java
*
/opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/annotation/NoSuchClassError.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/CtBehavior.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/ast/Expr.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/ByteArray.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/tools/rmi/RemoteRef.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/stackmap/TypedBlock.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/ast/Keyword.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/MemberCodeGen.java
*
/opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/Descriptor.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/tools/reflect/Reflection.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/ClassFileWriter.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/analysis/Frame.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/tools/reflect/Compiler.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/analysis/FramePrinter.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/ast/DoubleConst.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/stackmap/TypeTag.java

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* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/scopedpool/ScopedClassPoolRepositoryImpl.java
*
/opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/convert/TransformAfter.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/analysis/Analyzer.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/util/proxy/SerializedProxy.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/compiler/MemberResolver.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/compiler/ast/StringL.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
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jar/javassist/bytecode/ParameterAnnotationsAttribute.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/tools/web/BadHttpRequest.java
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/opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/BadBytecode.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/ClassPool.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/util/proxy/Proxy.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/CtNewWrappedMethod.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/analysis/Type.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/SyntheticAttribute.java
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* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/expr/ExprEditor.java
*
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jar/javassist/compiler/ProceedHandler.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/ExceptionsAttribute.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/convert/TransformAccessArrayField.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/AnnotationDefaultAttribute.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/scopedpool/SoftValueHashMap.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/tools/reflect/Loader.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/CtField.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/tools/Dump.java

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* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/ast/MethodDecl.java

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/opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/CompileError.java

* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/expr/Handler.java

* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/ByteStream.java

* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/stackmap/Tracer.java

* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/util/HotSwapAgent.java

* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/expr/FieldAccess.java

* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/InnerClassesAttribute.java

* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/tools/web/Viewer.java

*

/opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/util/proxy/ProxyObject.java

* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/convert/TransformCall.java

* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/ast/Symbol.java

* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/ByteArrayClassPath.java

* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/AccessorMaker.java

* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/Lex.java

* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/ast/ASTList.java

* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/expr/MethodCall.java

* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/SerialVersionUID.java

*

/opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/convert/TransformBefore.java

* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/runtime/Cflow.java

* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/convert/Transformer.java

* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/AnnotationsAttribute.java

* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/LocalVariableTypeAttribute.java

* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/DuplicateMemberException.java

* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/util/proxy/MethodFilter.java


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* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/analysis/MultiArrayType.java
*
/opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/tools/reflect/Metaobject.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/stackmap/MapMaker.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/compiler/JvstTypeChecker.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/convert/TransformReadField.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/Loader.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/StackMapTable.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/ClassPoolTail.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/ClassPath.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/util/HotSwapper.java
*
/opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/Javac.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/analysis/ControlFlow.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/Opcode.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/analysis/Executor.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/tools/web/Webserver.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/LongVector.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/util/proxy/ProxyObjectOutputStream.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/compiler/ast/CastExpr.java
*
/opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/DeprecatedAttribute.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/CtClass.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/Translator.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/tools/rmi/Sample.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/CodeAttribute.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/expr/NewArray.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/ClassClassPath.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/compiler/ast/IntConst.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/util/proxy/MethodHandler.java
*

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/opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/convert/TransformNew.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/scopedpool/ScopedClassPoolRepository.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/expr/Cast.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/NoFieldException.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/SyntaxError.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/TokenId.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/util/proxy/RuntimeSupport.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/ast/Pair.java
*

/opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/convert/TransformWriteField.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/CtNewConstructor.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/ConstPool.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/analysis/MultiType.java

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* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/annotation/EnumMemberValue.java
*

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/opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/annotation/ByteMemberValue.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/annotation/ClassMemberValue.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/annotation/MemberValueVisitor.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/annotation/FloatMemberValue.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/annotation/IntegerMemberValue.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/annotation/StringMemberValue.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/annotation/ArrayMemberValue.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/annotation/BooleanMemberValue.java
*
/opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/annotation/LongMemberValue.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/annotation/CharMemberValue.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/annotation/Annotation.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/annotation/ShortMemberValue.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/annotation/AnnotationMemberValue.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/annotation/DoubleMemberValue.java

```

1.23 zt 1.14

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 - * /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/extra/ZipExtraField.java
 - * /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/extra/ZipShort.java
 - * /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/extra/ExtraFieldUtils.java
 - * /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/extra/ZipConstants.java
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- * /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-

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jar/org/zeroturnaround/zip/commons/FileUtilsV2_2.java
* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-
jar/org/zeroturnaround/zip/commons/StringBuilderWriter.java
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* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-
jar/org/zeroturnaround/zip/ZipInfoCallback.java
* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-
jar/org/zeroturnaround/zip/NameMapper.java
*
/opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/FileSource.java
* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-
jar/org/zeroturnaround/zip/ZipEntryUtil.java
* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-
jar/org/zeroturnaround/zip/timestamps/PreJava8TimestampStrategy.java
* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/Zips.java
* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-
jar/org/zeroturnaround/zip/timestamps/TimestampStrategy.java
* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-
jar/org/zeroturnaround/zip/ByteSource.java
* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-
jar/org/zeroturnaround/zip/timestamps/Java8TimestampStrategy.java
* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-
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jar/org/zeroturnaround/zip/IdentityNameMapper.java
* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/ZipUtil.java
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* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/timestamps/TimestampStrategyFactory.java
* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/ZipEntryCallback.java

1.24 httpcomponents-mime 4.5.12

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1.25 commons-codec 1.15

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1.26 asm 3.2

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jar/org/objectweb/asm/commons/JSRInlinerAdapter.java
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jar/org/objectweb/asm/tree/JumpInsnNode.java
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* /opt/cola/permits/1136493993_1613774733.35/0/asm-all-3-2-sources-2-jar/org/objectweb/asm/MethodWriter.java
* /opt/cola/permits/1136493993_1613774733.35/0/asm-all-3-2-sources-2-jar/org/objectweb/asm/Opcodes.java
* /opt/cola/permits/1136493993_1613774733.35/0/asm-all-3-2-sources-2-jar/org/objectweb/asm/tree/FieldInsnNode.java
* /opt/cola/permits/1136493993_1613774733.35/0/asm-all-3-2-sources-2-jar/org/objectweb/asm/tree/analysis/Analyzer.java

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1.27 Icms 2.12

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1.29 alpine-keys 2.4-r1

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Jackson is a high-performance, Free/Open Source JSON processing library. It was originally written by Tatu Saloranta (tatu.saloranta@iki.fi), and has been in development since 2007. It is currently developed by a community of developers.

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1.31 log4j-api 2.17.1

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1.32 apache-log4j 2.17.1

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1.34 dom 1.0

1.34.1 Available under license :

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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/w3c/dom/html/HTMLDOMImplementation.java

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jar/org/apache/xerces/dom3/as/ElementEditAS.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/ASNotationDeclaration.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/ASObject.java

*

/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/CharacterDataEditAS.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/DOMImplementationAS.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/ASModel.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/DocumentAS.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/ASAttributeDeclaration.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/ASElementDeclaration.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/ASEntityDeclaration.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/ASNamedObjectMap.java

*

/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/ASDataType.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/ASContentModel.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/DOMASWriter.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/DocumentEditAS.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/ASObjectList.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/DOMASBuilder.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/DOMASException.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/NodeEditAS.java

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/**

* Checks if this content model has had its min/maxOccurs values reduced for
* purposes of speeding up UPA. If
so, this content model should not be used
* for any purpose other than checking unique particle attribution
*
* @return a boolean that says whether this content has been compacted for UPA
*/

Found in path(s):

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xs/models/XSCMValidator.java

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/**

* DOM Level 3 LS CR - Experimental.
* Create a new `LSParser`. The newly constructed parser may
*
then be configured by means of its `DOMConfiguration`
* object, and used to parse documents by means of its `parse`
* method.
* @param mode The `mode` argument is either
* `MODE_SYNCHRONOUS` or `MODE_ASYNCHRONOUS`, if
* `mode` is `MODE_SYNCHRONOUS` then the
* `LSParser` that is created will operate in synchronous
* mode, if it's `MODE_ASYNCHRONOUS` then the

- * `LSParser` that is created will operate in asynchronous
- * mode.
- * @param schemaType An absolute URI representing the type of the schema
- * language used during the load of a `Document` using the
- * newly created `LSParser`. Note that no lexical checking
- * is done on the absolute URI. In order to create a
- * `LSParser` for any kind of schema types (i.e. the
- * `LSParser` will be free to use any schema

found), use the value

- * `null`.
- *

Note: For W3C XML Schema [[XML Schema Part 1\]](http://www.w3.org/TR/2001/REC-xmlschema-1-20010502/)
- * , applications must use the value
- * `"http://www.w3.org/2001/XMLSchema"`. For XML DTD [[XML 1.0\],](http://www.w3.org/TR/2000/REC-xml-20001006/)
- * applications must use the value
- * `"http://www.w3.org/TR/REC-xml"`. Other Schema languages
- * are outside the scope of the W3C and therefore should recommend an
- * absolute URI in order to use this method.
- * @return The newly created `LSParser` object. This
- * `LSParser` is either synchronous or asynchronous
- * depending on the value of the `mode` argument.
- *

Note: By default, the newly created `LSParser`
- * does not contain a `DOMErrorHandler`, i.e. the value of
- * the "[http://www.w3.org/TR/2003/WD-DOM-Level-3-Core-20030609/core.html#parameter-error-](http://www.w3.org/TR/2003/WD-DOM-Level-3-Core-20030609/core.html#parameter-error-handler)
- * `handler`
- * `error-handler`" configuration parameter is `null`. However, implementations
- * may provide a default error handler at creation time. In that case,
- * the initial value of the `"error-handler"` configuration
- * parameter on the new created `LSParser` contains a
- * reference to the default error handler.
- * @exception DOMException
- * NOT_SUPPORTED_ERR: Raised if the requested mode or schema type is
- * not supported.

Found in path(s):

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/dom/CoreDOMImplementationImpl.java

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jar/org/apache/xerces/impl/xs/traversers/XSDocumentInfo.java
*
/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xs/traversers/XSDElementTraverser.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/xni/parser/XMLErrorHandler.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/html/dom/HTMLFrameElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/util/XMLEntityDescriptionImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/util/ShadowedSymbolTable.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xs/util/ObjectListImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/wml/dom/WMLImgElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/wml/WMLOptgroupElement.java
*
/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/xni/parser/XMLInputSource.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/wml/WMLImgElement.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom/DeferredCDATASectionImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xs/traversers/XSDAbstractIDConstraintTraverser.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/wml/dom/WMLTimerElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/xs/XSParticle.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/wml/dom/WMLWmlElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/dv/xs/AnySimpleDV.java
*

/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/xs/StringList.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/WMLTimerElement.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xpath/regex/CaseInsensitiveMap.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/opti/SchemaDOMImplementation.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/opti/DefaultXMLDocumentHandler.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/dom/DeferredElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/WMLAnchorElement.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xml/serialize/HTMLSerializer.java
*
/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/html/dom/HTMLHtmlElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/stax/DefaultNamespaceContext.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/xinclude/MultipleScopeNamespaceSupport.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/opti/SchemaParsingConfig.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dtd/XML11NSDTDValidator.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/xpointer/XPointerMessageFormatter.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/xs/XSException.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/dom/WMLMetaElementImpl.java
*
/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/html/dom/HTMLQuoteElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/util/EncodingMap.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/xinclude/XIncludeTextReader.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/dom/DOMInputImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/html/dom/ObjectFactory.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/xpointer/XPointerHandler.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/util/XMLCatalogResolver.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/jaxp/TeeXMLDocumentFilterImpl.java
*
/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/html/dom/HTMLTableSectionElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dtd/models/CMStateSet.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/xs/Base64BinaryDV.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/jaxp/validation/DraconianErrorHandler.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/jaxp/JAXPValidatorComponent.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/html/dom/HTMLTitleElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/parsers/XML11NonValidatingConfiguration.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/dom/ElementDefinitionImpl.java
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/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dtd/XMLElementDecl.java
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/parsers/AbstractDOMParser.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/html/dom/HTMLSelectElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/html/dom/HTMLLabelElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/html/dom/HTMLFieldSetElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/dom/WMLCardElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/util/ShortListImpl.java
*
/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/util/Base64.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/dom/CDATASectionImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/jaxp/validation/XSGrammarPoolContainer.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/models/CMBuilder.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/WMLMetaElement.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-

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jar/org/apache/xerces/impl/dv/XSSimpleType.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/dv/xs/XSSimpleTypeDelegate.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xs/opti/SchemaDOMParser.java
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/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xs/opti/ElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom/events/UIEventImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xml/serialize/Method.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/stax/events/EntityReferenceImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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jar/org/apache/wml/dom/WMLIElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/jaxp/SAXParserFactoryImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/xpointer/ElementSchemePointer.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom/AttrNSImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/jaxp/datatype/DurationImpl.java

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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom/ChildNode.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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*
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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*

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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/traversers/XSDComplexTypeTraverser.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/util/DatatypeMessageFormatter.java
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/dom/WMLNoopElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xml/serialize/SecuritySupport.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/DatatypeException.java
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/WMLInputElement.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/dom/WMLTableElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/stax/events/ElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/traversers/SchemaContentHandler.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/parsers/SoftReferenceSymbolTableConfiguration.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dtd/BalancedDTDGrammar.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/xpointer/ShortHandPointer.java
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/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/xni/parser/XMLParserConfiguration.java
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/html/dom/HTMLPreElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/parsers/SecurityConfiguration.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/parsers/AbstractXMLDocumentParser.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/validation/ValidationState.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xml/serialize/HTMLdtd.java

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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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*
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jar/org/apache/xerces/stax/events/ProcessingInstructionImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/xni/NamespacesContext.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/jaxp/validation/XMLSchemaFactory.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/wml/WMLTdElement.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/html/dom/HTMLDListElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/dv/xs/DayTimeDurationDV.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/wml/dom/WMLUElementImpl.java
*
/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xs/util/XSNamedMap4Types.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xs/opti/DefaultText.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/dtd/models/CMLLeaf.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/xs/XSTerm.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-

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jar/org/apache/xerces/xni/parser/XMLComponent.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/wml/dom/WMLSmallElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/jaxp/DocumentBuilderImpl.java
*
/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/dv/DatatypeValidator.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/html/dom/HTMLTextAreaElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/xs/AttributePSVI.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xpath/regex/Token.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom/DeferredNode.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xml/serialize/XML11Serializer.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/html/dom/SecuritySupport.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xpath/XPath.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/html/dom/HTMLMenuElementImpl.java

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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/impl/io/ASCIIReader.java

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/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/WMLCardElement.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/WMLFieldsetElement.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/dom/AttrImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/dom/WMLAElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/opti/DefaultDocument.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/FilePathToURI.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/parsers/ObjectFactory.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/dom/WMLPrevElementImpl.java
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/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/util/HexBin.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/jaxp/datatype/SerializedXMLGregorianCalendar.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/xni/parser/XMLDTDContentModelFilter.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/xs/XSModelGroup.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/html/dom/HTMLBaseFontElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dtd/XMLDTDLoader.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/dom/DeferredElementDefinitionImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/XSElementDeclHelper.java
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/util/PrimeNumberSequenceGenerator.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/dom/WMLOneventElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/xs/SchemaDVFactoryImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/stax/ImmutableLocation.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-

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jar/org/apache/xerces/jaxp/validation/XMLSchema.java
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 jar/org/apache/xerces/impl/xpath/regex/Match.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/impl/xs/XSMessageFormatter.java
 *
 /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xml/serialize/TextSerializer.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/stax/events/NamespaceImpl.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/xs/XSAttributeDeclaration.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/jaxp/JAXPConstants.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/wml/WMLAElement.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/util/EntityResolverWrapper.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/dom/DOMOutputImpl.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/dom/DOMImplementationImpl.java
 *
 /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/parsers/SecuritySupport.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/impl/ExternalSubsetResolver.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-

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jar/org/apache/xerces/dom/NodeListCache.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom/PSVIElementNSImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/xinclude/XIncludeHandler.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/util/SAXMessageFormatter.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom/DeferredCommentImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/html/dom/HTMLTableElementImpl.java
*
/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/html/dom/HTMLHRElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/xs/XSNamespaceItemList.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/util/DOMEntityResolverWrapper.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xpath/regex/RegexParser.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom/ElementNSImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/stax/events/AttributeImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/dv/dtd/IDREFDatatypeValidator.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/wml/WMLUElement.java
*
/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/html/dom/HTMLHeadElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xs/models/XSCMLLeaf.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/util/LocatorProxy.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xs/identity/Selector.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/dv/dtd/XML11IDDatatypeValidator.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/xs/XSElementDeclaration.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xs/XSAnnotationImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/xs/LSInputList.java
*
/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xpath/XPathException.java

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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/stax/events/EntityDeclarationImpl.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/parsers/AbstractSAXParser.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/dom/WMLBigElementImpl.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/xni/XMLLocator.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/xs/XSTypeDefinition.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/xs/ItemPSVI.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/util/URI.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/html/dom/HTMLObjectElementImpl.java

*

/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/xs/AnyAtomicDV.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/opti/NamedNodeMapImpl.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/html/dom/HTMLBuilder.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/jaxp/validation/WeakReferenceXMLSchema.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/xs/datatypes/XSQName.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/dom/NodeIteratorImpl.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/util/DefaultErrorHandler.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xpath/regex/BMPattern.java

*

/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/parsers/DTDConfiguration.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/jaxp/validation/SimpleXMLSchema.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/html/dom/HTMLLegendElementImpl.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/xs/YearMonthDurationDV.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/traversers/XSDWildcardTraverser.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/html/dom/HTMLHeadingElementImpl.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/XSFacets.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-


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jar/org/apache/xerces/xs/ElementPSVI.java
*
/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/wml/WMLRefreshElement.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xs/util/XSGrammarPool.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/xni/XMLResourceIdentifier.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/html/dom/HTMLDirectoryElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/parsers/XML11Configuration.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom/EntityImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/io/MalformedByteSequenceException.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/jaxp/UnparsedEntityHandler.java
*
/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/wml/WMLAccessElement.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/util/XMLSymbols.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/xpointer/XPointerProcessor.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/wml/WMLSetvarElement.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/xni/XMLDTDHandler.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/xs/XSMultiValueFacet.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/xs/XSAnnotation.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/html/dom/HTMLLinkElementImpl.java
*
/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom/events/EventImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/dv/DTDDVFactory.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xs/identity/ValueStore.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/jaxp/validation/ValidatorHandlerImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/util/DOMErrorHandlerWrapper.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/stax/events/XMLEventImpl.java

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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/html/dom/HTMLDivElementImpl.java
 *
 /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/xs/XSNamespaceItem.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/util/XML11Char.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/html/dom/HTMLFrameSetElementImpl.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/impl/XMLNamespaceBinder.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/parsers/XMLGrammarPreparser.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/impl/xs/XSImplementationImpl.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/html/dom/HTMLBRElementImpl.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/dom/RangeExceptionImpl.java
 *
 /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/xs/PSVIProvider.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/impl/xs/XMLSchemaException.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/xs/XSNamedMap.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/html/dom/HTMLStyleElementImpl.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/impl/xs/XSAttributeUseImpl.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 *
 /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/html/dom/HTMLLIElementImpl.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/impl/xs/XSParticleDecl.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-

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jar/org/apache/xerces/impl/dtd/models/ContentModelValidator.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/dtd/XMLContentSpec.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom/DocumentTypeImpl.java
*
/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/wml/dom/WMLOptionElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/html/dom/HTMLElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/xinclude/XIncludeMessageFormatter.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xs/AttributePSVImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/wml/WMLSelectElement.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/xni/XMLString.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/jaxp/validation/XMLSchemaValidatorComponentManager.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/html/dom/HTMLTableRowElementImpl.java
*
/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/html/dom/HTMLLOListElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xs/opti/SchemaDOM.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/XMLDTDScannerImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/html/dom/HTMLInputElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/dv/xs/PrecisionDecimalDV.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/jaxp/validation/DOMDocumentHandler.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/xni/parser/XMLPullParserConfiguration.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/parsers/SecureProcessingConfiguration.java
*
/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xs/util/XSObjectListImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom/NamedNodeMapImpl.java

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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/xs/XSFacet.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/wml/dom/WMLGoElementImpl.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/impl/xs/traversers/XSDAbstractTraverser.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 *
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 jar/org/apache/xerces/impl/dtd/XMLDTDDescription.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/wml/dom/WMLRefreshElementImpl.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/impl/xpath/regex/ParserForXMLSchema.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/html/dom/HTMLIsIndexElementImpl.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/impl/dtd/models/SimpleContentModel.java
 *
 /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/dom/DeferredDocumentImpl.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/xs/XSSimpleTypeDefinition.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/stax/EmptyLocation.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xml/serialize/SerializerFactory.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/util/HTTPInputSource.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xml/serialize/Encodings.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/xs/XSAttributeUse.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xml/serialize/BaseMarkupSerializer.java
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 /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/stax/events/CharactersImpl.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-

jar/org/apache/xerces/dom/DeferredDOMImplementationImpl.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/stax/XMLEventFactoryImpl.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/util/JAXPNamespaceContextWrapper.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/util/NamespaceSupport.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/xni/XMLDocumentHandler.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/dom/DOMLocatorImpl.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/impl/xs/util/LSInputListImpl.java
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/jaxp/validation/JAXPValidationMessageFormatter.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/impl/dtd/models/CMBinOp.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/util/SymbolTable.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/impl/XMLEntityManager.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/impl/xs/XSAttributeDecl.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/xinclude/XIncludeNamespaceSupport.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/impl/xs/models/XSEmptyCM.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/html/dom/HTMLOptGroupElementImpl.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/xerces/impl/dv/DVFactoryException.java
 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
 jar/org/apache/html/dom/HTMLDocumentImpl.java
 *

/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/xs/SchemaDateTimeException.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/WMLOptionElement.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/WMLPElement.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/html/dom/HTMLOptionElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/WMLElement.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/html/dom/HTMLParamElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/dom/TreeWalkerImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/dtd/XML11DTDDVFactoryImpl.java
*
/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xpath/regex/ParseException.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/xni/parser/XMLDTDFilter.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dtd/XMLDTDValidator.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/traversers/XSDNotationTraverser.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/xni/grammars/XMLSchemaDescription.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/jaxp/validation/DOMResultBuilder.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/dom/WMLAnchorElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/html/dom/HTMLModElementImpl.java
*
/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/dom/WMLDocumentImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/dom/DeferredElementNSImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/html/dom/HTMLTableCaptionElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/XMLEntityHandler.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/parsers/StandardParserConfiguration.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/models/XSAllCM.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/opti/AttrImpl.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/dom/WMLFieldsetElementImpl.java
*
/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/dom/WMLDoElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xpath/regex/RangeToken.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/parsers/DOMASBuilderImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/html/dom/NameNodeListImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/dom/WMLDOMImplementationImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/io/UCSReader.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/parsers/XIncludeAwareParserConfiguration.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/RevalidationHandler.java
*
/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/xs/XSValue.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/dom/NodeImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/dtd/XML11IDREFDatatypeValidator.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/xni/parser/XMLConfigurationException.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/util/AttributesProxy.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/jaxp/validation/ValidatorImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/parsers/XMLGrammarParser.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dtd/XMLSimpleType.java
*
/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/SchemaNamespaceSupport.java
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/**

* used to check the 3 constraints against each complex type

* (should be each model group):

* Unique Particle

Attribution, Particle Derivation (Restriction),

* Element Declarations Consistent.

*/

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// Unique Particle Attribution

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*

/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/xs/YearDV.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/traversers/XSDKeyrefTraverser.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/xs/DateDV.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/xs/DateTimeDV.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/traversers/XSDUniqueOrKeyTraverser.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/xs/MonthDV.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/xs/DurationDV.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/xs/MonthDayDV.java

*

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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/traversers/XSAttributeChecker.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/xs/YearMonthDV.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/XSModelGroupImpl.java

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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/traversers/XSDHandler.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/xs/DayDV.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/XMLSchemaValidator.java

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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xpath/regex/message.properties
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/msg/DOMMessages.properties
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/msg/XPointerMessages.properties
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/msg/DatatypeMessages.properties
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/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xpath/regex/message_fr.properties
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/msg/SAXMessages.properties
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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jar/org/apache/xerces/impl/msg/XMLSerializerMessages.properties
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xpath/regex/message_ja.properties
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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```

1.35 dagger 2.4

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* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/MapKey.java

* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/MapFactory.java

* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/Component.java

*

/opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/InstanceFactory.java

* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/SingleCheck.java

* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/Factory.java

* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/MapProviderFactory.java

* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/Collections.java

* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/SetFactory.java

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- * /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/package-info.java
- * /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/multibindings/IntKey.java
- * /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/multibindings/StringKey.java
- *
- /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/multibindings/LongKey.java
- * /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/Beta.java
- * /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/multibindings/ClassKey.java
- * /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/Subcomponent.java

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- * /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/ProviderOfLazy.java
- * /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/Binds.java
- * /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/Preconditions.java
- *
- /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/DoubleCheck.java
- * /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-
- jar/dagger/multibindings/ElementsIntoSet.java
- * /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/multibindings/IntoMap.java
- * /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/multibindings/package-info.java
- * /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/multibindings/IntoSet.java

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1.36 paranamer 2.5.1

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 jar/com/thoughtworks/paranamer/BytecodeReadingParanamer.java
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* /opt/cola/permits/1257772269_1643010353.74/0/paranamer-2-5-1-sources-jar/com/thoughtworks/paranamer/AdaptiveParanamer.java

* /opt/cola/permits/1257772269_1643010353.74/0/paranamer-2-5-1-sources-jar/com/thoughtworks/paranamer/ParameterNamesNotFoundException.java

*

/opt/cola/permits/1257772269_1643010353.74/0/paranamer-2-5-1-sources-jar/com/thoughtworks/paranamer/CachingParanamer.java
* /opt/cola/permits/1257772269_1643010353.74/0/paranamer-2-5-1-sources-jar/com/thoughtworks/paranamer/DefaultParanamer.java
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1.37 annotations 4.1.1.4

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* /opt/cola/permits/1258811491_1643111603.33/0/annotations-4-1-1-4-sources-  
jar/android/annotation/SuppressLint.java  
* /opt/cola/permits/1258811491_1643111603.33/0/annotations-4-1-1-4-sources-  
jar/android/annotation/TargetApi.java
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1.38 animal-sniffer-annotation 1.19

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1.39 jakarta-inject-api 2.0.1

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1.40 error_prone_annotations 2.3.3

1.40.1 Available under license :

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*/
```

Found in path(s):

```
* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-  
jar/com/google/errorprone/annotations/CompatibleWith.java  
* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-  
jar/com/google/errorprone/annotations/FormatMethod.java  
* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-  
jar/com/google/errorprone/annotations/MustBeClosed.java  
*  
/opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-  
jar/com/google/errorprone/annotations/RestrictedApi.java  
* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-
```

jar/com/google/errorprone/annotations/FormatString.java

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* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/OverridingMethodsMustInvokeSuper.java

* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/DoNotCall.java

* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/concurrent/GuardedBy.java

*

/opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/CheckReturnValue.java

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Found in path(s):

* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/NoAllocation.java
* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/concurrent/LockMethod.java
* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/concurrent/UnlockMethod.java
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Found in path(s):

* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/CompileTimeConstant.java

* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/SuppressPackageLocation.java

* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/Immutable.java

*

/opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/RequiredModifiers.java

* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/Var.java

* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/ForOverride.java

* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/concurrent/LazyInit.java

* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/CanIgnoreReturnValue.java

* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/IncompatibleModifiers.java

1.41 picocontainer 2.15

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 */
```

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```
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/injectors/ProviderAdapter.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/ComponentLifecycle.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/security/CustomPermissionsURLClassLoader.java
*
/opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/ComponentMonitorStrategy.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/behaviors/Stored.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/injectors/FactoryInjector.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/references/SimpleReference.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/behaviors/Guarded.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/injectors/Provider.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/injectors/CompositeInjector.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/Injector.java
*
/opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/injectors/InjectInto.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/references/ThreadLocalMapObjectReference.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/injectors/CompositeInjection.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/injectors/Injector.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
```

jar/org/picocontainer/injectors/MultiInjector.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/ObjectReference.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/behaviors/Decorated.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/injectors/Reinjection.java
*

/opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/references/ThreadLocalReference.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/injectors/Reinjector.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/injectors/MultiInjection.java

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* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/classname/ClassPathElement.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/classname/ClassName.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/classname/ClassLoadingPicoContainer.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/parameters/DefaultConstructorParameter.java
*

/opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/classname/DefaultClassLoadingPicoContainer.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/parameters/NullParameter.java

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* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/lifecycle/LifecycleState.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/lifecycle/StartableLifecycleStrategy.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/visitors/MethodCallingVisitor.java
*
/opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/lifecycle/AbstractMonitoringLifecycleStrategy.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/visitors/TraversalCheckingVisitor.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/converters/Converter.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/lifecycle/ReflectionLifecycleStrategy.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/PicoVisitor.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/ComponentAdapter.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/lifecycle/JavaEE5LifecycleStrategy.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/Converters.java
*
/opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/LifecycleStrategy.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/visitors/VerifyingVisitor.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/lifecycle/DefaultLifecycleState.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/lifecycle/CompositeLifecycleStrategy.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/lifecycle/ReflectionLifecycleException.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/visitors/AbstractPicoVisitor.java
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* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/injectors/AnnotatedFieldInjection.java

* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/injectors/NamedFieldInjector.java

*

/opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/behaviors/Automated.java

* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/behaviors/Locked.java

* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/NameBinding.java

* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/behaviors/AdaptingBehavior.java

* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/behaviors/PropertyApplicator.java

* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/injectors/AnnotatedFieldInjector.java

* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/monitors/LifecycleComponentMonitor.java

* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/PicoContainer.java

*

/opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/behaviors/Automating.java

* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/ComponentFactory.java

* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/adapters/AbstractAdapter.java

* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/injectors/Injectors.java

* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/Characteristics.java

* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/behaviors/PropertyApplying.java

* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/annotations/Inject.java

* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/containers/TransientPicoContainer.java

*

/opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/DefaultPicoContainer.java

* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/lifecycle/NullLifecycleStrategy.java

* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/parameters/BasicComponentParameter.java

* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-

jar/org/picocontainer/behaviors/Synchronizing.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/injectors/NamedMethodInjector.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/PicoVerificationException.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/PicoException.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/annotations/Cache.java
 *
 /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/containers/CommandLinePicoContainer.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/injectors/TypedFieldInjection.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/adapters/InstanceAdapter.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/injectors/TypedFieldInjector.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/injectors/NamedFieldInjection.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/parameters/CollectionComponentParameter.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/behaviors/Locking.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/annotations/Nullable.java
 *
 /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/behaviors/Behaviors.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/injectors/AbstractInjector.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/BehaviorFactory.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/PicoBuilder.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/InjectionFactory.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/injectors/AnnotatedMethodInjector.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/behaviors/ImplementationHiding.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/behaviors/HiddenImplementation.java
 *
 /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/parameters/ComponentParameter.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/containers/ImmutablePicoContainer.java

* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/behaviors/Synchronized.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/injectors/SetterInjector.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/PicoClassNotFoundException.java

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- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/monitors/WriterComponentMonitor.java

*
 /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/monitors/ConsoleComponentMonitor.java

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jar/org/picocontainer/injectors/MethodInjector.java

* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/behaviors/Intercepting.java
*
/opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/PicoLifecycleException.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/injectors/ForgetfulConstructorInjection.java
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* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/injectors/ParameterNameBinding.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/parameters/AbstractParameter.java
*
/opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/injectors/SingleMemberInjector.java
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* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/injectors/MethodInjection.java

* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/injectors/AnnotatedMethodInjection.java

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* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/behaviors/ThreadCaching.java

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* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/behaviors/OptInCaching.java

* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/behaviors/Cached.java

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1.44 error_prone_annotations 2.10.0

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* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-jar/com/google/errorprone/annotations/concurrent/LockMethod.java

* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-jar/com/google/errorprone/annotations/concurrent/UnlockMethod.java

*

/opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-jar/com/google/errorprone/annotations/NoAllocation.java

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* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-jar/com/google/errorprone/annotations/MustBeClosed.java

* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-jar/com/google/errorprone/annotations/CompatibleWith.java

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/opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-jar/com/google/errorprone/annotations/DoNotMock.java

* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-jar/com/google/errorprone/annotations/FormatMethod.java

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* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-jar/com/google/errorprone/annotations/InlineMe.java

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* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-jar/com/google/errorprone/annotations/CheckReturnValue.java
* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-jar/com/google/errorprone/annotations/concurrent/GuardedBy.java
*
/opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-jar/com/google/errorprone/annotations/OverridingMethodsMustInvokeSuper.java
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* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-jar/com/google/errorprone/annotations/CanIgnoreReturnValue.java
* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-jar/com/google/errorprone/annotations/concurrent/LazyInit.java
*
/opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-jar/com/google/errorprone/annotations/Var.java

* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-jar/com/google/errorprone/annotations/CompileTimeConstant.java
* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-jar/com/google/errorprone/annotations/Immutable.java
* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-jar/com/google/errorprone/annotations/IncompatibleModifiers.java
* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-jar/com/google/errorprone/annotations/SuppressPackageLocation.java
* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-jar/com/google/errorprone/annotations/ForOverride.java

1.45 logback-core 1.2.11

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jar/com/google/common/math/Quantiles.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/eventbus/SubscriberRegistry.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/TrustedListenableFutureTask.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/ListenerCallQueue.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/eventbus/Subscriber.java

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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/RegularImmutableMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ImmutableMapValues.java
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/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/StandardRowSortedTable.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/Collections2.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/Platform.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ImmutableSortedSet.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/Table.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/Range.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/PeekingIterator.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ImmutableCollection.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/HashBasedTable.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/Serialization.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ImmutableMapKeySet.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/RegularImmutableBiMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/StandardTable.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ImmutableMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ImmutableBiMap.java
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/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ImmutableMultiset.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ImmutableEntry.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/thirdparty/publicsuffix/PublicSuffixPatterns.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/TreeBasedTable.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ImmutableMapEntrySet.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ImmutableMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ImmutableListMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/UnmodifiableIterator.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/EmptyImmutableListMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/CollectPreconditions.java
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/ExecutionSequencer.java

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jar/com/google/common/io/Java8Compatibility.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/Java8Compatibility.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/math/ToDoubleRounder.java

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/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/OverflowAvoidingLockSupport.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/hash/Java8Compatibility.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/math/BigDecimalMath.java

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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/Present.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/ListeningScheduledExecutorService.java
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/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/primitives/UnsignedInts.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/cache/RemovalListeners.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/hash/Hashing.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/cache/CacheStats.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/math/MathPreconditions.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/FutureCallback.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/hash/AbstractCompositeHashFunction.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/math/package-info.java
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/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/AsyncFunction.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/math/DoubleMath.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/hash/Funnels.java
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/hash/Hasher.java
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/hash/Murmur3_32HashFunction.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/hash/HashCode.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/cache/ForwardingLoadingCache.java

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jar/com/google/common/hash/HashingOutputStream.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/BoundType.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/cache/AbstractLoadingCache.java
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/hash/AbstractStreamingHasher.java
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/hash/Crc32cHashFunction.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/hash/AbstractHasher.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/Uninterruptibles.java

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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/primitives/ImmutableDoubleArray.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/primitives/ImmutableIntArray.java
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/primitives/ImmutableLongArray.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/ForwardingCondition.java
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 */
/**
 * Holder for web specializations of methods of { @code Shorts }. Intended to be empty for regular
 * version.
 */
```

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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/primitives/ShortsMethodsForWeb.java
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/BaseImmutableMultimap.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/IndexedImmutableSet.java

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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/AbstractSequentialIterator.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/SortedMapDifference.java

*

/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingSortedSetMultimap.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/RowSortedTable.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/UnmodifiableListIterator.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingImmutableCollection.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingListMultimap.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/MinMaxPriorityQueue.java

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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/IncidentEdgeSet.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/CompactHashing.java

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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/Runnables.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/eventbus/SubscriberExceptionContext.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/reflect/TypeVisitor.java

*

/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/hash/HashingInputStream.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/WrappingScheduledExecutorService.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-

```
jar/com/google/common/io/CharSequenceReader.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/Utf8.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/AbstractTable.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/VerifyException.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/thirdparty/publicsuffix/PublicSuffixType.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/eventbus/SubscriberExceptionHandler.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/Verify.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/FilteredMultimapValues.java
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*/
/**
* Returns an array containing all of the elements in the specified collection. This method
* returns the elements in the order they are returned by the collection's iterator. The returned
* array is "safe" in that no references to it are maintained by the collection. The caller is
* thus free to modify the returned
array.
*
* <p>This method assumes that the collection size doesn't change while the method is running.
*
* <p>TODO(kevinb): support concurrently modified collections?
*
* @param c the collection for which to return an array of elements
*/
```

Found in path(s):

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ObjectArrays.java

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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/Strings.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/ThreadFactoryBuilder.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/Atomics.java

*

```
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/SortedLists.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/Monitor.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/Ascii.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/ForwardingBlockingQueue.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/annotations/package-info.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/ListeningExecutorService.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ContiguousSet.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/annotations/Beta.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/primitives/package-info.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/Equivalence.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/UncaughtExceptionHandler.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/net/package-info.java
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```

```
*/
```

```
/**
```

```
* Holder for web specializations of methods of { @code Floats }. Intended to be empty for regular
* version.
```

```
*/
```

Found in path(s):

```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
```

jar/com/google/common/primitives/FloatsMethodsForWeb.java
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/AbstractValueGraph.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/MapRetrievalCache.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/DirectedNetworkConnections.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/ForwardingNetwork.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/HashMultimapGwtSerializationDependencies.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/UndirectedGraphConnections.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/Comparators.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/EdgesConnecting.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/NetworkBuilder.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/StandardMutableValueGraph.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/StandardNetwork.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/ForwardingValueGraph.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/ValueGraphBuilder.java
```

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/MapIteratorCache.java
 * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/StandardMutableGraph.java
 * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/NetworkConnections.java
 * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/GraphBuilder.java
 * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ArrayListMultimapGwtSerializationDependencies.java
 *
 /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/AbstractDirectedNetworkConnections.java
 * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/LinkedHashMultimapGwtSerializationDependencies.java
 * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/StandardValueGraph.java
 * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/GraphConstants.java
 * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/RangeGwtSerializationDependencies.java
 * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/EndpointPairIterator.java
 * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/ImmutableValueGraph.java
 *
 /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/EndpointPair.java
 * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/GraphConnections.java
 * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/UndirectedMultiNetworkConnections.java
 * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/ValueGraph.java
 * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/ForwardingGraph.java
 * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/MultiEdgesConnecting.java
 * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/MutableValueGraph.java
 * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/UndirectedNetworkConnections.java
 *
 /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/AbstractGraphBuilder.java
 * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/AbstractUndirectedNetworkConnections.java
 * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-

```
jar/com/google/common/graph/DirectedMultiNetworkConnections.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/StandardMutableNetwork.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/DirectedGraphConnections.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/AbstractNetwork.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/ElementOrder.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ImmutableMultisetGwtSerializationDependencies.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/AbstractGraph.java
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* the License.
*/
/**
* Holder for extra methods of {@code Objects} only in web. Intended to be empty for regular
* version.
*/
```

```
Found in path(s):
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/ExtraObjectsMethodsForWeb.java
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jar/com/google/common/collect/SortedMultisets.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/SortedMultiset.java

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Found in path(s):

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/DescendingImmutableSortedSet.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/CompactLinkedHashSet.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/RangeMap.java

*

/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ForwardingDeque.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/RegularImmutableAsList.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/FilteredMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ForwardingImmutableMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-

jar/com/google/common/collect/FilteredEntrySetMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/EvictingQueue.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/FilteredEntryMultimap.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/AbstractSortedKeySortedSetMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/FilteredKeyListMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/FilteredSetMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/AbstractNavigableMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/UnmodifiableSortedMultiset.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/TransformedIterator.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/TreeRangeMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/TreeTraverser.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ForwardingImmutableSet.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/SortedMultisetBridge.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/AllEqualOrdering.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/CompactHashSet.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/ForwardingBlockingDeque.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ForwardingNavigableMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/CompactHashMap.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ImmutableEnumMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/AbstractMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ForwardingNavigableSet.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ForwardingBlockingDeque.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ForwardingImmutableList.java

```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/DescendingMultiset.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/FilteredKeySetMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/CompactLinkedHashMap.java
*
```

```
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/TransformedListIterator.java
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jar/com/google/common/util/concurrent/AsyncCallable.java
```

```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/hash/LittleEndianByteArray.java
```

```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/AggregateFutureState.java
```

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*
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/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/hash/MacHashFunction.java
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/hash/FarmHashFingerprint64.java
```

```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/Platform.java
```

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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/io/ReaderInputStream.java
```

```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ConsumingQueueIterator.java
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```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/InterruptibleTask.java
```

```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/CombinedFuture.java
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- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/hash/Striped64.java
- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/hash/LongAdder.java
- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/cache/LongAdder.java
- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/AtomicDoubleArray.java
- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/cache/Striped64.java

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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/eventbus/Subscribe.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/MultiInputStream.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/Objects.java

*

/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/FinalizableSoftReference.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/LineReader.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/Charsets.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/FinalizableWeakReference.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/LineBuffer.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/Predicate.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/ExecutionList.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/ByteStreams.java

*

/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/Function.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/Files.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/eventbus/AsyncEventBus.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/AbstractIterator.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/eventbus/DeadEvent.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/eventbus/package-info.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/FinalizablePhantomReference.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-

jar/com/google/common/base/FinalizableReferenceQueue.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/Interners.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/Predicates.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/io/CountingInputStream.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/io/CharStreams.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/Suppliers.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/ListenableFuture.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/Supplier.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/primitives/Primitives.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/AbstractFuture.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/eventbus/EventBus.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/io/CountingOutputStream.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/io/Closeables.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/Defaults.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/io/Flushables.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/Throwables.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/HashBiMap.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/eventbus/AllowConcurrentEvents.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/io/LittleEndianDataInputStream.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/Functions.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/io/Resources.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/FinalizableReferenceQueue.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/package-info.java

```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/EnumMultiset.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/io/package-info.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/package-info.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/Preconditions.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/io/LittleEndianDataOutputStream.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/DirectExecutor.java
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/Graph.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/SuccessorsFunction.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/MutableGraph.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/Network.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/PredecessorsFunction.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/Graphs.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/TopKSelector.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
```

jar/com/google/common/graph/MutableNetwork.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/ImmutableGraph.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/ImmutableNetwork.java
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jar/com/google/common/graph/package-info.java

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 */
/*
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 *
 * As of 2010/06/11, this method is identical to the (package private) hash method in OpenJDK 7's
 * java.util.HashMap
 * class.
 */
```

Found in path(s):

```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/Striped.java
```

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 */
/**
 * Not supported. <b>You are attempting to create a map that may contain a non-{@code Comparable}
```

```
* key.<b> Proper calls will resolve to the version in { @code ImmutableSortedMap}, not this dummy
* version.
*
* @throws UnsupportedOperationException always
* @deprecated <b>Pass a key of type { @code Comparable}
to use { @link
*   ImmutableSortedMap#of(Comparable, Object)}.</b>
*/
```

Found in path(s):

```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ImmutableSortedMapFauxverideShim.java
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Found in path(s):

```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/primitives/Platform.java
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*/
```

Found in path(s):

- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/html/package-info.java
- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/BaseEncoding.java
- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/ByteSink.java
- *
- /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/StandardSystemProperty.java
- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/reflect/ImmutableTypeToInstanceMap.java
- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/CartesianList.java
- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/ServiceManager.java
- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ImmutableRangeMap.java
- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/math/PairedStatsAccumulator.java
- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/hash/AbstractByteHasher.java
- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/Closer.java
- *
- /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/math/PairedStats.java
- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/hash/SipHashFunction.java
- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/hash/LongAddable.java
- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/xml/package-info.java
- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/reflect/ClassPath.java
- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/CharSink.java
- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/reflect/package-info.java
- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/hash/ChecksumHashFunction.java
- *
- /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/reflect/TypeCapture.java
- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/escape/package-info.java
- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-

```

jar/com/google/common/collect/FilteredKeyMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/io/FileWriteMode.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/reflect/Invokable.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ImmutableRangeSet.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/cache/LongAddable.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/io/CharSource.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/reflect/MutableTypeToInstanceMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/reflect/TypeToInstanceMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/math/LinearTransformation.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/ListenableScheduledFuture.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/SmoothRateLimiter.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/RateLimiter.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/hash/LongAddables.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/io/ByteSource.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/math/StatsAccumulator.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/math/Stats.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/cache/LongAddables.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/reflect/Parameter.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/reflect/AbstractInvocationHandler.java
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ObjectCountLinkedHashMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/ClosingFuture.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/AbstractBaseGraph.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/Traverser.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/BaseGraph.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ObjectCountHashMap.java
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*/
/*
* This following method is a modified version of one found in
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/SequentialExecutor.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/primitives/Shorts.java

*

/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/primitives/Ints.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/net/InetAddresses.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/primitives/Longs.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/MultiReader.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/escape/UnicodeEscaper.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/primitives/Doubles.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/ListenableFutureTask.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/primitives/Chars.java

*

/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/net/PercentEscaper.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/internal/Finalizer.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/CharMatcher.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/thirdparty/publicsuffix/TrieParser.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/Joiner.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/escape/Escaper.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/Converter.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/primitives/Booleans.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/Stopwatch.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/FluentIterable.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/primitives/Bytes.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/FileBackedOutputStream.java
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ImmutableSortedMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ArrayTable.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ImmutableSetMultimap.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/RegularImmutableSortedSet.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ImmutableTable.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ComputationException.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/AbstractIndexedListIterator.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/EmptyImmutableSetMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ImmutableClassToInstanceMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ImmutableEnumSet.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ComparisonChain.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ImmutableAsList.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/SingletonImmutableTable.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/RegularImmutableList.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/DiscreteDomain.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ImmutableSortedSetFauxverideShim.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingTable.java
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```
/**
 * Outer class that exists solely to let us write {@code Partially.GwtIncompatible} instead of plain
 * {@code GwtIncompatible}. This is more accurate for {@link Futures#catching}, which is available
 * under GWT but with a slightly different signature.
 *
 * <p>We can't use {@code PartiallyGwtIncompatible} because then the GWT compiler
 * wouldn't recognize
 * it as a {@code GwtIncompatible} annotation. And for {@code Futures.catching}, we need the GWT
 * compiler to autostrip the normal server method in order to expose the special, inherited GWT
 * version.
 */
```

Found in path(s):

```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/Partially.java
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```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ForwardingMapEntry.java
```

```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ExplicitOrdering.java
```

```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/Multiset.java
```

```
*
 /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/LexicographicalOrdering.java
```

```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/AbstractIterator.java
```

```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/AbstractSortedSetMultimap.java
```

```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
```

```

jar/com/google/common/collect/UsingToStringOrdering.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/RegularImmutableSet.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ForwardingObject.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ForwardingQueue.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/EnumBiMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/EnumHashBiMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ConcurrentHashMultiset.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/NullsFirstOrdering.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ImmutableList.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/HashMultiset.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/Multimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/CompoundOrdering.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/AbstractSetMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/AbstractMapBasedMultiset.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ByFunctionOrdering.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/SortedSetMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ForwardingList.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ForwardingMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/HashMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ForwardingSet.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/AbstractMapEntry.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/package-info.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/AbstractMultiset.java

```

```

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/Lists.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ForwardingListIterator.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/LinkedListMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/NaturalOrdering.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ForwardingMultiset.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/AbstractBiMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/LinkedHashMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ForwardingMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ReverseNaturalOrdering.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/AbstractListMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ForwardingSortedMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/SetMultimap.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/Multisets.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/SingletonImmutableSet.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/MutableClassToInstanceMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/MapDifference.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/NullsLastOrdering.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/Ordering.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ImmutableSet.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/TreeMultiset.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/Sets.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ForwardingCollection.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-

```

jar/com/google/common/collect/Synchronized.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ListMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ReverseOrdering.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/AbstractMapBasedMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/Multimaps.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ArrayListMultimap.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ForwardingSortedSet.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ForwardingConcurrentMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/TreeMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ForwardingIterator.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ClassToInstanceMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/Iterators.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/Maps.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ComparatorOrdering.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/LinkedHashMultiset.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/Interner.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/BiMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/Iterables.java

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Found in path(s):

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/ServiceManagerBridge.java
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/hash/package-info.java
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*/

/*

```
* This method was rewritten in Java from an intermediate step of the Murmur hash function in
* http://code.google.com/p/smhasher/source/browse/trunk/MurmurHash3.cpp, which contained the
* following header:
*
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* hereby
disclaims copyright to this source code.
*/
```

Found in path(s):

```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/Hashing.java
```

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```
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```

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```

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* the License.
```

```
*/
```

Found in path(s):

```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/PatternCompiler.java
```

```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/CommonPattern.java
```

```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/JdkPattern.java
```

```
*
```

```
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/CommonMatcher.java
```

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```
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```

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```

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*
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*/

/*

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* <http://code.google.com/p/smhasher/source/browse/trunk/MurmurHash3.cpp>, which contained the
* following header:

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copyright to this source code.

*/

Found in path(s):

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/SmallCharMatcher.java

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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/escape/ArrayBasedUnicodeEscaper.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/MapMakerInternalMap.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/AbstractExecutionThreadService.java

*

/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/net/HostSpecifier.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-

```

jar/com/google/common/reflect/TypeResolver.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/Platform.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/annotations/GwtIncompatible.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/annotations/GwtCompatible.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/AbstractIdleService.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/cache/ReferenceEntry.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/primitives/UnsignedBytes.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/ForwardingFuture.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/escape/ArrayBasedCharEscaper.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/io/ByteProcessor.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/html/HtmlEscapers.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/net/UrlEscapers.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/Cut.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/Callables.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/net/InternetDomainName.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/io/ByteArrayDataInput.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/escape/ArrayBasedEscaperMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/RegularImmutableTable.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/MapMaker.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/ForwardingFluentFuture.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/JdkFutureAdapters.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/ForwardingListenableFuture.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/escape/Escapers.java

```


* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/DenseImmutableTable.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/cache/CacheBuilder.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/ByteArrayDataOutput.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/SettableFuture.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/Service.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/escape/Platform.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/AbstractService.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/cache/LocalCache.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/LineProcessor.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/xml/XmlEscapers.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/SparseImmutableTable.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/Splitter.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/primitives/SignedBytes.java
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/FuturesGetChecked.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-

jar/com/google/common/util/concurrent/TimeoutFuture.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/FluentFuture.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/escape/CharEscaper.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/UncheckedTimeoutException.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/GwtFuturesCatchingSpecialization.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/AbstractTransformFuture.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/SimpleTimeLimiter.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/io/PatternFilenameFilter.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/CollectionFuture.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/ImmediateFuture.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/reflect/TypeToken.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/annotations/VisibleForTesting.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/Futures.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/AbstractCatchingFuture.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/CaseFormat.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/io/AppendableWriter.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/GwtFluentFutureCatchingSpecialization.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/TimeLimiter.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/FakeTimeLimiter.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/escape/CharEscaperBuilder.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/AggregateFuture.java
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/NullnessCasts.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/NullnessCasts.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/NullnessCasts.java

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* Holder for web specializations of methods of { @code Doubles }. Intended to be empty for regular
* version.
*/

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jar/com/google/common/primitives/DoublesMethodsForWeb.java

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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/ParametricNullness.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/hash/ParametricNullness.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/math/ParametricNullness.java
*
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/net/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/html/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/primitives/ParametricNullness.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/cache/ParametricNullness.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/eventbus/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/reflect/ParametricNullness.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/escape/ParametricNullness.java
*
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/hash/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/escape/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/xml/ParametricNullness.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/html/ParametricNullness.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/net/ParametricNullness.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-

```
jar/com/google/common/xml/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/math/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ParametricNullness.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/io/ParametricNullness.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/primitives/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/ParametricNullness.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/eventbus/ParametricNullness.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/ParametricNullness.java
*
/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/reflect/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/io/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/cache/ElementTypesAreNonnullByDefault.java
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/**
```

* Holder for web specializations of methods of { @code Ints }. Intended to be empty for regular
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*/

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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/SortedIterables.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ImmutableSortedMultiset.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/Count.java

*

/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/RangeSet.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ForwardingSortedMultiset.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ImmutableSortedMultisetFauxverideShim.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/GeneralRange.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/SortedIterable.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/RegularImmutableSortedMultiset.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/AbstractRangeSet.java

1.47 Lombok 1.18.24

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1.48 gson 2.8.9

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```
*/opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/GsonBuildConfig.java
```

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* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/bind/TreeTypeAdapter.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/bind/DateTypeAdapter.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/ConstructorConstructor.java
*
/opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/sql/SqlDateTypeAdapter.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/UnsafeAllocator.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/sql/SqlTimeTypeAdapter.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/LazilyParsedNumber.java
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* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/bind/ArrayTypeAdapter.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/bind/JsonTreeReader.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/bind/TypeAdapterRuntimeTypeWrapper.java
*
/opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/bind/CollectionTypeAdapterFactory.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/bind/MapTypeAdapterFactory.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/TypeAdapterFactory.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/JsonReaderInternalAccess.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/bind/ReflectiveTypeAdapterFactory.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/bind/TypeAdapters.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/bind/ObjectTypeAdapter.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/TypeAdapter.java
*
/opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/bind/JsonTreeWriter.java
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Found in path(s):

```
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/JsonElement.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/JsonObject.java
```

* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/JSONArray.java
*
/opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/FieldNamingStrategy.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/annotations/SerializedName.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/JsonDeserializationContext.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/Excluder.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/FieldNamingPolicy.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/\$Gson\$Preconditions.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/bind/DefaultDateTypeAdapter.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/JsonSerializationContext.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/JsonParseException.java
*
/opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/ObjectConstructor.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/Gson.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/JsonIOException.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/reflect/TypeToken.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/JsonDeserializer.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/annotations/Expose.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/Primitives.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/GsonBuilder.java
*
/opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/JsonSerializer.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/annotations/Since.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/JsonPrimitive.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/ExclusionStrategy.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/annotations/Until.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-

jar/com/google/gson/InstanceCreator.java

* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/JsonNull.java

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* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-

jar/com/google/gson/internal/bind/JsonAdapterAnnotationTypeAdapterFactory.java

* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-

jar/com/google/gson/annotations/JsonAdapter.java

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* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-

jar/com/google/gson/internal/LinkedHashMap.java

* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-

jar/com/google/gson/internal/LinkedTreeMap.java

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* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/stream/JsonReader.java

* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/stream/MalformedJsonException.java

* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/stream/JsonScope.java

*

* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/stream/JsonToken.java

* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/stream/JsonWriter.java

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* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/reflect/PreJava9ReflectionAccessor.java

* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/reflect/ReflectionAccessor.java

* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/reflect/UnsafeReflectionAccessor.java

*

/opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/PreJava9DateFormatProvider.java

* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/JavaVersion.java

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* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/bind/NumberTypeAdapter.java

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jar/com/google/gson/ToNumberPolicy.java

* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/ToNumberStrategy.java

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* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/JsonSyntaxException.java

* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/Streams.java

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* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/\$Gson\$Types.java

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* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/JsonStreamParser.java

* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/LongSerializationPolicy.java

* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/FieldAttributes.java

*

/opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/JsonParser.java

1.49 free-type 2.12.0

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builds/unix/pkg.m4

#

docs/FTL.TXT

docs/GPLv2.TXT

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include/freetype/internal/fthash.h

#

src/base/fthash.c

src/base/md5.c

src/base/md5.h

#

src/bdf/bdf.c

src/bdf/bdf.h

src/bdf/bdfdrivr.c

src/bdf/bdfdrivr.h

src/bdf/bdferror.h

src/bdf/bdflib.c

src/bdf/module.mk

src/bdf/README

```
src/bdf/rules.mk
#
src/pcf/module.mk
src/pcf/pcf.c
src/pcf/pcf.h
src/pcf/pcfdrivr.c
src/pcf/pcfdrivr.h
src/pcf/pcferror.h
src/pcf/pcfread.c
src/pcf/pcfread.h
src/pcf/pcfutil.c
src/pcf/pcfutil.h
src/pcf/README
src/pcf/rules.mk
#
src/gzip/adler32.c
src/gzip/infblock.c
src/gzip/infblock.h
src/gzip/infcodes.c
src/gzip/infcodes.h
src/gzip/inffixed.h
src/gzip/inflate.c
src/gzip/inftrees.c
src/gzip/inftrees.h
src/gzip/infutil.c
src/gzip/infutil.h
src/gzip/zconf.h
src/gzip/zlib.h
src/gzip/zutil.c
src/gzip/zutil.h
#
src/tools/apinames.c
src/tools/ftandom/ftandom.c
#
subprojects/dlg
#
#
```

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1.50 okhttp 4.10.0

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1.51 protobuf-java 3.19.6

1.51.1 Available under license :

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Manifest-Version: 1.0
Automatic-Module-Name: com.google.protobuf
Bnd-LastModified: 1664485905970
Build-Jdk: 1.8.0_181-google-v7
Built-By: mkruskal
Bundle-Description: Core Protocol Buffers library. Protocol Buffers are a way of encoding structured data in an efficient yet extensible format.
Bundle-DocURL: <https://developers.google.com/protocol-buffers/>
Bundle-License: <https://opensource.org/licenses/BSD-3-Clause>
Bundle-ManifestVersion: 2
Bundle-Name: Protocol Buffers [Core]
Bundle-SymbolicName: com.google.protobuf
Bundle-Version: 3.19.6
Created-By: Apache Maven Bundle Plugin
Export-Package: com.google.protobuf;version="3.19.6"
Import-Package: sun.misc;resolution:=optional,com.google.protobuf;version="[3.19,4)"
Require-Capability: osgi.ee;filter="(&(osgi.ee=JavaSE)(version=1.7))"
Tool: Bnd-3.0.0.201509101326

Found in path(s):

* /opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-jar/META-INF/MANIFEST.MF

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Found in path(s):

* /opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/timestamp.proto

* /opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/struct.proto

* /opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/wrappers.proto

*
 /opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/type.proto
 * /opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/empty.proto
 * /opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/any.proto
 * /opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/descriptor.proto
 * /opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/duration.proto
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 * /opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/compiler/plugin.proto
 * /opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/source_context.proto
 * /opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/api.proto

1.52 kotlin 1.6.21

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{ "version": 3, "file": "kotlin.js", "sources": [ "wrapper.js", "js/arrayUtils.js", "js/callableReferenceUtils.js", "js/conversions.js", "js/core.js", "js/long.js", "js/markerFunctions.js", "js/misc.js", "js/polyfills.js", "js/rtti.js", "runtime/arrayUtils.kt", "runtime/Enum.kt", "primitiveCompanionObjects.kt", "common/src/generated/_Arrays.kt", "common/src/generated/_Ranges.kt", "unsigned/src/kotlin/UByte.kt", "unsigned/src/kotlin/UInt.kt", "unsigned/src/kotlin/UShort.kt", "builtin-sources/Ranges.kt", "src/kotlin/collections/Collections.kt", "src/kotlin/collections/Maps.kt", "src/kotlin/collections/Sets.kt", "src/kotlin/text/StringNumberConversions.kt", "src/kotlin/time/Duration.kt", "unsigned/src/kotlin/UnsignedUtils.kt", "src/kotlin/collections/Iterables.kt", "src/kotlin/collections/Sequences.kt", "src/kotlin/util/Preconditions.kt", "js/src/generated/_ArraysJs.kt", "src/kotlin/comparisons/Comparisons.kt", "src/kotlin/util/Standard.kt", "js/src/generated/_ComparisonsJs.kt", "unsigned/src/kotlin/ULong.kt", "common/src/generated/_Collections.kt", "js/src/kotlin/collections.kt", "src/kotlin/collections/Iterators.kt", "common/src/generated/_Comparisons.kt", "common/src/generated/_Maps.kt", "common/src/generated/_OneToManyTitlecaseMappings.kt", "js/src/kotlin/text/char.kt", "js/src/kotlin/text/string.kt", "src/kotlin/text/Char.kt", "src/kotlin/CharCode.kt", "common/src/generated/_Sequences.kt", "common/src/generated/_Sets.kt", "common/src/generated/_Strings.kt", "src/kotlin/text/Strings.kt", "unsigned/src/kotlin/UByteArray.kt", "unsigned/src/kotlin/UIntArray.kt", "unsigned/src/kotlin/ULongArray.kt", "unsigned/src/kotlin/UShortArray.kt", "common/src/generated/_UArrays.kt", "common/src/generated/_UCollections.kt", "common/src/generated/_UComparisons.kt", "common/src/generated/_URanges.kt", "common/src/generated/_USequences.kt", "common/src/kotlin/ExceptionsH.kt", "common/src/kotlin/JsAnnotationsH.kt", "common/src/kotlin/ioH.kt", "builtin-sources/Collections.kt", "builtin-sources/Iterators.kt", "builtin-sources/ProgressionIterators.kt", "builtin-sources/Progressions.kt", "builtin-sources/Range.kt", "builtin-sources/Unit.kt", "builtin-sources/annotation/Annotations.kt", "builtin-sources/internal/InternalAnnotations.kt", "builtin-sources/internal/progressionUtil.kt", "src/kotlin/builtins.kt", "src/kotlin/jsTypeOf.kt", "src/kotlin/kotlin.kt", "src/kotlin/CharCode_js-v1.kt", "src/kotlin/coroutines/CoroutineImpl.kt", "src/kotlin/util/Result.kt", "src/kotlin/coroutines/Continuation.kt", "src/kotlin/coroutines/intrinsics/IntrinsicsJs.kt", "src/kotlin/currentBeMisc.kt", "src/kotlin/exceptions.kt", "src/kotlin/jsOperators.kt", "src/kotlin/math_js-v1.kt", "src/kotlin/numbers_js-v1.kt", "src/kotlin/reflection_js-v1.kt", "src/kotlin/text/numberConversions_js-v1.kt", "js/src/generated/_CharCategories.kt", "js/src/generated/_CollectionsJs.kt", "js/src/generated/_DigitChars.kt", "js/src/generated/_LetterChars.kt", "js/src/generated/_OtherLowercaseChars.kt", "js/src/generated/_OtherUppercaseChars.kt", "js/src/generated/_StringsJs.kt", "js/src/generated/_TitlecaseMappings.kt", "js/src/generated/_UArraysJs.kt", "j
```

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otlin/ULongRange.kt", "unsigned/src/kotlin/UMath.kt", "unsigned/src/kotlin/UNumbers.kt", "unsigned/src/kotlin/UPr
ogressionUtil.kt", "unsigned/src/kotlin/UStrings.kt", "unsigned/src/kotlin/annotations/Unsigned.kt", "common/src/kotl
in/MathH.kt"], "sourcesContent": ["(function
  (root, factory) {\n  if (typeof define === 'function' && define.amd) {\n    define('kotlin', ['exports'], factory);\n
  }\n  else if (typeof exports === 'object') {\n    factory(module.exports);\n  }\n  else {\n    root.kotlin = {};\n
    factory(root.kotlin);\n  }\n}(this, function (Kotlin) {\n  var _ = Kotlin;\n\n  insertContent();\n});\n", /*\n *
Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors. \n * Use of this source code
is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n\nKotlin.isArray = function (a) {\n  return (Array.isArray(a) || a instanceof Int8Array) && a.$type$
=== \"BooleanArray\"\n};\n\nKotlin.isByteArray = function (a) {\n  return a instanceof Int8Array && a.$type$
!=\"BooleanArray\"\n};\n\nKotlin.isShortArray = function (a) {\n  return a instanceof
Int16Array\n};\n\nKotlin.isCharArray = function (a) {\n  return a instanceof Uint16Array
&& a.$type$ === \"CharArray\"\n};\n\nKotlin.isIntArray = function (a) {\n  return a instanceof
Int32Array\n};\n\nKotlin.isFloatArray = function (a) {\n  return a instanceof
Float32Array\n};\n\nKotlin.isDoubleArray = function (a) {\n  return a instanceof
Float64Array\n};\n\nKotlin.isLongArray = function (a) {\n  return Array.isArray(a) && a.$type$ ===
\"LongArray\"\n};\n\nKotlin.isArray = function (a) {\n  return Array.isArray(a) &&
!a.$type$;\n};\n\nKotlin.isArrayish = function (a) {\n  return Array.isArray(a) ||
ArrayBuffer.isView(a)\n};\n\nKotlin.arrayToString = function (a) {\n  if (a === null) return \"null\"\n  var
toString = Kotlin.isCharArray(a) ? String.fromCharCode : Kotlin.toString;\n  return "[" +
Array.prototype.map.call(a, function(e) { return toString(e); }).join(", ") + "]"
};\n\nKotlin.arrayDeepToString = function (arr) {\n  return Kotlin.kotlin.collections.contentDeepToStringImpl(arr);\n};\n\nKotlin.arrayEquals =
function (a, b) {\n
  if (a === b) {\n    return true;\n  }\n  if (a === null || b === null || !Kotlin.isArrayish(b) || a.length !==
b.length) {\n    return false;\n  }\n  for (var i = 0, n = a.length; i < n; i++) {\n    if (!Kotlin.equals(a[i], b[i]))
{\n      return false;\n    }\n  }\n  return true;\n};\n\nKotlin.arrayDeepEquals = function (a, b) {\n  return
Kotlin.kotlin.collections.contentDeepEqualsImpl(a, b);\n};\n\nKotlin.arrayHashCode = function (arr) {\n  if (arr
=== null) return 0\n  var result = 1;\n  for (var i = 0, n = arr.length; i < n; i++) {\n    result = ((31 * result | 0) +
Kotlin.hashCode(arr[i])) | 0;\n  }\n  return result;\n};\n\nKotlin.arrayDeepHashCode = function (arr) {\n  return
Kotlin.kotlin.collections.contentDeepHashCodeImpl(arr);\n};\n\nKotlin.primitiveArraySort = function (array) {\n
array.sort(Kotlin.doubleCompareTo)\n};\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors. \n
* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n\nKotlin.getCallableRef = function(name, f) {\n  f.callableName = name;\n  return
f;\n};\n\nKotlin.getPropertyCallableRef = function(name, paramCount, getter, setter) {\n  getter.get = getter;\n
getter.set = setter;\n  getter.callableName = name;\n  return getPropertyRefClass(getter, setter,
propertyRefClassMetadataCache[paramCount]);\n};\n\nfunction getPropertyRefClass(obj, setter, cache) {\n
obj.$metadata$ = getPropertyRefMetadata(typeof setter === \"function\" ? cache.mutable : cache.immutable);\n
obj.constructor = obj;\n  return obj;\n}\n\nvar propertyRefClassMetadataCache = [\n  {\n    mutable: { value:
null, implementedInterface: function () {\n      return Kotlin.kotlin.reflect.KMutableProperty0 }\n    },\n
immutable: { value: null, implementedInterface: function () {\n      return Kotlin.kotlin.reflect.KProperty0
}\n    }\n  },\n  {\n    mutable: { value: null, implementedInterface: function () {\n      return
Kotlin.kotlin.reflect.KMutableProperty1 }\n    },\n    immutable: { value: null, implementedInterface: function
() {\n      return Kotlin.kotlin.reflect.KProperty1 }\n    }\n  }\n];\n\nfunction getPropertyRefMetadata(cache)
{\n  if (cache.value === null) {\n    cache.value = {\n      interfaces: [cache.implementedInterface()],\n
baseClass: null,\n      functions: {},\n      properties: {},\n      types: {},\n      staticMembers: {}\n
};\n  }\n  return cache.value;\n}\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors. \n * Use of this source code is governed by the Apache 2.0 license that can be found in the

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license/LICENSE.txt file.\n */\n\nKotlin.toShort = function (a) {\n  return (a & 0xFFFF) << 16 >>
16;\n};\n\nKotlin.toByte = function (a) {\n
  return (a & 0xFF) << 24 >> 24;\n};\n\nKotlin.toChar = function (a) {\n  return a &
0xFFFF;\n};\n\nKotlin.numberToLong = function (a) {\n  return a instanceof Kotlin.Long ? a :
Kotlin.Long.fromNumber(a);\n};\n\nKotlin.numberToInt = function (a) {\n  return a instanceof Kotlin.Long ?
a.toInt() : Kotlin.doubleToInt(a);\n};\n\nKotlin.numberToShort = function (a) {\n  return
Kotlin.toShort(Kotlin.numberToInt(a));\n};\n\nKotlin.numberToByte = function (a) {\n  return
Kotlin.toByte(Kotlin.numberToInt(a));\n};\n\nKotlin.numberToDouble = function (a) {\n  return
+a;\n};\n\nKotlin.numberToChar = function (a) {\n  return
Kotlin.toChar(Kotlin.numberToInt(a));\n};\n\nKotlin.doubleToInt = function(a) {\n  if (a > 2147483647) return
2147483647;\n  if (a < -2147483648) return -2147483648;\n  return a | 0;\n};\n\nKotlin.toBoxedChar = function
(a) {\n  if (a == null) return a;\n  if (a instanceof Kotlin.BoxedChar) return a;\n  return new
Kotlin.BoxedChar(a);\n};\n\nKotlin.unboxChar
= function(a) {\n  if (a == null) return a;\n  return Kotlin.toChar(a);\n};\n\n"/*\n * Copyright 2010-2018 JetBrains
s.r.o. and Kotlin Programming Language contributors. \n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n */\n\nKotlin.equals = function (obj1, obj2) {\n  if (obj1
== null) {\n    return obj2 == null;\n  }\n\n  if (obj2 == null) {\n    return false;\n  }\n\n  if (obj1 !== obj2)
{\n    return obj2 !== obj2;\n  }\n\n  if (typeof obj1 === "object" && typeof obj1.equals === "function") {\n
  return obj1.equals(obj2);\n  }\n\n  if (typeof obj1 === "number" && typeof obj2 === "number") {\n
return obj1 === obj2 && (obj1 !== 0 || 1 / obj1 === 1 / obj2)\n  }\n\n  return obj1 ===
obj2;\n};\n\nKotlin.hashCode = function (obj) {\n  if (obj == null) {\n    return 0;\n  }\n  var objType = typeof
obj;\n  if ("object" === objType) {\n
  return "function" === typeof obj.hashCode ? obj.hashCode() : getObjectHashCode(obj);\n  }\n  if
("function" === objType) {\n    return getObjectHashCode(obj);\n  }\n  if ("number" === objType) {\n
return Kotlin.numberHashCode(obj);\n  }\n  if ("boolean" === objType) {\n    return Number(obj)\n  }\n\n  var str = String(obj);\n  return getStringHashCode(str);\n};\n\n\nKotlin.toString = function (o) {\n  if (o == null)
{\n    return "null";\n  }\n  else if (Kotlin.isArrayish(o)) {\n    return "[...]";\n  }\n  else {\n    return
o.toString();\n  }\n};\n\n\n/** @const *\nvar POW_2_32 = 4294967296;\n// TODO: consider switching to Symbol
type once we are on ES6.\n/** @const *\nvar OBJECT_HASH_CODE_PROPERTY_NAME =
"KotlinHashCodeValue$";\n\nfunction getObjectHashCode(obj) {\n  if
(!(OBJECT_HASH_CODE_PROPERTY_NAME in obj)) {\n    var hash = (Math.random() * POW_2_32) | 0;\n    //
Make 32-bit signed integer.\n    Object.defineProperty(obj,
OBJECT_HASH_CODE_PROPERTY_NAME, { value: hash, enumerable: false });\n  }\n  return
obj[OBJECT_HASH_CODE_PROPERTY_NAME];\n}\n\nfunction getStringHashCode(str) {\n  var hash = 0;\n
for (var i = 0; i < str.length; i++) {\n    var code = str.charCodeAt(i);\n    hash = (hash * 31 + code) | 0;\n    // Keep
it 32-bit.\n  }\n  return hash;\n}\n\nKotlin.identityHashCode = getObjectHashCode;\n\n"/*\n * Copyright 2010-
2018 JetBrains s.r.o. and Kotlin Programming Language contributors. \n * Use of this source code is governed by
the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// Copyright 2009 The Closure
Library Authors. All Rights Reserved.\n// Licensed under the Apache License, Version 2.0 (the "License");\n//
you may not use this file except in compliance with the License.\n// You may obtain a copy of the License at\n//
http://www.apache.org/licenses/LICENSE-2.0\n// Unless required by applicable law
or agreed to in writing, software\n// distributed under the License is distributed on an "AS-IS" BASIS,\n//
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.\n\n\n/**\n * Constructs a
64-bit two's-complement integer, given its low and high 32-bit\n * values as *signed* integers. See the from*
functions below for more\n * convenient ways of constructing Longs.\n */\n\n * The internal representation of a long is
the two given signed, 32-bit values.\n * We use 32-bit pieces because these are the size of integers on which\n *
Javascript performs bit-operations. For operations like addition and\n * multiplication, we split each number into
16-bit pieces, which can easily be\n * multiplied within Javascript's floating-point representation without overflow\n

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* or change in sign.\n * In the algorithms below, we frequently reduce the negative case to the\n * positive case
by negating the input(s) and then post-processing the result.\n * Note that we must ALWAYS check
specially whether those values are MIN_VALUE\n * (-2^63) because -MIN_VALUE == MIN_VALUE (since
2^63 cannot be represented as\n * a positive number, it overflows back into a negative). Not handling this\n * case
would often result in infinite recursion.\n\n * @param {number} low The low (signed) 32 bits of the long.\n *
@param {number} high The high (signed) 32 bits of the long.\n * @constructor\n * @final\n * ^\n Kotlin.Long =
function(low, high) {\n /**\n * @type {number}\n * @private\n */\n this.low_ = low | 0; // force into 32
signed bits.\n\n /**\n * @type {number}\n * @private\n */\n this.high_ = high | 0; // force into 32 signed
bits.\n};\n\n Kotlin.Long.$metadata$ = {\n kind: \"class\", \n simpleName: \"Long\", \n interfaces: []\n};\n\n\n//
NOTE: Common constant values ZERO, ONE, NEG_ONE, etc. are defined below the\n// from* methods on which
they depend.\n\n\n/**\n * A cache of the Long representations of small integer values.\n * @type {!Object}\n *
@private\n\n\n * ^\n Kotlin.Long.IntCache_ = {};\n\n\n/**\n * Returns a Long representing the given (32-bit) integer value.\n *
@param {number} value The 32-bit integer in question.\n * @return {!Kotlin.Long} The corresponding Long
value.\n * ^\n Kotlin.Long.fromInt = function(value) {\n if (-128 <= value && value < 128) {\n var cachedObj =
Kotlin.Long.IntCache_[value];\n if (cachedObj) {\n return cachedObj;\n }\n }\n\n var obj = new
Kotlin.Long(value | 0, value < 0 ? -1 : 0);\n if (-128 <= value && value < 128) {\n Kotlin.Long.IntCache_[value]
= obj;\n }\n return obj;\n};\n\n\n/**\n * Converts this number value to `Long`.\n * The fractional part, if any, is
rounded down towards zero.\n * Returns zero if this `Double` value is `NaN`, `Long.MIN_VALUE` if it's less than
`Long.MIN_VALUE`,\n * `Long.MAX_VALUE` if it's bigger than `Long.MAX_VALUE`.\n * @param {number}
value The number in question.\n * @return {!Kotlin.Long} The corresponding Long value.\n\n\n * ^\n Kotlin.Long.fromNumber
= function(value) {\n if (isNaN(value)) {\n return Kotlin.Long.ZERO;\n } else if (value <= -
Kotlin.Long.TWO_PWR_63_DBL_) {\n return Kotlin.Long.MIN_VALUE;\n } else if (value + 1 >=
Kotlin.Long.TWO_PWR_63_DBL_) {\n return Kotlin.Long.MAX_VALUE;\n } else if (value < 0) {\n return
Kotlin.Long.fromNumber(-value).negate();\n } else {\n return new Kotlin.Long(\n (value %
Kotlin.Long.TWO_PWR_32_DBL_) | 0, \n (value / Kotlin.Long.TWO_PWR_32_DBL_) | 0);\n
}\n};\n\n\n/**\n * Returns a Long representing the 64-bit integer that comes by concatenating\n * the given high and
low bits. Each is assumed to use 32 bits.\n * @param {number} lowBits The low 32-bits.\n * @param {number}
highBits The high 32-bits.\n * @return {!Kotlin.Long} The corresponding Long value.\n * ^\n Kotlin.Long.fromBits
= function(lowBits, highBits) {\n return new Kotlin.Long(lowBits, highBits);\n};\n\n\n/**\n * Returns a Long
representation of the given string, written using the given\n *
radix.\n * @param {string} str The textual representation of the Long.\n * @param {number=} opt_radix The radix
in which the text is written.\n * @return {!Kotlin.Long} The corresponding Long value.\n\n\n * ^\n Kotlin.Long.fromString = function(str, opt_radix) {\n if (str.length == 0) {\n throw Error('number format
error: empty string');\n }\n\n var radix = opt_radix || 10;\n if (radix < 2 || 36 < radix) {\n throw Error('radix out of
range: ' + radix);\n }\n\n if (str.charAt(0) == '-') {\n return Kotlin.Long.fromString(str.substring(1),
radix).negate();\n } else if (str.indexOf('-') >= 0) {\n throw Error('number format error: interior \"-\" character: ' +
str);\n }\n\n // Do several (8) digits each time through the loop, so as to\n // minimize the calls to the very
expensive emulated div.\n var radixToPower = Kotlin.Long.fromNumber(Math.pow(radix, 8));\n\n var result =
Kotlin.Long.ZERO;\n for (var i = 0; i < str.length; i += 8) {\n var size = Math.min(8, str.length
- i);\n var value = parseInt(str.substring(i, i + size), radix);\n if (size < 8) {\n var power =
Kotlin.Long.fromNumber(Math.pow(radix, size));\n result =
result.multiply(power).add(Kotlin.Long.fromNumber(value));\n } else {\n result =
result.multiply(radixToPower);\n result = result.add(Kotlin.Long.fromNumber(value));\n }\n }\n return
result;\n};\n\n\n// NOTE: the compiler should inline these constant values below and then remove\n// these
variables, so there should be no runtime penalty for these.\n\n\n/**\n * Number used repeated below in calculations.
This must appear before the\n * first call to any from* function below.\n * @type {number}\n * @private\n

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*^ Kotlin.Long.TWO_PWR_16_DBL_ = 1 << 16;^ Kotlin.Long.TWO_PWR_24_DBL_ = 1 << 24;^ Kotlin.Long.TWO_PWR_32_DBL_ = Kotlin.Long.TWO_PWR_16_DBL_ * Kotlin.Long.TWO_PWR_16_DBL_;^ Kotlin.Long.TWO_PWR_31_DBL_ = Kotlin.Long.TWO_PWR_32_DBL_ / 2;^ Kotlin.Long.TWO_PWR_48_DBL_ = Kotlin.Long.TWO_PWR_32_DBL_ * Kotlin.Long.TWO_PWR_16_DBL_;^ Kotlin.Long.TWO_PWR_64_DBL_ = Kotlin.Long.TWO_PWR_32_DBL_ * Kotlin.Long.TWO_PWR_32_DBL_;^ Kotlin.Long.TWO_PWR_63_DBL_ = Kotlin.Long.TWO_PWR_64_DBL_ / 2;^ Kotlin.Long.ZERO = Kotlin.Long.fromInt(0);^ Kotlin.Long.ONE = Kotlin.Long.fromInt(1);^ Kotlin.Long.NEG_ONE = Kotlin.Long.fromInt(-1);^ Kotlin.Long.MAX_VALUE = Kotlin.Long.fromBits(0xFFFFFFFF | 0, 0x7FFFFFFF | 0);^ Kotlin.Long.MIN_VALUE = Kotlin.Long.fromBits(0, 0x80000000 | 0);^ Kotlin.Long.TWO_PWR_24_ = Kotlin.Long.fromInt(1 << 24);^ Kotlin.Long.prototype.toInt = function() { return this.low_; }^ Kotlin.Long.prototype.toFloat = function() { return this.high_ * Kotlin.Long.TWO_PWR_32_DBL_ + this.getLowBitsUnsigned(); }^ Kotlin.Long.prototype.hashCode = function() { return this.high_ ^ this.low_; }^ Kotlin.Long.prototype.toString = function(opt_radix) { var radix = opt_radix || 10; if (radix < 2 || 36 < radix) { throw Error('radix out of range: ' + radix); } if (this.isZero()) { return '0'; } if (this.isNegative()) { if (this.equalsLong(Kotlin.Long.MIN_VALUE)) { // We need to change the Long value before it can be negated, so we remove // the bottom-most digit in this base and then recurse to do the rest. var radixLong = Kotlin.Long.fromNumber(radix); var div = this.div(radixLong); var rem = div.multiply(radixLong).subtract(this); return div.toString(radix) + rem.toInt().toString(radix); } else { return '-' + this.negate().toString(radix); } } // Do several (6) digits each time through the loop, so as to // minimize the calls to the very expensive emulated div. var radixToPower = Kotlin.Long.fromNumber(Math.pow(radix, 6)); var rem = this; var result = ''; while (true) { var remDiv = rem.div(radixToPower); var intVal = rem.subtract(remDiv.multiply(radixToPower)).toInt(); var digits = intVal.toString(radix); rem = remDiv; if (rem.isZero()) { return digits + result; } else { while (digits.length < 6) { digits = '0' + digits; } result = '' + digits + result; } } }^ Kotlin.Long.prototype.getHighBits = function() { return this.high_; }^ Kotlin.Long.prototype.getLowBits = function() { return this.low_; }^ Kotlin.Long.prototype.getLowBitsUnsigned = function() { return (this.low_ >= 0) ? this.low_ : Kotlin.Long.TWO_PWR_32_DBL_ + this.low_; }^ Kotlin.Long.prototype.getNumBitsAbs = function() { if (this.isNegative()) { if (this.equalsLong(Kotlin.Long.MIN_VALUE)) { return 64; } else { return this.negate().getNumBitsAbs(); } } else { var val = this.high_ != 0 ? this.high_ : this.low_; for (var bit = 31; bit > 0; bit--) { if ((val & (1 << bit)) != 0) { break; } } return this.high_ != 0 ? bit + 33 : bit + 1; } }^ Kotlin.Long.prototype.isZero = function() { return this.high_ == 0 && this.low_ == 0; }

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{boolean} Whether this value is negative. */\nKotlin.Long.prototype.isNegative = function() {\n return this.high_ <
0;\n};\n\n/** @return {boolean} Whether this value is odd. */\nKotlin.Long.prototype.isOdd = function() {\n
return (this.low_ & 1) == 1;\n};\n\n/**\n * @param {Kotlin.Long} other Long to compare against.\n * @return
{boolean} Whether this Long equals the other.\n */\nKotlin.Long.prototype.equalsLong = function(other) {\n return
(this.high_ == other.high_) && (this.low_ == other.low_);\n};\n\n/**\n * @param {Kotlin.Long} other Long to
compare against.\n * @return {boolean} Whether this Long does not equal the other.\n
*/\nKotlin.Long.prototype.notEqualsLong = function(other) {\n return (this.high_ != other.high_) || (this.low_ !=
other.low_);\n};\n\n/**\n * @param {Kotlin.Long} other Long to compare against.\n * @return {boolean}
Whether this Long is less than the other.\n */\nKotlin.Long.prototype.lessThan = function(other) {\n return
this.compare(other) < 0;\n};\n\n/**\n * @param {Kotlin.Long} other Long to compare against.\n * @return
{boolean} Whether this Long is less than or equal to the other.\n */\nKotlin.Long.prototype.lessThanOrEqual =
function(other) {\n return this.compare(other) <= 0;\n};\n\n/**\n * @param {Kotlin.Long} other Long to
compare against.\n * @return {boolean} Whether this Long is greater than the other.\n
*/\nKotlin.Long.prototype.greaterThan = function(other) {\n return this.compare(other) > 0;\n};\n\n/**\n *
@param {Kotlin.Long} other Long to compare against.\n * @return {boolean} Whether this Long is greater than or
equal to the other.\n */\nKotlin.Long.prototype.greaterThanOrEqual = function(other) {\n return this.compare(other) >= 0;\n};\n\n/**\n * Compares this Long with the given one.\n *
@param {Kotlin.Long} other Long to compare against.\n * @return {number} 0 if they are the same, 1 if the this is
greater, and -1\n * if the given one is greater.\n */\nKotlin.Long.prototype.compare = function(other) {\n if
(this.equalsLong(other)) {\n return 0;\n }\n\n var thisNeg = this.isNegative();\n var otherNeg =
other.isNegative();\n if (thisNeg && !otherNeg) {\n return -1;\n }\n if (!thisNeg && otherNeg) {\n return 1;\n
}\n\n // at this point, the signs are the same, so subtraction will not overflow\n if (this.subtract(other).isNegative())
{\n return -1;\n } else {\n return 1;\n }\n};\n\n/** @return {!Kotlin.Long} The negation of this value.
*/\nKotlin.Long.prototype.negate = function() {\n if (this.equalsLong(Kotlin.Long.MIN_VALUE)) {\n return
Kotlin.Long.MIN_VALUE;\n } else {\n return this.not().add(Kotlin.Long.ONE);\n
}\n};\n\n/**\n * Returns the sum of this and the given Long.\n * @param {Kotlin.Long} other Long to add to
this one.\n * @return {!Kotlin.Long} The sum of this and the given Long.\n */\nKotlin.Long.prototype.add =
function(other) {\n // Divide each number into 4 chunks of 16 bits, and then sum the chunks.\n\n var a48 =
this.high_ >>> 16;\n var a32 = this.high_ & 0xFFFF;\n var a16 = this.low_ >>> 16;\n var a00 = this.low_ &
0xFFFF;\n\n var b48 = other.high_ >>> 16;\n var b32 = other.high_ & 0xFFFF;\n var b16 = other.low_ >>> 16;\n
var b00 = other.low_ & 0xFFFF;\n\n var c48 = 0, c32 = 0, c16 = 0, c00 = 0;\n c00 += a00 + b00;\n c16 += c00
>>> 16;\n c00 &= 0xFFFF;\n c16 += a16 + b16;\n c32 += c16 >>> 16;\n c16 &= 0xFFFF;\n c32 += a32 + b32;\n
c48 += c32 >>> 16;\n c32 &= 0xFFFF;\n c48 += a48 + b48;\n c48 &= 0xFFFF;\n return
Kotlin.Long.fromBits((c16 << 16) | c00, (c48 << 16) | c32);\n};\n\n/**\n * Returns the difference of this and the
given Long.\n * @param {Kotlin.Long} other Long to subtract from this.\n * @return {!Kotlin.Long} The
difference of this and the given Long.\n */\nKotlin.Long.prototype.subtract = function(other) {\n return
this.add(other.negate());\n};\n\n/**\n * Returns the product of this and the given long.\n * @param {Kotlin.Long}
other Long to multiply with this.\n * @return {!Kotlin.Long} The product of this and the other.\n
*/\nKotlin.Long.prototype.multiply = function(other) {\n if (this.isZero()) {\n return Kotlin.Long.ZERO;\n } else
if (other.isZero()) {\n return Kotlin.Long.ZERO;\n }\n\n if (this.equalsLong(Kotlin.Long.MIN_VALUE)) {\n
return other.isOdd() ? Kotlin.Long.MIN_VALUE : Kotlin.Long.ZERO;\n } else if
(other.equalsLong(Kotlin.Long.MIN_VALUE)) {\n return this.isOdd() ? Kotlin.Long.MIN_VALUE :
Kotlin.Long.ZERO;\n }\n\n if (this.isNegative()) {\n if (other.isNegative()) {\n return
this.negate().multiply(other.negate());\n } else {\n return this.negate().multiply(other).negate();\n
}\n } else if (other.isNegative()) {\n return this.multiply(other.negate()).negate();\n }\n\n // If both longs are
small, use float multiplication\n if (this.lessThan(Kotlin.Long.TWO_PWR_24_) &&\n
other.lessThan(Kotlin.Long.TWO_PWR_24_)) {\n return Kotlin.Long.fromNumber(this.toNumber() *
other.toNumber());\n }\n\n // Divide each long into 4 chunks of 16 bits, and then add up 4x4 products.\n // We can

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skip products that would overflow.\n\n var a48 = this.high_ >>> 16;\n var a32 = this.high_ & 0xFFFF;\n var a16 =
this.low_ >>> 16;\n var a00 = this.low_ & 0xFFFF;\n\n var b48 = other.high_ >>> 16;\n var b32 = other.high_ &
0xFFFF;\n var b16 = other.low_ >>> 16;\n var b00 = other.low_ & 0xFFFF;\n\n var c48 = 0, c32 = 0, c16 = 0, c00
= 0;\n c00 += a00 * b00;\n c16 += c00 >>> 16;\n c00 &= 0xFFFF;\n c16 += a16 * b00;\n c32 += c16 >>> 16;\n
c16 &= 0xFFFF;\n c16 += a00 * b16;\n c32 += c16 >>> 16;\n c16 &= 0xFFFF;\n c32 +=
a32 * b00;\n c48 += c32 >>> 16;\n c32 &= 0xFFFF;\n c32 += a16 * b16;\n c48 += c32 >>> 16;\n c32 &=
0xFFFF;\n c32 += a00 * b32;\n c48 += c32 >>> 16;\n c32 &= 0xFFFF;\n c48 += a48 * b00 + a32 * b16 + a16 *
b32 + a00 * b48;\n c48 &= 0xFFFF;\n return Kotlin.Long.fromBits((c16 << 16) | c00, (c48 << 16) |
c32);\n};\n\n\n/**\n * Returns this Long divided by the given one.\n * @param {Kotlin.Long} other Long by which
to divide.\n * @return {!Kotlin.Long} This Long divided by the given one.\n */\nKotlin.Long.prototype.div =
function(other) {\n if (other.isZero()) {\n throw Error('division by zero');\n } else if (this.isZero()) {\n return
Kotlin.Long.ZERO;\n }\n\n if (this.equalsLong(Kotlin.Long.MIN_VALUE)) {\n if
(other.equalsLong(Kotlin.Long.ONE) ||\n other.equalsLong(Kotlin.Long.NEG_ONE)) {\n return
Kotlin.Long.MIN_VALUE; // recall that -MIN_VALUE == MIN_VALUE\n } else if
(other.equalsLong(Kotlin.Long.MIN_VALUE)) {\n return Kotlin.Long.ONE;\n
} else {\n // At this point, we have |other| >= 2, so |this/other| < |MIN_VALUE|.\n var halfThis =
this.shiftRight(1);\n var approx = halfThis.div(other).shiftLeft(1);\n if
(approx.equalsLong(Kotlin.Long.ZERO)) {\n return other.isNegative() ? Kotlin.Long.ONE :
Kotlin.Long.NEG_ONE;\n } else {\n var rem = this.subtract(other.multiply(approx));\n var result =
approx.add(rem.div(other));\n return result;\n }\n }\n } else if
(other.equalsLong(Kotlin.Long.MIN_VALUE)) {\n return Kotlin.Long.ZERO;\n }\n\n if (this.isNegative()) {\n
if (other.isNegative()) {\n return this.negate().div(other.negate());\n } else {\n return
this.negate().div(other.negate());\n }\n } else if (other.isNegative()) {\n return
this.div(other.negate()).negate();\n }\n\n // Repeat the following until the remainder is less than other: find a\n //
floating-point that approximates remainder / other *from below*, add this\n // into
the result, and subtract it from the remainder. It is critical that\n // the approximate value is less than or equal to the
real value so that the\n // remainder never becomes negative.\n var res = Kotlin.Long.ZERO;\n var rem = this;\n
while (rem.greaterThanOrEqual(other)) {\n // Approximate the result of division. This may be a little greater or\n
// smaller than the actual value.\n var approx = Math.max(1, Math.floor(rem.toNumber() / other.toNumber()));\n\n
// We will tweak the approximate result by changing it in the 48-th digit or\n // the smallest non-fractional digit,
whichever is larger.\n var log2 = Math.ceil(Math.log(approx) / Math.LN2);\n var delta = (log2 <= 48) ? 1 :
Math.pow(2, log2 - 48);\n // Decrease the approximation until it is smaller than the remainder. Note\n // that if
it is too large, the product overflows and is negative.\n var approxRes = Kotlin.Long.fromNumber(approx);\n
var approxRem = approxRes.multiply(other);\n
while (approxRem.isNegative() || approxRem.greaterThan(rem)) {\n approx -= delta;\n approxRes =
Kotlin.Long.fromNumber(approx);\n approxRem = approxRes.multiply(other);\n }\n\n // We know the
answer can't be zero... and actually, zero would cause\n // infinite recursion since we would make no progress.\n
if (approxRes.isZero()) {\n approxRes = Kotlin.Long.ONE;\n }\n\n res = res.add(approxRes);\n rem =
rem.subtract(approxRem);\n }\n return res;\n};\n\n\n/**\n * Returns this Long modulo the given one.\n * @param
{Kotlin.Long} other Long by which to mod.\n * @return {!Kotlin.Long} This Long modulo the given one.\n
*/\n\nKotlin.Long.prototype.modulo = function(other) {\n return
this.subtract(this.div(other).multiply(other));\n};\n\n\n/**\n * @return {!Kotlin.Long} The bitwise-NOT of this value.\n
*/\nKotlin.Long.prototype.not = function() {\n return Kotlin.Long.fromBits(~this.low_, ~this.high_);\n};\n\n\n/**\n
* Returns the bitwise-AND of this Long and
the given one.\n * @param {Kotlin.Long} other The Long with which to AND.\n * @return {!Kotlin.Long} The
bitwise-AND of this and the other.\n */\n\nKotlin.Long.prototype.and = function(other) {\n return
Kotlin.Long.fromBits(this.low_ & other.low_,\n this.high_ & other.high_);\n};\n\n\n/**\n
* Returns the bitwise-OR of this Long and the given one.\n * @param {Kotlin.Long} other The Long with which to

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throwMarkerError();\n};\n\nKotlin.coroutineReceiver = function(qualifier) {\n
throwMarkerError();\n};\n\nKotlin.setCoroutineResult = function(value, qualifier) {\n
throwMarkerError();\n};\n\nKotlin.getReifiedTypeParameterKType = function(typeParameter) {\n
throwMarkerError();\n};\n\nfunction throwMarkerError() {\n  throw new Error(\n    \"This marker function\n    should never been called. \" +\n    \"Looks like compiler did not eliminate it properly. \" +\n    \"Please, report\n    an issue if you caught this exception.\");\n}\n\nKotlin.getFunctionById\n  = function(id, defaultValue) {\n  return function() {\n    return defaultValue;\n  };\n};\n\n/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\nKotlin.compareTo = function (a, b)\n  {\n  var typeA = typeof a;\n  if (typeA === \"number\") {\n    if (typeof b === \"number\") {\n      return\n      Kotlin.doubleCompareTo(a, b);\n    }\n    return Kotlin.primitiveCompareTo(a, b);\n  }\n  if (typeA ===\n  \"string\" || typeA === \"boolean\") {\n    return Kotlin.primitiveCompareTo(a, b);\n  }\n  return\n  a.compareTo_1rb$(b);\n};\n\nKotlin.primitiveCompareTo = function (a, b) {\n  return a < b ? -1 : a > b ? 1 :\n  0;\n};\n\nKotlin.doubleCompareTo = function (a, b) {\n  if (a < b) return -1;\n  if (a > b) return 1;\n\n  if (a ===\n  b) {\n    if (a !== 0) return 0;\n\n    var ia = 1 / a;\n\n    return ia === 1 / b ? 0 : (ia < 0 ? -1 : 1);\n  }\n\n  return a !== a ? (b !== b ? 0 : 1) : -1;\n};\n\nKotlin.charInc =\nfunction (value) {\n  return Kotlin.toChar(value+1);\n};\n\nKotlin.charDec = function (value) {\n  return\n  Kotlin.toChar(value-1);\n};\n\nKotlin.imul = Math.imul || imul;\n\nKotlin.imulEmulated = imul;\n\nfunction imul(a,\n  b) {\n  return ((a & 0xffff0000) * (b & 0xffff) + (a & 0xffff) * (b | 0)) | 0;\n}\n\n(function() {\n  var buf = new\n  ArrayBuffer(8);\n  var bufFloat64 = new Float64Array(buf);\n  var bufFloat32 = new Float32Array(buf);\n  var\n  bufInt32 = new Int32Array(buf);\n  var lowIndex = 0;\n  var highIndex = 1;\n\n  bufFloat64[0] = -1; //\n  bff00000_00000000\n  if (bufInt32[lowIndex] !== 0) {\n    lowIndex = 1;\n    highIndex = 0;\n  }\n\n  Kotlin.doubleToBits = function(value) {\n    return Kotlin.doubleToRawBits(isNaN(value) ? NaN : value);\n  };\n\n  Kotlin.doubleToRawBits = function(value) {\n    bufFloat64[0]\n    = value;\n    return Kotlin.Long.fromBits(bufInt32[lowIndex], bufInt32[highIndex]);\n  };\n\n  Kotlin.doubleFromBits = function(value) {\n    bufInt32[lowIndex] = value.low_;\n    bufInt32[highIndex] =\n    value.high_;\n    return bufFloat64[0];\n  };\n\n  Kotlin.floatToBits = function(value) {\n    return\n    Kotlin.floatToRawBits(isNaN(value) ? NaN : value);\n  };\n\n  Kotlin.floatToRawBits = function(value) {\n    bufFloat32[0] = value;\n    return bufInt32[0];\n  };\n\n  Kotlin.floatFromBits = function(value) {\n    bufInt32[0] = value;\n    return bufFloat32[0];\n  };\n\n  // returns zero value for number with positive sign bit\n  and non-zero value for number with negative sign bit.\n  Kotlin.doubleSignBit = function(value) {\n    bufFloat64[0] = value;\n    return bufInt32[highIndex] & 0x80000000;\n  };\n\n  Kotlin.numberHashCode =\n  function(obj) {\n    if ((obj | 0) === obj) {\n      return obj | 0;\n    }\n    else {\n      bufFloat64[0] = obj;\n      return (bufInt32[highIndex] * 31 | 0) + bufInt32[lowIndex] |\n      0;\n    }\n  };\n\n  Kotlin.ensureNotNull = function(x) {\n    return x != null ? x :\n    Kotlin.throwNPE();\n  };\n\n  /*\n   * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language\n   * contributors.\n   * Use of this source code is governed by the Apache 2.0 license that can be found in the\n   * license/LICENSE.txt file.\n   */\n\n  nif (typeof String.prototype.startsWith === \"undefined\") {\n    Object.defineProperty(String.prototype, \"startsWith\", {\n      value: function (searchString, position) {\n        position = position || 0;\n        return this.lastIndexOf(searchString, position) === position;\n      }\n    });\n  }\n\n  nif (typeof String.prototype.endsWith === \"undefined\") {\n    Object.defineProperty(String.prototype, \"endsWith\", {\n      value: function (searchString, position) {\n        var subjectString = this.toString();\n\n        if (position === undefined || position > subjectString.length) {\n          position = subjectString.length;\n        }\n\n        position -= searchString.length;\n        var lastIndex = subjectString.indexOf(searchString,\n        position);\n        return lastIndex !== -1 && lastIndex === position;\n      }\n    });\n  }\n\n  // ES6 Math polyfills\n  nif (typeof Math.sign === \"undefined\") {\n    Math.sign = function(x) {\n      x = +x; // convert to a number\n      if\n      (x === 0 || isNaN(x)) {\n        return Number(x);\n      }\n      return x > 0 ? 1 : -1;\n    };\n  }\n\n  nif (typeof\n  Math.trunc === \"undefined\") {\n    Math.trunc = function(x) {\n      if (isNaN(x)) {\n        return NaN;\n      }\n    }\n  }\n}

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}\n    if (x > 0) {\n        return Math.floor(x);\n    }\n    return Math.ceil(x);\n};\n\n(function() {\n    var epsilon = 2.220446049250313E-16;\n    var taylor_2_bound = Math.sqrt(epsilon);\n    var taylor_n_bound =\n    Math.sqrt(taylor_2_bound);\n\n    var upper_taylor_2_bound = 1/taylor_2_bound;\n    var upper_taylor_n_bound = 1/taylor_n_bound;\n\n    if\n    (typeof Math.sinh === \"undefined\") {\n        Math.sinh = function(x) {\n            if (Math.abs(x) < taylor_n_bound)\n            {\n                var result = x;\n                if (Math.abs(x) > taylor_2_bound) {\n                    result += (x * x * x) / 6;\n                }\n                return result;\n            } else {\n                var y = Math.exp(x);\n                var y1 = 1 / y;\n                if (!isFinite(y)) return Math.exp(x - Math.LN2);\n                if (!isFinite(y1)) return -Math.exp(-x - Math.LN2);\n                return (y - y1) / 2;\n            }\n        };\n    }\n\n    if (typeof Math.cosh === \"undefined\") {\n        Math.cosh\n    = function(x) {\n        var y = Math.exp(x);\n        var y1 = 1 / y;\n        if (!isFinite(y) || !isFinite(y1)) return\n        Math.exp(Math.abs(x) - Math.LN2);\n        return (y + y1) / 2;\n    }\n    };\n\n    if (typeof Math.tanh === \"undefined\") {\n        Math.tanh = function(x){\n            if\n            (Math.abs(x) < taylor_n_bound) {\n                var result = x;\n                if (Math.abs(x) > taylor_2_bound) {\n                    result -= (x * x * x) / 3;\n                }\n                return result;\n            } else {\n                var a =\n                Math.exp(+x), b = Math.exp(-x);\n                return a === Infinity ? 1 : b === Infinity ? -1 : (a - b) / (a + b);\n            }\n        };\n    }\n\n    // Inverse hyperbolic function implementations derived from boost special math functions,\n    // Copyright Eric Ford & Hubert Holin 2001.\n\n    if (typeof Math.asinh === \"undefined\") {\n        var asinh =\n        function(x) {\n            if (x >= +taylor_n_bound)\n            {\n                if (x > upper_taylor_n_bound)\n                {\n                    if (x > upper_taylor_2_bound)\n                    {\n                        //\n                        approximation by laurent series in 1/x at 0+ order from -1 to 0\n                        return Math.log(x) + Math.LN2;\n                    }\n                    else\n                    {\n                        // approximation by laurent series in 1/x at 0+ order\n                        from -1 to 1\n                        return Math.log(x * 2 + (1 / (x * 2)));\n                    }\n                }\n                else if (x <= -\n                taylor_n_bound)\n                {\n                    return -asinh(-x);\n                }\n                else\n                {\n                    //\n                    approximation by taylor series in x at 0 up to order 2\n                    var result = x;\n                    if (Math.abs(x) >=\n                    taylor_2_bound)\n                    {\n                        var x3 = x * x * x;\n                        // approximation by taylor series in x at\n                        0 up to order 4\n                        result\n                        -= x3 / 6;\n                    }\n                    return result;\n                }\n            }\n        };\n        Math.asinh = asinh;\n    }\n\n    if (typeof\n    Math.acosh === \"undefined\") {\n        Math.acosh = function(x) {\n            if (x < 1)\n            {\n                return\n                NaN;\n            }\n            else if (x - 1 >= taylor_n_bound)\n            {\n                if (x > upper_taylor_2_bound)\n                {\n                    // approximation by laurent series in 1/x at 0+ order from -1 to 0\n                    return\n                    Math.log(x) + Math.LN2;\n                }\n                else\n                {\n                    return Math.log(x + Math.sqrt(x * x - 1));\n                }\n            }\n            else\n            {\n                var y = Math.sqrt(x - 1);\n                //\n                approximation by taylor series in y at 0 up to order 2\n                var result = y;\n                if (y >=\n                taylor_2_bound)\n                {\n                    var y3 = y * y *\n                    y;\n                    // approximation by taylor series in y at 0 up to order 4\n                    result -= y3 / 12;\n                }\n            }\n            return Math.sqrt(2) * result;\n        };\n    }\n\n    if (typeof Math.atanh === \"undefined\")\n    {\n        Math.atanh = function(x) {\n            if (Math.abs(x) < taylor_n_bound) {\n                var result = x;\n                if (Math.abs(x) > taylor_2_bound) {\n                    result += (x * x * x) / 3;\n                }\n                return result;\n            }\n            return Math.log((1 + x) / (1 - x)) / 2;\n        };\n    }\n\n    if (typeof Math.log1p === \"undefined\") {\n        Math.log1p = function(x) {\n            if (Math.abs(x) < taylor_n_bound) {\n                var x2 = x * x;\n                var x3 = x2 * x;\n                var x4 = x3 * x;\n                // approximation by taylor series in x at 0 up to order 4\n                return (-x4 / 4 + x3 / 3 - x2 / 2 + x);\n            }\n            return Math.log(x + 1);\n        };\n    }\n\n    if (typeof Math.expm1 === \"undefined\") {\n        Math.expm1 = function(x) {\n            if (Math.abs(x) < taylor_n_bound) {\n                var x2 = x * x;\n                var x3 = x2 * x;\n                var x4 = x3 * x;\n                // approximation by taylor series in x at 0 up to order 4\n                return (x4 / 24 + x3 / 6 + x2 / 2 + x);\n            }\n            return Math.exp(x) - 1;\n        };\n    }\n\n    if (typeof\n    Math.hypot === \"undefined\") {\n        Math.hypot = function() {\n            var y = 0;\n            var length =

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arguments.length;\n\n    for (var i = 0; i < length; i++) {\n        if (arguments[i] === Infinity || arguments[i] ===
-Infinity) {\n            return Infinity;\n        }\n        y += arguments[i] * arguments[i];\n    }\n    return
Math.sqrt(y);\n};\n}\n\nif (typeof Math.log10 === \"undefined\") {\n    Math.log10 = function(x) {\n
return Math.log(x) * Math.LOG10E;\n    };\n}\n\nif (typeof Math.log2 === \"undefined\") {\n    Math.log2 =
function(x) {\n        return Math.log(x) * Math.LOG2E;\n    };\n}\n\nif (typeof Math.clz32 === \"undefined\") {\n
Math.clz32 = (function(log, LN2) {\n        return function(x) {\n            var asUInt = x >>> 0;\n            if (asUInt
=== 0) {\n                return 32;\n            }\n            return 31 - (log(asUInt) / LN2 | 0) | 0; // the \"| 0\" acts like
math.floor\n        };\n    })(Math.log, Math.LN2);\n}\n\n// For HtmlUnit and PhantomJs\n\nif (typeof
ArrayBuffer.isView === \"undefined\") {\n    ArrayBuffer.isView = function(a) {\n        return a != null &&
a.__proto__ != null && a.__proto__.__proto__ === Int8Array.prototype.__proto__;\n    };\n}\n\nif (typeof
Array.prototype.fill === \"undefined\") {\n    // Polyfill from https://developer.mozilla.org/en-
US/docs/Web/JavaScript/Reference/Global_Objects/Array/fill#Polyfill\n    Object.defineProperty(Array.prototype,
'fill', {\n        value: function (value) {\n\n            // Steps 1-2.\n            if (this == null) {\n                throw new
TypeError('this is null or not defined');\n            }\n            var O = Object(this);\n\n            // Steps 3-5.\n            var len = O.length >>> 0;\n\n            // Steps 6-7.\n            var start = arguments[1];\n            var relativeStart = start
>> 0;\n\n            // Step 8.\n            var k = relativeStart < 0 ?\n                Math.max(len + relativeStart, 0) :\n                Math.min(relativeStart, len);\n\n            // Steps 9-10.\n            var end = arguments[2];\n            var
relativeEnd = end === undefined ?\n                len : end >> 0;\n\n            // Step 11.\n            var finalValue
= relativeEnd < 0 ?\n                Math.max(len + relativeEnd, 0) :\n                Math.min(relativeEnd,
len);\n\n            // Step 12.\n            while (k < finalValue)\n            {\n                O[k] = value;\n                k++;\n            }\n\n            // Step 13.\n            return O;\n        }\n    });\n}\n\n(function() {\n    function normalizeOffset(offset, length) {\n        if (offset < 0) return Math.max(0, offset
+ length);\n        return Math.min(offset, length);\n    }\n    function typedArraySlice(begin, end) {\n        if (typeof
end === \"undefined\") {\n            end = this.length;\n        }\n        begin = normalizeOffset(begin || 0, this.length);\n
        end = Math.max(begin, normalizeOffset(end, this.length));\n        return new
this.constructor(this.subarray(begin, end));\n    }\n\n    var arrays = [Int8Array, Int16Array, Uint16Array,
Int32Array, Float32Array, Float64Array];\n    for (var i = 0; i < arrays.length; ++i) {\n        var TypedArray =
arrays[i];\n        if (typeof TypedArray.prototype.fill === \"undefined\") {\n
            Object.defineProperty(TypedArray.prototype, 'fill', {\n                value: Array.prototype.fill\n            });\n        }\n        if (typeof TypedArray.prototype.slice === \"undefined\") {\n
            Object.defineProperty(TypedArray.prototype, 'slice', {\n                value: typedArraySlice\n            });\n        }\n    }\n\n    // Patch apply to work with TypedArrays if needed.\n    try {\n        (function() {})).apply(null, new
Int32Array(0))\n    } catch (e) {\n        var apply = Function.prototype.apply;\n        Object.defineProperty(Function.prototype, 'apply', {\n            value: function(self, array) {\n                return
apply.call(this, self, [].slice.call(array));\n            }\n        });\n    }\n\n    // Patch map to work with TypedArrays if
needed.\n    for (var i = 0; i < arrays.length; ++i) {\n        var TypedArray = arrays[i];\n        if (typeof
TypedArray.prototype.map === \"undefined\") {\n            Object.defineProperty(TypedArray.prototype, 'map', {\n                value: function(callback, self) {\n
                    return [].slice.call(this).map(callback, self);\n                }\n            });\n        }\n    }\n\n    // Patch sort to work
with TypedArrays if needed.\n    // TODO: consider to remove following function and replace it with
`Kotlin.doubleCompareTo` (see misc.js)\n    var totalOrderComparator = function (a, b) {\n        if (a < b) return -
1;\n        if (a > b) return 1;\n        if (a === b)\n            if (a !== 0) return 0;\n            var ia = 1 / a;\n            return ia === 1 / b ? 0 : (ia < 0 ? -1 : 1);\n        }\n    }\n\n    return a !== a ? (b !== b ? 0 : 1) : -1\n};\n\nfor (var i =
0; i < arrays.length; ++i) {\n    var TypedArray = arrays[i];\n    if (typeof TypedArray.prototype.sort ===
\"undefined\") {\n        Object.defineProperty(TypedArray.prototype, 'sort', {\n            value:
function(compareFunction) {\n                return Array.prototype.sort.call(this, compareFunction ||
totalOrderComparator);\n            }\n        });\n    }\n}

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    });\n    }\n  }\n})();\n";\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\nKotlin.Kind = {\n  CLASS: \"class\",\n  INTERFACE: \"interface\",\n  OBJECT: \"object\"}\n};\n\nKotlin.callGetter = function (thisObject, klass, propertyName) {\n  var
propertyDescriptor = Object.getOwnPropertyDescriptor(klass, propertyName);\n  if (propertyDescriptor != null
&& propertyDescriptor.get != null) {\n    return propertyDescriptor.get.call(thisObject);\n  }\n\n  propertyDescriptor = Object.getOwnPropertyDescriptor(thisObject, propertyName);\n  if (propertyDescriptor !=
null && \"value\" in propertyDescriptor) {\n    return thisObject[propertyName];\n  }\n\n  return
Kotlin.callGetter(thisObject, Object.getPrototypeOf(klass), propertyName);\n};\n\nKotlin.callSetter = function
(thisObject, klass,
propertyName, value) {\n  var propertyDescriptor = Object.getOwnPropertyDescriptor(klass, propertyName);\n
if (propertyDescriptor != null && propertyDescriptor.set != null) {\n    propertyDescriptor.set.call(thisObject,
value);\n    return;\n  }\n\n  propertyDescriptor = Object.getOwnPropertyDescriptor(thisObject,
propertyName);\n  if (propertyDescriptor != null && \"value\" in propertyDescriptor) {\n
thisObject[propertyName] = value;\n    return\n  }\n\n  Kotlin.callSetter(thisObject,
Object.getPrototypeOf(klass), propertyName, value);\n};\n\nfunction isInheritanceFromInterface(ctor, iface) {\n
if (ctor === iface) return true;\n\n  var metadata = ctor.$metadata$;\n  if (metadata != null) {\n    var interfaces =
metadata.interfaces;\n    for (var i = 0; i < interfaces.length; i++) {\n      if
(isInheritanceFromInterface(interfaces[i], iface)) {\n        return true;\n      }\n    }\n  }\n\n  var
superPrototype
= ctor.prototype != null ? Object.getPrototypeOf(ctor.prototype) : null;\n  var superConstructor = superPrototype
!= null ? superPrototype.constructor : null;\n  return superConstructor != null &&
isInheritanceFromInterface(superConstructor, iface);\n}\n\n/**\n * @param {*} object\n * @param
{Function|Object} klass\n * @returns {Boolean}\n */\nKotlin.isType = function (object, klass) {\n  if (klass ===
Object) {\n    switch (typeof object) {\n      case \"string\":\n      case \"number\":\n      case
\"boolean\":\n      case \"function\":\n        return true;\n      default:\n        return object instanceof
Object;\n    }\n  }\n\n  if (object == null || klass == null || (typeof object !== 'object' && typeof object !==
'function')) {\n    return false;\n  }\n\n  if (typeof klass === \"function\" && object instanceof klass) {\n
return true;\n  }\n\n  var proto = Object.getPrototypeOf(klass);\n  var constructor = proto != null ? proto.constructor : null;\n  if (constructor != null && \"$metadata$\" in
constructor) {\n    var metadata = constructor.$metadata$;\n    if (metadata.kind === Kotlin.Kind.OBJECT) {\n
return object === klass;\n    }\n  }\n\n  var klassMetadata = klass.$metadata$;\n\n  // In WebKit
(JavaScriptCore) for some interfaces from DOM typeof returns \"object\", nevertheless they can be used in RHS of
instanceof\n  if (klassMetadata == null) {\n    return object instanceof klass;\n  }\n\n  if (klassMetadata.kind
=== Kotlin.Kind.INTERFACE && object.constructor != null) {\n    return
isInheritanceFromInterface(object.constructor, klass);\n  }\n\n  return false;\n};\n\nKotlin.isNumber = function (a)
{\n  return typeof a === \"number\" || a instanceof Kotlin.Long;\n};\n\nKotlin.isChar = function (value) {\n  return
value instanceof Kotlin.BoxedChar;\n};\n\nKotlin.isComparable = function (value) {\n  var type = typeof
value;\n  return type === \"string\" ||\n    type === \"boolean\" ||\n    Kotlin.isNumber(value) ||\n    Kotlin.isType(value, Kotlin.kotlin.Comparable);\n};\n\nKotlin.isCharSequence = function (value) {\n  return
typeof value === \"string\" || Kotlin.isType(value, Kotlin.kotlin.CharSequence);\n};\n"/*\n * Copyright 2010-2020
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// a package is omitted to get
declarations directly under the module\n\n@PublishedApi\ninternal fun <T> Array(size: Int):
Array<T>\n\n@JsName(\"newArray\")\nfun <T> newArray(size: Int, initialValue: T) = fillArrayVal(Array<T>(size),
initialValue)\n\n@JsName(\"newArrayF\")\ninline fun <T> arrayWithFun(size: Int, init: (Int) -> T) =
fillArrayFun(Array<T>(size), init)\n\n@JsName(\"fillArray\")\ninline fun <T> fillArrayFun(array: Array<T>, init:
(Int)

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-> T): Array<T> {\n  for (i in 0..array.size - 1) {\n    array[i] = init(i)\n  }\n  return
array}\n}\n\n@JsName("booleanArray")\nfun booleanArray(size: Int, init: dynamic): Array<Boolean> {\n  val
result: dynamic = Array<Boolean>(size)\n  result.`$type$` = "BooleanArray"\n  return when (init) {\n    null,
true -> fillArrayVal(result, false)\n    false -> result\n    else -> fillArrayFun<Boolean>(result, init)\n
}\n}\n\n@JsName("booleanArrayF")\ninline fun booleanArrayWithFun(size: Int, init: (Int) -> Boolean):
Array<Boolean> = fillArrayFun(booleanArray(size, false),
init)\n\n@JsName("charArray")\n@Suppress("UNUSED_PARAMETER")\nfun charArray(size: Int, init:
dynamic): Array<Char> {\n  val result = js("new Uint16Array(size)")\n  result.`$type$` = "CharArray"\n
return when (init) {\n    null, true, false -> result // For consistency\n    else -> fillArrayFun<Char>(result,
init)\n  }\n}\n\n@JsName("charArrayF")\ninline fun charArrayWithFun(size:
Int, init: (Int) -> Char): Array<Char> {\n  val array = charArray(size, null)\n  for (i in 0..array.size - 1) {\n
@Suppress("UNUSED_VARIABLE") // used in js block\n    val value = init(i)\n    js("array[i] = value;")\n
}\n  return array}\n}\n\n@JsName("untypedCharArrayF")\ninline fun untypedCharArrayWithFun(size: Int, init:
(Int) -> Char): Array<Char> {\n  val array = Array<Char>(size)\n  for (i in 0..array.size - 1) {\n
@Suppress("UNUSED_VARIABLE") // used in js block\n    val value = init(i)\n    js("array[i] = value;")\n
}\n  return array}\n}\n\n@JsName("longArray")\nfun longArray(size: Int, init: dynamic): Array<Long> {\n  val
result: dynamic = Array<Long>(size)\n  result.`$type$` = "LongArray"\n  return when (init) {\n    null, true ->
fillArrayVal(result, 0L)\n    false -> result\n    else -> fillArrayFun<Long>(result, init)\n
}\n}\n\n@JsName("longArrayF")\ninline fun longArrayWithFun(size:
Int, init: (Int) -> Long): Array<Long> = fillArrayFun(longArray(size, false), init)\n\nprivate fun <T>
fillArrayVal(array: Array<T>, initialValue: T): Array<T> {\n  for (i in 0..array.size - 1) {\n    array[i] = initialValue\n
}\n  return array}\n}"/\n\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin\n\npublic class Enum<T : Enum<T>> : Comparable<Enum<T>>
{\n  @JsName("name$") private var _name: String = ""\n  @JsName("ordinal$") private var _ordinal: Int =
0\n\n  val name: String\n    get() = _name\n\n  val ordinal: Int\n    get() = _ordinal\n\n  override fun
compareTo(other: Enum<T>) = ordinal.compareTo(other.ordinal)\n\n  override fun equals(other: Any?) = this ===
other\n\n  override fun hashCode(): Int = js("Kotlin.identityHashCode")(this)\n\n  override fun
toString() = name\n\n  companion object\n}"/\n\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.js.internal\n\n@JsName("DoubleCompanionObject")\ninternal object DoubleCompanionObject {\n
@JsName("MIN_VALUE")\n  const val MIN_VALUE: Double = 4.9E-324\n\n  @JsName("MAX_VALUE")\n  const val MAX_VALUE: Double = 1.7976931348623157E308\n\n
@JsName("POSITIVE_INFINITY")\n  @Suppress("DIVISION_BY_ZERO")\n  const val
POSITIVE_INFINITY: Double = 1.0 / 0.0\n\n  @JsName("NEGATIVE_INFINITY")\n
@Suppress("DIVISION_BY_ZERO")\n  const val NEGATIVE_INFINITY: Double = -1.0 / 0.0\n\n
@JsName("NaN")\n  @Suppress("DIVISION_BY_ZERO")\n  const val NaN: Double = -(0.0 / 0.0)\n\n
@JsName("SIZE_BYTES")\n  const val SIZE_BYTES = 8\n\n  @JsName("SIZE_BITS")\n  const val
SIZE_BITS
= 64\n}\n\n@JsName("FloatCompanionObject")\ninternal object FloatCompanionObject {\n
@JsName("MIN_VALUE")\n  const val MIN_VALUE: Float = 1.4E-45F\n\n  @JsName("MAX_VALUE")\n
const val MAX_VALUE: Float = 3.4028235E38F\n\n  @JsName("POSITIVE_INFINITY")\n
@Suppress("DIVISION_BY_ZERO")\n  const val POSITIVE_INFINITY: Float = 1.0F / 0.0F\n\n
@JsName("NEGATIVE_INFINITY")\n  @Suppress("DIVISION_BY_ZERO")\n  const val
NEGATIVE_INFINITY: Float = -1.0F / 0.0F\n\n  @JsName("NaN")\n
@Suppress("DIVISION_BY_ZERO")\n  const val NaN: Float = -(0.0F / 0.0F)\n\n
@JsName("SIZE_BYTES")\n  const val SIZE_BYTES = 4\n\n  @JsName("SIZE_BITS")\n  const val

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SIZE_BITS = 32\n}\n\n@JsName("IntCompanionObject")\ninternal object IntCompanionObject {\n
@JsName("MIN_VALUE")\n val MIN_VALUE: Int = -2147483647 - 1\n\n @JsName("MAX_VALUE")\n
val MAX_VALUE: Int = 2147483647\n\n @JsName("SIZE_BYTES")\n const val SIZE_BYTES = 4\n\n
@JsName("SIZE_BITS")\n const val SIZE_BITS = 32\n}\n\n@JsName("LongCompanionObject")\ninternal
object LongCompanionObject {\n @JsName("MIN_VALUE")\n val MIN_VALUE: Long =
js("Kotlin.Long.MIN_VALUE")\n\n @JsName("MAX_VALUE")\n val MAX_VALUE: Long =
js("Kotlin.Long.MAX_VALUE")\n\n @JsName("SIZE_BYTES")\n const val SIZE_BYTES = 8\n\n
@JsName("SIZE_BITS")\n const val SIZE_BITS = 64\n}\n\n@JsName("ShortCompanionObject")\ninternal
object ShortCompanionObject {\n @JsName("MIN_VALUE")\n val MIN_VALUE: Short = -32768\n\n
@JsName("MAX_VALUE")\n val MAX_VALUE: Short = 32767\n\n @JsName("SIZE_BYTES")\n const
val SIZE_BYTES = 2\n\n @JsName("SIZE_BITS")\n const val SIZE_BITS =
16\n}\n\n@JsName("ByteCompanionObject")\ninternal object ByteCompanionObject {\n
@JsName("MIN_VALUE")\n val MIN_VALUE: Byte = -128\n\n @JsName("MAX_VALUE")\n val
MAX_VALUE: Byte = 127\n\n @JsName("SIZE_BYTES")\n const
val SIZE_BYTES = 1\n\n @JsName("SIZE_BITS")\n const val SIZE_BITS =
8\n}\n\n@JsName("CharCompanionObject")\ninternal object CharCompanionObject {\n
@JsName("MIN_VALUE")\n public const val MIN_VALUE: Char = "\u0000"\n\n
@JsName("MAX_VALUE")\n public const val MAX_VALUE: Char = "\uFFFF"\n\n
@JsName("MIN_HIGH_SURROGATE")\n public const val MIN_HIGH_SURROGATE: Char = "\uD800"\n\n
@JsName("MAX_HIGH_SURROGATE")\n public const val MAX_HIGH_SURROGATE: Char =
"\uDBFF"\n\n @JsName("MIN_LOW_SURROGATE")\n public const val MIN_LOW_SURROGATE: Char =
"\uDC00"\n\n @JsName("MAX_LOW_SURROGATE")\n public const val MAX_LOW_SURROGATE: Char
= "\uDFFF"\n\n @JsName("MIN_SURROGATE")\n public const val MIN_SURROGATE: Char =
MIN_HIGH_SURROGATE\n\n @JsName("MAX_SURROGATE")\n public const val MAX_SURROGATE:
Char = MAX_LOW_SURROGATE\n\n @JsName("SIZE_BYTES")\n const val SIZE_BYTES = 2\n\n
@JsName("SIZE_BITS")\n const
val SIZE_BITS = 16\n}\n\ninternal object StringCompanionObject {}\n\ninternal object
BooleanCompanionObject { }\n\n",/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("ArraysKt")\n\npackage
kotlin.collections\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n/\n\nimport kotlin.random.*\nimport
kotlin.ranges.contains\nimport kotlin.ranges.reversed\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the
size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior
is unspecified.\n * \n\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> Array<out T>.component1(): T
{\n return get(0)\n}\n\n/**\n
* Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1, throws an
[IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n\n@kotlin.internal.InlineOnly\npublic inline operator fun ByteArray.component1(): Byte {\n return
get(0)\n}\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1, throws an
[IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n\n@kotlin.internal.InlineOnly\npublic inline operator fun ShortArray.component1(): Short {\n return
get(0)\n}\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1, throws an
[IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n\n@kotlin.internal.InlineOnly\npublic inline operator fun IntArray.component1(): Int {\n return
get(0)\n}\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size

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of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n *
`@kotlin.internal.InlineOnly\npublic inline operator fun LongArray.component1(): Long {\n return get(0)\n}\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun FloatArray.component1(): Float {\n return get(0)\n}\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun DoubleArray.component1(): Double {\n return get(0)\n}\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun BooleanArray.component1(): Boolean {\n return get(0)\n}\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun CharArray.component1(): Char {\n return get(0)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> Array<out T>.component2(): T {\n return get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun ByteArray.component2(): Byte {\n return get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun ShortArray.component2(): Short {\n return get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun IntArray.component2(): Int {\n return get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun LongArray.component2(): Long {\n return get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun FloatArray.component2(): Float {\n return get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun DoubleArray.component2(): Double {\n return get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun BooleanArray.component2(): Boolean {\n return get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun CharArray.component2(): Char {\n return get(1)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> Array<out T>.component3(): T {\n return get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun ByteArray.component3(): Byte {\n return get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n */`

* \n * If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n * \n @kotlin.internal.InlineOnly\n public inline operator fun ShortArray.component3(): Short {\n return get(2)\n }\n \n /**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n * \n @kotlin.internal.InlineOnly\n public inline operator fun IntArray.component3(): Int {\n return get(2)\n }\n \n /**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n * \n @kotlin.internal.InlineOnly\n public inline operator fun LongArray.component3(): Long {\n return get(2)\n }\n \n /**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n * \n @kotlin.internal.InlineOnly\n public inline operator fun FloatArray.component3(): Float {\n return get(2)\n }\n \n /**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n * \n @kotlin.internal.InlineOnly\n public inline operator fun DoubleArray.component3(): Double {\n return get(2)\n }\n \n /**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n * \n @kotlin.internal.InlineOnly\n public inline operator fun BooleanArray.component3(): Boolean {\n return get(2)\n }\n \n /**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n * \n @kotlin.internal.InlineOnly\n public inline operator fun CharArray.component3(): Char {\n return get(2)\n }\n \n /**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n * \n @kotlin.internal.InlineOnly\n public inline operator fun <T> Array<out T>.component4(): T {\n return get(3)\n }\n \n /**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n * \n @kotlin.internal.InlineOnly\n public inline operator fun ByteArray.component4(): Byte {\n return get(3)\n }\n \n /**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n * \n @kotlin.internal.InlineOnly\n public inline operator fun ShortArray.component4(): Short {\n return get(3)\n }\n \n /**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n * \n @kotlin.internal.InlineOnly\n public inline operator fun IntArray.component4(): Int {\n return get(3)\n }\n \n /**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n * \n @kotlin.internal.InlineOnly\n public inline operator fun LongArray.component4(): Long {\n return get(3)\n }\n \n /**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n * \n @kotlin.internal.InlineOnly\n public inline operator fun FloatArray.component4(): Float {\n return get(3)\n }\n \n /**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n * \n @kotlin.internal.InlineOnly\n public inline operator fun DoubleArray.component4(): Double {\n return get(3)\n }\n \n /**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n * \n @kotlin.internal.InlineOnly\n public inline operator fun BooleanArray.component4(): Boolean {\n return get(3)\n }\n \n /**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n * \n @kotlin.internal.InlineOnly\n public inline operator fun CharArray.component4(): Char {\n return get(3)\n }\n \n /**\n * Returns 5th

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*element* from the array.\n * \n * If the size of this array is less than 5, throws an [IndexOutOfBoundsException]
except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator
fun <T> Array<out T>.component5(): T {\n    return get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where
the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun ByteArray.component5():
Byte {\n    return get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less
than 5, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
*/\n@kotlin.internal.InlineOnly\npublic inline operator fun ShortArray.component5(): Short {\n    return
get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array
is less than 5, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is
unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun IntArray.component5(): Int {\n    return
get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an
[IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
*/\n@kotlin.internal.InlineOnly\npublic inline operator fun LongArray.component5(): Long {\n    return
get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an
[IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
*/\n@kotlin.internal.InlineOnly\npublic inline operator fun FloatArray.component5(): Float {\n    return
get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an
[IndexOutOfBoundsException] except
in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun
DoubleArray.component5(): Double {\n    return get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n *
If the size of this array is less than 5, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the
behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun BooleanArray.component5():
Boolean {\n    return get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is
less than 5, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
*/\n@kotlin.internal.InlineOnly\npublic inline operator fun CharArray.component5(): Char {\n    return
get(4)\n}\n\n/**\n * Returns `true` if [element] is found in the array.\n */\npublic operator fun
<@kotlin.internal.OnlyInputTypes T> Array<out T>.contains(element: T): Boolean {\n    return indexOf(element)
>=
0\n}\n\n/**\n * Returns `true` if [element] is found in the array.\n */\npublic operator fun
ByteArray.contains(element: Byte): Boolean {\n    return indexOf(element) >= 0\n}\n\n/**\n * Returns `true` if
[element] is found in the array.\n */\npublic operator fun ShortArray.contains(element: Short): Boolean {\n    return
indexOf(element) >= 0\n}\n\n/**\n * Returns `true` if [element] is found in the array.\n */\npublic operator fun
IntArray.contains(element: Int): Boolean {\n    return indexOf(element) >= 0\n}\n\n/**\n * Returns `true` if
[element] is found in the array.\n */\npublic operator fun LongArray.contains(element: Long): Boolean {\n    return
indexOf(element) >= 0\n}\n\n/**\n * Returns `true` if [element] is found in the array.\n */\n@Deprecated("The
function has unclear behavior when searching for NaN or zero values and will be removed soon. Use 'any { it ==
element }' instead to continue using this behavior, or '.asList().contains(element: T)' to get the same search behavior
as in a list.", ReplaceWith("any { it == element }"))\n@DeprecatedSinceKotlin(warningSince = "1.4",
errorSince = "1.6")\n@Suppress("DEPRECATION_ERROR")\npublic operator fun FloatArray.contains(element:
Float): Boolean {\n    return indexOf(element) >= 0\n}\n\n/**\n * Returns `true` if [element] is found in the array.\n
*/\n@Deprecated("The function has unclear behavior when searching for NaN or zero values and will be removed
soon. Use 'any { it == element }' instead to continue using this behavior, or '.asList().contains(element: T)' to get the
same search behavior as in a list.", ReplaceWith("any { it == element
}"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.6")\n@Suppress("DEPRECATION_ERROR")\npublic operator fun DoubleArray.contains(element: Double):
Boolean {\n    return indexOf(element) >= 0\n}\n\n/**\n * Returns `true` if [element] is found in the array.\n
*/\npublic operator fun BooleanArray.contains(element: Boolean): Boolean {\n    return

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indexOf(element) >= 0\n\n/**\n * Returns `true` if [element] is found in the array.\n */\n\npublic operator fun
CharArray.contains(element: Char): Boolean {\n return indexOf(element) >= 0\n}\n\n/**\n * Returns an element
at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n */\n\n *
@sample samples.collections.Collections.Elements.elementAt\n */\n\npublic expect fun <T> Array<out
T>.elementAt(index: Int): T\n\n/**\n * Returns an element at the given [index] or throws an
[IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n */\n\n * @sample
samples.collections.Collections.Elements.elementAt\n */\n\npublic expect fun ByteArray.elementAt(index: Int):
Byte\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array.\n */\n\n * @sample samples.collections.Collections.Elements.elementAt\n */\n\npublic
expect fun ShortArray.elementAt(index:
Int): Short\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the
[index] is out of bounds of this array.\n */\n\n * @sample samples.collections.Collections.Elements.elementAt\n
*/\n\npublic expect fun IntArray.elementAt(index: Int): Int\n\n/**\n * Returns an element at the given [index] or
throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n */\n\n * @sample
samples.collections.Collections.Elements.elementAt\n */\n\npublic expect fun LongArray.elementAt(index: Int):
Long\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index]
is out of bounds of this array.\n */\n\n * @sample samples.collections.Collections.Elements.elementAt\n */\n\npublic
expect fun FloatArray.elementAt(index: Int): Float\n\n/**\n * Returns an element at the given [index] or throws an
[IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n */\n\n * @sample
samples.collections.Collections.Elements.elementAt\n
*/\n\npublic expect fun DoubleArray.elementAt(index: Int): Double\n\n/**\n * Returns an element at the given
[index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n */\n\n * @sample
samples.collections.Collections.Elements.elementAt\n */\n\npublic expect fun BooleanArray.elementAt(index: Int):
Boolean\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the
[index] is out of bounds of this array.\n */\n\n * @sample samples.collections.Collections.Elements.elementAt\n
*/\n\npublic expect fun CharArray.elementAt(index: Int): Char\n\n/**\n * Returns an element at the given [index] or
the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n */\n\n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n */\n\n@kotlin.internal.InlineOnly\n\npublic inline fun
<T> Array<out T>.elementAtOrElse(index: Int, defaultValue: (Int) -> T): T {\n return
if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the
given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n */\n\n *
@sample samples.collections.Collections.Elements.elementAtOrElse\n */\n\n@kotlin.internal.InlineOnly\n\npublic
inline fun ByteArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Byte): Byte {\n return if (index >= 0 &&
index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the
result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n */\n\n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n */\n\n@kotlin.internal.InlineOnly\n\npublic inline fun
ShortArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Short): Short {\n return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at
the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n */\n\n *
@sample samples.collections.Collections.Elements.elementAtOrElse\n */\n\n@kotlin.internal.InlineOnly\n\npublic
inline fun IntArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Int): Int {\n return if (index >= 0 && index
<= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result
of calling the [defaultValue] function if the [index] is out of bounds of this array.\n */\n\n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n */\n\n@kotlin.internal.InlineOnly\n\npublic inline fun
LongArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Long): Long {\n return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of
calling the [defaultValue] function if the [index] is out of bounds of this array.\n */\n\n

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 * \n * @sample samples.collections.Collections.Elements.elementAtOrElse\n
 */\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.elementAtOrElse(index: Int, defaultValue: (Int) ->
 Float): Float {\n    return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n *
 Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of
 bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrElse\n
 */\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.elementAtOrElse(index: Int, defaultValue: (Int) ->
 Double): Double {\n    return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n *
 Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of
 bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrElse\n
 */\n@kotlin.internal.InlineOnly\npublic
 inline fun BooleanArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Boolean): Boolean {\n    return if
 (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the
 given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n *
 @sample samples.collections.Collections.Elements.elementAtOrElse\n */\n@kotlin.internal.InlineOnly\npublic
 inline fun CharArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Char): Char {\n    return if (index >= 0 &&
 index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or
 `null` if the [index] is out of bounds of this array.\n * \n * @sample
 samples.collections.Collections.Elements.elementAtOrNull\n */\n@kotlin.internal.InlineOnly\npublic inline fun
 <T> Array<out T>.elementAtOrNull(index: Int): T? {\n    return this.getOrNull(index)\n}\n\n/**\n * Returns an
 element at the given
 [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
 samples.collections.Collections.Elements.elementAtOrNull\n */\n@kotlin.internal.InlineOnly\npublic inline fun
 ByteArray.elementAtOrNull(index: Int): Byte? {\n    return this.getOrNull(index)\n}\n\n/**\n * Returns an element
 at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
 samples.collections.Collections.Elements.elementAtOrNull\n */\n@kotlin.internal.InlineOnly\npublic inline fun
 ShortArray.elementAtOrNull(index: Int): Short? {\n    return this.getOrNull(index)\n}\n\n/**\n * Returns an element
 at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
 samples.collections.Collections.Elements.elementAtOrNull\n */\n@kotlin.internal.InlineOnly\npublic inline fun
 IntArray.elementAtOrNull(index: Int): Int? {\n    return this.getOrNull(index)\n}\n\n/**\n * Returns an element at
 the given [index] or `null` if the [index] is out of
 bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrNull\n
 */\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.elementAtOrNull(index: Int): Long? {\n    return
 this.getOrNull(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds
 of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrNull\n
 */\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.elementAtOrNull(index: Int): Float? {\n    return
 this.getOrNull(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds
 of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrNull\n
 */\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.elementAtOrNull(index: Int): Double? {\n    return
 this.getOrNull(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds
 of this array.\n * \n * @sample
 samples.collections.Collections.Elements.elementAtOrNull\n */\n@kotlin.internal.InlineOnly\npublic inline fun
 BooleanArray.elementAtOrNull(index: Int): Boolean? {\n    return this.getOrNull(index)\n}\n\n/**\n * Returns an
 element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
 samples.collections.Collections.Elements.elementAtOrNull\n */\n@kotlin.internal.InlineOnly\npublic inline fun
 CharArray.elementAtOrNull(index: Int): Char? {\n    return this.getOrNull(index)\n}\n\n/**\n * Returns the first
 element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
 samples.collections.Collections.Elements.find\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out
 T>.find(predicate: (T) -> Boolean): T? {\n    return firstOrNull(predicate)\n}\n\n/**\n * Returns the first element

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matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n

```
*\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.find(predicate: (Byte) -> Boolean): Byte? {\n    return firstOrNull(predicate)\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n *\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.find(predicate: (Short) -> Boolean): Short? {\n    return firstOrNull(predicate)\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n *\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.find(predicate: (Int) -> Boolean): Int? {\n    return firstOrNull(predicate)\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n *\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.find(predicate: (Long) -> Boolean): Long? {\n    return firstOrNull(predicate)\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n *\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.find(predicate: (Float) -> Boolean): Float? {\n    return firstOrNull(predicate)\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n *\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.find(predicate: (Double) -> Boolean): Double? {\n    return firstOrNull(predicate)\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n *\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.find(predicate: (Boolean) -> Boolean): Boolean? {\n    return firstOrNull(predicate)\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n *\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.find(predicate: (Char) -> Boolean): Char? {\n    return firstOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n *\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.findLast(predicate: (T) -> Boolean): T? {\n    return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n *\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.findLast(predicate: (Byte) -> Boolean): Byte? {\n    return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n *\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.findLast(predicate: (Short) -> Boolean): Short? {\n    return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n *\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.findLast(predicate: (Int) -> Boolean): Int? {\n    return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n *\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.findLast(predicate: (Long) -> Boolean): Long? {\n    return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n *\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.findLast(predicate: (Float) -> Boolean): Float? {\n    return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n *\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.findLast(predicate: (Double) -> Boolean): Double? {\n    return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n */
```

Returns the last element matching the given [predicate], or `null` if no such element was found.

```

@sample
samples.collections.Collections.Elements.find
*/n@kotlin.internal.InlineOnly
npublic inline fun
BooleanArray.findLast(predicate: (Boolean) -> Boolean): Boolean? {
    return lastOrNull(predicate)
}
n/n/**
n * Returns the last element
    matching the given [predicate], or `null` if no such element was found.
n * @sample
samples.collections.Collections.Elements.find
*/n@kotlin.internal.InlineOnly
npublic inline fun
CharArray.findLast(predicate: (Char) -> Boolean): Char? {
    return lastOrNull(predicate)
}
n/n/**
n * Returns first element.
n * @throws [NoSuchElementException] if the array is empty.
n */npublic fun <T> Array<out T>.first(): T {
    if (isEmpty())
        throw NoSuchElementException("Array is empty.")
    return this[0]
}
n/n/**
n * Returns first element.
n * @throws [NoSuchElementException] if the array is empty.
n */npublic fun ByteArray.first(): Byte {
    if (isEmpty())
        throw NoSuchElementException("Array is empty.")
    return this[0]
}
n/n/**
n * Returns first element.
n * @throws [NoSuchElementException] if the array is empty.
n */npublic fun ShortArray.first(): Short {
    if (isEmpty())
        throw
        NoSuchElementException("Array is empty.")
    return this[0]
}
n/n/**
n * Returns first element.
n * @throws [NoSuchElementException] if the array is empty.
n */npublic fun IntArray.first(): Int {
    if (isEmpty())
        throw NoSuchElementException("Array is empty.")
    return this[0]
}
n/n/**
n * Returns first element.
n * @throws [NoSuchElementException] if the array is empty.
n */npublic fun LongArray.first(): Long {
    if (isEmpty())
        throw NoSuchElementException("Array is empty.")
    return this[0]
}
n/n/**
n * Returns first element.
n * @throws [NoSuchElementException] if the array is empty.
n */npublic fun FloatArray.first(): Float {
    if (isEmpty())
        throw
        NoSuchElementException("Array is empty.")
    return this[0]
}
n/n/**
n * Returns first element.
n * @throws [NoSuchElementException] if the array is empty.
n */npublic fun DoubleArray.first(): Double {
    if (isEmpty())
        throw NoSuchElementException("Array is empty.")
    return this[0]
}
n/n/**
n * Returns first element.
n * @throws [NoSuchElementException] if the array is empty.
n */npublic fun BooleanArray.first(): Boolean {
    if (isEmpty())
        throw NoSuchElementException("Array is empty.")
    return this[0]
}
n/n/**
n * Returns first element.
n * @throws [NoSuchElementException] if the array is empty.
n */npublic fun CharArray.first(): Char {
    if (isEmpty())
        throw NoSuchElementException("Array is empty.")
    return this[0]
}
n/n/**
n * Returns the first element matching the given [predicate].
n * @throws [NoSuchElementException] if no such element is found.
n */npublic inline fun <T> Array<out T>.first(predicate: (T) -> Boolean): T {
    for (element in this)
        if (predicate(element))
            return element
    throw NoSuchElementException("Array contains no element matching the predicate.")
}
n/n/**
n * Returns the first element matching the given [predicate].
n * @throws [NoSuchElementException] if no such element is found.
n */npublic inline fun ByteArray.first(predicate: (Byte) -> Boolean): Byte {
    for (element in this)
        if (predicate(element))
            return element
    throw
        NoSuchElementException("Array contains no element matching the predicate.")
}
n/n/**
n * Returns the first element matching the given [predicate].
n * @throws [NoSuchElementException] if no such element is found.
n */npublic inline fun ShortArray.first(predicate: (Short) -> Boolean): Short {
    for (element in this)
        if (predicate(element))
            return element
    throw NoSuchElementException("Array contains no element matching the predicate.")
}
n/n/**
n * Returns the first element matching the given [predicate].
n * @throws [NoSuchElementException] if no such element is found.
n */npublic inline fun IntArray.first(predicate: (Int) -> Boolean): Int {
    for (element in this)
        if (predicate(element))
            return element
    throw
        NoSuchElementException("Array contains no element matching the predicate.")
}
n/n/**
n * Returns the first element matching the given [predicate].
n * @throws [NoSuchElementException] if no such element is found.
n */npublic inline fun LongArray.first(predicate: (Long) -> Boolean): Long {
    for (element in this)
        if (predicate(element))
            return element
    throw
        NoSuchElementException("Array contains no element matching the predicate.")
}
n/n/**
n * Returns the first element matching the given [predicate].
n * @throws [NoSuchElementException] if no such element is found.
n */npublic inline fun FloatArray.first(predicate: (Float) -> Boolean): Float {
    for (element in

```

```

this) if (predicate(element)) return element\n    throw NoSuchElementException("Array contains no element
matching the predicate.")\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws
[NoSuchElementException] if no such element is found.\n */\npublic inline fun DoubleArray.first(predicate:
(Double) -> Boolean): Double {\n    for (element in this) if (predicate(element)) return element\n    throw
NoSuchElementException("Array
contains no element matching the predicate.")\n}\n\n/**\n * Returns the first element matching the given
[predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun
BooleanArray.first(predicate: (Boolean) -> Boolean): Boolean {\n    for (element in this) if (predicate(element))
return element\n    throw NoSuchElementException("Array contains no element matching the
predicate.")\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws
[NoSuchElementException] if no such element is found.\n */\npublic inline fun CharArray.first(predicate: (Char) ->
Boolean): Char {\n    for (element in this) if (predicate(element)) return element\n    throw
NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns the first
non-null value produced by [transform] function being applied to elements of this array in iteration order,\n * or
throws [NoSuchElementException] if no non-null
value was produced.\n * \n * @sample samples.collections.Collections.Transformations.firstNotNullOf\n
*/\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Any> Array<out
T>.firstNotNullOf(transform: (T) -> R?): R {\n    return firstNotNullOfOrNull(transform) ?: throw
NoSuchElementException("No element of the array was transformed to a non-null value.")\n}\n\n/**\n * Returns
the first non-null value produced by [transform] function being applied to elements of this array in iteration order,\n
* or `null` if no non-null value was produced.\n * \n * @sample
samples.collections.Collections.Transformations.firstNotNullOf\n
*/\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Any> Array<out
T>.firstNotNullOfOrNull(transform: (T) -> R?): R? {\n    for (element in this) {\n        val result =
transform(element)\n        if (result != null) {\n            return result\n        }\n    }\n    return null\n}\n\n/**\n * Returns the first
element, or `null` if the array is empty.\n */\npublic fun <T> Array<out T>.firstOrNull(): T? {\n    return if
(isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element, or `null` if the array is empty.\n */\npublic fun
ByteArray.firstOrNull(): Byte? {\n    return if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element, or
`null` if the array is empty.\n */\npublic fun ShortArray.firstOrNull(): Short? {\n    return if (isEmpty()) null else
this[0]\n}\n\n/**\n * Returns the first element, or `null` if the array is empty.\n */\npublic fun IntArray.firstOrNull():
Int? {\n    return if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element, or `null` if the array is
empty.\n */\npublic fun LongArray.firstOrNull(): Long? {\n    return if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns
the first element, or `null` if the array is empty.\n */\npublic fun FloatArray.firstOrNull(): Float? {\n    return
if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element, or `null` if the array is empty.\n */\npublic fun
DoubleArray.firstOrNull(): Double? {\n    return if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element,
or `null` if the array is empty.\n */\npublic fun BooleanArray.firstOrNull(): Boolean? {\n    return if (isEmpty())
null else this[0]\n}\n\n/**\n * Returns the first element, or `null` if the array is empty.\n */\npublic fun CharArray.firstOrNull():
Char? {\n    return if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element matching the given [predicate],
or `null` if
element was not found.\n */\npublic inline fun <T> Array<out T>.firstOrNull(predicate: (T) -> Boolean): T? {\n    for
(element in this) if (predicate(element)) return element\n    return null\n}\n\n/**\n * Returns the first element
matching the given [predicate], or `null` if element was not found.\n */\npublic inline fun
ByteArray.firstOrNull(predicate: (Byte) -> Boolean): Byte? {\n    for (element in this)
if (predicate(element)) return element\n    return null\n}\n\n/**\n * Returns the first element matching the given
[predicate], or `null` if element was not found.\n */\npublic inline fun ShortArray.firstOrNull(predicate: (Short) ->
Boolean): Short? {\n    for (element in this) if (predicate(element)) return element\n    return null\n}\n\n/**\n * Returns
the first element matching the given [predicate], or `null` if element was not found.\n */\npublic inline fun

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IntArray.firstOrNull(predicate: (Int) -> Boolean): Int? { \n  for (element in this) if (predicate(element)) return
element\n  return null\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if element
was not found.\n */\npublic inline fun LongArray.firstOrNull(predicate: (Long) -> Boolean): Long? { \n  for
(element in this) if (predicate(element)) return element\n  return null\n}\n\n/**\n * Returns the first element
matching the given [predicate], or `null` if element was not found.\n */\npublic
inline fun FloatArray.firstOrNull(predicate: (Float) -> Boolean): Float? { \n  for (element in this) if
(predicate(element)) return element\n  return null\n}\n\n/**\n * Returns the first element matching the given
[predicate], or `null` if element was not found.\n */\npublic inline fun DoubleArray.firstOrNull(predicate: (Double) -
> Boolean): Double? { \n  for (element in this) if (predicate(element)) return element\n  return null\n}\n\n/**\n *
Returns the first element matching the given [predicate], or `null` if element was not found.\n */\npublic inline fun
BooleanArray.firstOrNull(predicate: (Boolean) -> Boolean): Boolean? { \n  for (element in this) if
(predicate(element)) return element\n  return null\n}\n\n/**\n * Returns the first element matching the given
[predicate], or `null` if element was not found.\n */\npublic inline fun CharArray.firstOrNull(predicate: (Char) ->
Boolean): Char? { \n  for (element in this) if (predicate(element)) return element\n  return
null\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the
[index] is out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out
T>.getOrNull(index: Int, defaultValue: (Int) -> T): T? { \n  return if (index >= 0 && index <= lastIndex) get(index)
else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the
[defaultValue] function if the [index] is out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline
fun ByteArray.getOrNull(index: Int, defaultValue: (Int) -> Byte): Byte? { \n  return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of
calling the [defaultValue] function if the [index] is out of bounds of this array.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.getOrNull(index: Int, defaultValue: (Int) -> Short):
Short? { \n  return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns
an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of
this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.getOrNull(index: Int, defaultValue: (Int) ->
Int): Int? { \n  return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n *
Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of
bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.getOrNull(index: Int,
defaultValue: (Int) -> Long): Long? { \n  return if (index >= 0 && index <= lastIndex) get(index) else
defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue]
function if the [index] is out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic
inline fun FloatArray.getOrNull(index: Int, defaultValue: (Int) -> Float): Float? { \n  return if (index >= 0 && index
<= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result
of calling the [defaultValue] function if the [index] is out of bounds of this array.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.getOrNull(index: Int, defaultValue: (Int) ->
Double): Double? { \n  return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n *
Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of
bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.getOrNull(index: Int,
defaultValue: (Int) -> Boolean): Boolean? { \n  return if (index >= 0 && index <= lastIndex) get(index) else
defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling
the [defaultValue] function if the [index] is out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic
inline fun CharArray.getOrNull(index: Int, defaultValue: (Int) -> Char): Char? { \n  return if (index >= 0 && index
<= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if
the [index] is out of bounds of this array.\n */\n * \n * @sample samples.collections.Collections.Elements.getOrNull\n
*/\npublic fun <T> Array<out T>.getOrNull(index: Int): T? { \n  return if (index >= 0 && index <= lastIndex)
get(index) else null\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of
this array.\n */\n * \n * @sample samples.collections.Collections.Elements.getOrNull\n */\npublic fun

```

```

ByteArray.getOrNull(index: Int): Byte? {\n  return if (index >= 0 && index <= lastIndex) get(index) else
null}\n}\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds
of this array.\n * \n * @sample samples.collections.Collections.Elements.getOrNull\n */\npublic fun
ShortArray.getOrNull(index: Int): Short? {\n  return if (index >= 0 && index <= lastIndex) get(index) else
null}\n}\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n
* @sample samples.collections.Collections.Elements.getOrNull\n */\npublic fun IntArray.getOrNull(index: Int):
Int? {\n  return if (index >= 0 && index <= lastIndex) get(index) else null}\n}\n/**\n * Returns an element at the
given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.getOrNull\n */\npublic fun LongArray.getOrNull(index: Int): Long? {\n
return if (index >= 0 && index <= lastIndex) get(index) else null}\n}\n/**\n * Returns an element at the given
[index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.getOrNull\n
*/\npublic fun FloatArray.getOrNull(index: Int): Float? {\n  return if (index >= 0 && index <= lastIndex)
get(index) else null}\n}\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of
this array.\n * \n * @sample samples.collections.Collections.Elements.getOrNull\n */\npublic fun
DoubleArray.getOrNull(index: Int): Double? {\n  return if (index >= 0 && index <= lastIndex) get(index) else
null}\n}\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n
* @sample samples.collections.Collections.Elements.getOrNull\n */\npublic fun BooleanArray.getOrNull(index:
Int): Boolean? {\n  return if (index >= 0 && index <= lastIndex) get(index) else null}\n}\n/**\n * Returns an
element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.getOrNull\n */\npublic fun CharArray.getOrNull(index: Int): Char?
{\n  return if (index >= 0 && index <= lastIndex) get(index) else null}\n}\n/**\n * Returns first index of
[element], or -1 if the array does not contain element.\n */\npublic fun <@kotlin.internal.OnlyInputTypes T>
Array<out T>.indexOf(element: T): Int {\n  if (element == null) {\n    for (index in indices) {\n      if
(this[index] == null) {\n        return index\n      }\n    }\n  } else {\n    for (index in indices) {\n
if (element == this[index]) {\n      return index\n    }\n  }\n  return -1}\n}\n/**\n * Returns
first index of [element], or -1 if the array does not contain element.\n */\npublic fun ByteArray.indexOf(element:
Byte): Int {\n  for (index in indices) {\n    if (element == this[index]) {\n      return index\n    }\n  }\n
return -1}\n}\n/**\n * Returns first index of [element], or -1 if the array does not contain element.\n */\npublic fun
ShortArray.indexOf(element:
Short): Int {\n  for (index in indices) {\n    if (element == this[index]) {\n      return index\n    }\n  }\n
return -1}\n}\n/**\n * Returns first index of [element], or -1 if the array does not contain element.\n */\npublic fun
IntArray.indexOf(element: Int): Int {\n  for (index in indices) {\n    if (element == this[index]) {\n      return
index\n    }\n  }\n  return -1}\n}\n/**\n * Returns first index of [element], or -1 if the array does not contain
element.\n */\npublic fun LongArray.indexOf(element: Long): Int {\n  for (index in indices) {\n    if (element ==
this[index]) {\n      return index\n    }\n  }\n  return -1}\n}\n/**\n * Returns first index of [element], or -1 if
the array does not contain element.\n */\n@Deprecated("The function has unclear behavior when searching for NaN
or zero values and will be removed soon. Use 'indexOfFirst { it == element }' instead to continue using this
behavior, or '.asList().indexOf(element:
T)' to get the same search behavior as in a list.", ReplaceWith("indexOfFirst { it == element
}"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.6")\npublic fun
FloatArray.indexOf(element: Float): Int {\n  for (index in indices) {\n    if (element == this[index]) {\n
return index\n    }\n  }\n  return -1}\n}\n/**\n * Returns first index of [element], or -1 if the array does not
contain element.\n */\n@Deprecated("The function has unclear behavior when searching for NaN or zero values
and will be removed soon. Use 'indexOfFirst { it == element }' instead to continue using this behavior, or
'.asList().indexOf(element: T)' to get the same search behavior as in a list.", ReplaceWith("indexOfFirst { it ==
element }"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.6")\npublic fun
DoubleArray.indexOf(element: Double): Int {\n  for (index in indices) {\n    if (element == this[index]) {\n

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    return index\n    }\n    }\n    return -1\n}\n\n/**\n * Returns first index of [element], or -1 if the array does not
contain element.\n */\npublic fun BooleanArray.indexOf(element: Boolean): Int {\n    for (index in indices) {\n
if (element == this[index]) {\n        return index\n    }\n    }\n    return -1\n}\n\n/**\n * Returns first index of
[element], or -1 if the array does not contain element.\n */\npublic fun CharArray.indexOf(element: Char): Int {\n
for (index in indices) {\n    if (element == this[index]) {\n        return index\n    }\n    }\n    return -
1\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the array does not contain
such element.\n */\npublic inline fun <T> Array<out T>.indexOfFirst(predicate: (T) -> Boolean): Int {\n    for
(index in indices) {\n        if (predicate(this[index])) {\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns index of the first element
matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
ByteArray.indexOfFirst(predicate: (Byte) -> Boolean): Int {\n    for (index in indices) {\n        if
(predicate(this[index])) {\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns index of the first
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
ShortArray.indexOfFirst(predicate: (Short) -> Boolean): Int {\n    for (index in indices) {\n        if
(predicate(this[index])) {\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns index of the first
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
IntArray.indexOfFirst(predicate: (Int) -> Boolean): Int {\n    for (index in indices) {\n        if (predicate(this[index]))
{\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the array does not contain such element.\n
*/\npublic inline fun LongArray.indexOfFirst(predicate: (Long) -> Boolean): Int {\n    for (index in indices) {\n
if (predicate(this[index])) {\n        return index\n    }\n    }\n    return -1\n}\n\n/**\n * Returns index of the first
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
FloatArray.indexOfFirst(predicate: (Float) -> Boolean): Int {\n    for (index in indices) {\n        if
(predicate(this[index])) {\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns index of the first
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
DoubleArray.indexOfFirst(predicate: (Double) -> Boolean): Int {\n    for (index in indices) {\n        if
(predicate(this[index])) {\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the array
does not contain such element.\n */\npublic inline fun BooleanArray.indexOfFirst(predicate: (Boolean) -> Boolean):
Int {\n    for (index in indices) {\n        if (predicate(this[index])) {\n            return index\n        }\n    }\n    return -
1\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the array does not contain
such element.\n */\npublic inline fun CharArray.indexOfFirst(predicate: (Char) -> Boolean): Int {\n    for (index in
indices) {\n        if (predicate(this[index])) {\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns
index of the last element matching the given [predicate], or -1 if the array does not contain such element.\n
*/\npublic inline fun <T> Array<out T>.indexOfLast(predicate: (T) -> Boolean): Int {\n    for (index in
indices.reversed()) {\n        if (predicate(this[index]))
{\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns index of the last element matching the
given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
ByteArray.indexOfLast(predicate: (Byte) -> Boolean): Int {\n    for (index in indices.reversed()) {\n        if
(predicate(this[index])) {\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns index of the last
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
ShortArray.indexOfLast(predicate: (Short) -> Boolean): Int {\n    for (index in indices.reversed()) {\n        if
(predicate(this[index])) {\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns index of the last
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
IntArray.indexOfLast(predicate: (Int) -> Boolean): Int {\n    for (index
in indices.reversed()) {\n        if (predicate(this[index])) {\n            return index\n        }\n    }\n    return -
1\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the array does not contain
such element.\n */\npublic inline fun LongArray.indexOfLast(predicate: (Long) -> Boolean): Int {\n    for (index in

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indices.reversed()) {\n    if (predicate(this[index])) {\n        return index\n    }\n    return -1\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the array does not contain such\n element.\n */\npublic inline fun FloatArray.indexOfLast(predicate: (Float) -> Boolean): Int {\n    for (index in\n indices.reversed()) {\n        if (predicate(this[index])) {\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the array does not contain such\n element.\n */\npublic inline fun DoubleArray.indexOfLast(predicate:\n (Double) -> Boolean): Int {\n    for (index in indices.reversed()) {\n        if (predicate(this[index])) {\n            return\n index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -\n 1 if the array does not contain such element.\n */\npublic inline fun BooleanArray.indexOfLast(predicate: (Boolean)\n -> Boolean): Int {\n    for (index in indices.reversed()) {\n        if (predicate(this[index])) {\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the\n array does not contain such element.\n */\npublic inline fun CharArray.indexOfLast(predicate: (Char) -> Boolean):\n Int {\n    for (index in indices.reversed()) {\n        if (predicate(this[index])) {\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns the last element.\n */\n * @throws NoSuchElementException if the array is empty.\n */\n * @sample samples.collections.Collections.Elements.last\n */\npublic fun <T> Array<out T>.last(): T {\n    if\n (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return this[lastIndex]\n}\n\n/**\n * Returns the last element.\n */\n * @throws NoSuchElementException if the array is empty.\n */\n * @sample\n samples.collections.Collections.Elements.last\n */\npublic fun ByteArray.last(): Byte {\n    if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return this[lastIndex]\n}\n\n/**\n * Returns the last\n element.\n */\n * @throws NoSuchElementException if the array is empty.\n */\n * @sample\n samples.collections.Collections.Elements.last\n */\npublic fun ShortArray.last(): Short {\n    if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return this[lastIndex]\n}\n\n/**\n * Returns the last\n element.\n */\n * @throws NoSuchElementException if the array is empty.\n */\n * @sample\n samples.collections.Collections.Elements.last\n */\npublic fun IntArray.last(): Int {\n    if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return this[lastIndex]\n}\n\n/**\n * Returns the last element.\n */\n * @throws NoSuchElementException if the\n array is empty.\n */\n * @sample samples.collections.Collections.Elements.last\n */\npublic fun LongArray.last():\n Long {\n    if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return\n this[lastIndex]\n}\n\n/**\n * Returns the last element.\n */\n * @throws NoSuchElementException if the array is\n empty.\n */\n * @sample samples.collections.Collections.Elements.last\n */\npublic fun FloatArray.last(): Float {\n    if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return this[lastIndex]\n}\n\n/**\n * Returns the last element.\n */\n * @throws NoSuchElementException if the array is empty.\n */\n * @sample\n samples.collections.Collections.Elements.last\n */\npublic fun DoubleArray.last(): Double\n {\n    if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return\n this[lastIndex]\n}\n\n/**\n * Returns the last element.\n */\n * @throws NoSuchElementException if the array is\n empty.\n */\n * @sample samples.collections.Collections.Elements.last\n */\npublic fun BooleanArray.last():\n Boolean {\n    if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return\n this[lastIndex]\n}\n\n/**\n * Returns the last element.\n */\n * @throws NoSuchElementException if the array is\n empty.\n */\n * @sample samples.collections.Collections.Elements.last\n */\npublic fun CharArray.last(): Char {\n    if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return this[lastIndex]\n}\n\n/**\n * Returns the last element matching the given [predicate].\n */\n * @throws NoSuchElementException if no such\n element is found.\n */\n * @sample samples.collections.Collections.Elements.last\n */\npublic inline fun <T>\n Array<out T>.last(predicate:\n (T) -> Boolean): T {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if\n (predicate(element)) return element\n    }\n    throw NoSuchElementException("Array contains no element\n matching the predicate.")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n */\n * @throws\n NoSuchElementException if no such element is found.\n */\n * @sample\n samples.collections.Collections.Elements.last\n */\npublic inline fun ByteArray.last(predicate: (Byte) -> Boolean):

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Byte {
    for (index in this.indices.reversed()) {
        val element = this[index]
        if (predicate(element)) return element
    }
    throw NoSuchElementException("Array contains no element matching the predicate.")
}

/**
 * Returns the last element matching the given [predicate].
 * @throws NoSuchElementException if no such element is found.
 * @sample
 * samples.collections.Collections.Elements.last
 */
public inline fun ShortArray.last(predicate: (Short) -> Boolean): Short {
    for (index in this.indices.reversed()) {
        val element = this[index]
        if (predicate(element)) return element
    }
    throw NoSuchElementException("Array contains no element matching the predicate.")
}

/**
 * Returns the last element matching the given [predicate].
 * @throws NoSuchElementException if no such element is found.
 * @sample
 * samples.collections.Collections.Elements.last
 */
public inline fun IntArray.last(predicate: (Int) -> Boolean): Int {
    for (index in this.indices.reversed()) {
        val element = this[index]
        if (predicate(element)) return element
    }
    throw NoSuchElementException("Array contains no element matching the predicate.")
}

/**
 * Returns the last element matching the given [predicate].
 * @throws NoSuchElementException if no such element is found.
 * @sample
 * samples.collections.Collections.Elements.last
 */
public inline fun LongArray.last(predicate: (Long) -> Boolean): Long {
    for (index in this.indices.reversed()) {
        val element = this[index]
        if (predicate(element)) return element
    }
    throw NoSuchElementException("Array contains no element matching the predicate.")
}

/**
 * Returns the last element matching the given [predicate].
 * @throws NoSuchElementException if no such element is found.
 * @sample
 * samples.collections.Collections.Elements.last
 */
public inline fun FloatArray.last(predicate: (Float) -> Boolean): Float {
    for (index in this.indices.reversed()) {
        val element = this[index]
        if (predicate(element)) return element
    }
    throw NoSuchElementException("Array contains no element matching the predicate.")
}

/**
 * Returns the last element matching the given [predicate].
 * @throws NoSuchElementException if no such element is found.
 * @sample
 * samples.collections.Collections.Elements.last
 */
public inline fun DoubleArray.last(predicate: (Double) -> Boolean): Double {
    for (index in this.indices.reversed()) {
        val element = this[index]
        if (predicate(element)) return element
    }
    throw NoSuchElementException("Array contains no element matching the predicate.")
}

/**
 * Returns the last element matching the given [predicate].
 * @throws NoSuchElementException if no such element is found.
 * @sample
 * samples.collections.Collections.Elements.last
 */
public inline fun BooleanArray.last(predicate: (Boolean) -> Boolean): Boolean {
    for (index in this.indices.reversed()) {
        val element = this[index]
        if (predicate(element)) return element
    }
    throw NoSuchElementException("Array contains no element matching the predicate.")
}

/**
 * Returns the last element matching the given [predicate].
 * @throws NoSuchElementException if no such element is found.
 * @sample
 * samples.collections.Collections.Elements.last
 */
public inline fun CharArray.last(predicate: (Char) -> Boolean): Char {
    for (index in this.indices.reversed()) {
        val element = this[index]
        if (predicate(element)) return element
    }
    throw NoSuchElementException("Array contains no element matching the predicate.")
}

/**
 * Returns last index of [element], or -1 if the array does not contain element.
 * @public fun <@kotlin.internal.OnlyInputTypes T> Array<out T>.lastIndexOf(element: T): Int {
 *     if (element == null) {
 *         for (index in indices.reversed()) {
 *             if (this[index] == null) {
 *                 return index
 *             }
 *         }
 *     } else {
 *         for (index in indices.reversed()) {
 *             if (element == this[index]) {
 *                 return index
 *             }
 *         }
 *     }
 *     return -1
 * }
 * Returns last index of [element], or -1 if the array does not contain element.
 * @public fun ByteArray.lastIndexOf(element: Byte): Int {
 *     for (index in indices.reversed()) {
 *         if (element == this[index]) {
 *             return index
 *         }
 *     }
 *     return -1
 * }
 * Returns last index of [element], or -1 if the array does not contain element.
 * @public fun ShortArray.lastIndexOf(element: Short): Int {
 *     for (index in indices.reversed()) {
 *         if (element == this[index]) {
 *             return index
 *         }
 *     }
 *     return -1
 * }
 * Returns last index of [element], or -1 if

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the array does not contain element.\n */\npublic fun IntArray.lastIndexOf(element: Int): Int {\n    for (index in
indices.reversed()) {\n        if (element == this[index]) {\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns last index of [element], or -1 if the array does not contain element.\n */\npublic fun
LongArray.lastIndexOf(element: Long): Int {\n    for (index in indices.reversed()) {\n        if (element ==
this[index]) {\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns last index of [element], or -1 if the array does not contain element.\n
*/\n@Deprecated("The function has unclear behavior when searching for NaN or zero values and will be removed
soon. Use 'indexOfLast { it == element }' instead to continue using this behavior, or '.asList().lastIndexOf(element:
T)' to get the same search behavior as in a list.", ReplaceWith("indexOfLast { it == element
}"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.6")\npublic fun
FloatArray.lastIndexOf(element: Float): Int {\n    for (index in indices.reversed()) {\n        if (element ==
this[index]) {\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns last index of [element], or -1 if
the array does not contain element.\n */\n@Deprecated("The function has unclear behavior when searching for NaN
or zero values and will be removed soon. Use 'indexOfLast { it == element }' instead to continue using this
behavior, or '.asList().lastIndexOf(element:
T)' to get the same search behavior as in a list.", ReplaceWith("indexOfLast { it == element
}"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.6")\npublic fun
DoubleArray.lastIndexOf(element: Double): Int {\n    for (index in indices.reversed()) {\n        if (element ==
this[index]) {\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns last index of [element], or -1 if
the array does not contain element.\n */\npublic fun BooleanArray.lastIndexOf(element: Boolean): Int {\n    for
(index in indices.reversed()) {\n        if (element == this[index]) {\n            return index\n        }\n    }\n    return -
1\n}\n\n/**\n * Returns last index of [element], or -1 if the array does not contain element.\n */\npublic fun
CharArray.lastIndexOf(element: Char): Int {\n    for (index in indices.reversed()) {\n        if (element == this[index])
{\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic fun <T> Array<out T>.lastOrNull(): T? {\n    return if
(isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n * \n *
@sample samples.collections.Collections.Elements.last\n */\npublic fun ByteArray.lastOrNull(): Byte? {\n    return
if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n * \n *
@sample samples.collections.Collections.Elements.last\n */\npublic fun ShortArray.lastOrNull(): Short? {\n    return
if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n * \n *
@sample samples.collections.Collections.Elements.last\n */\npublic fun IntArray.lastOrNull(): Int? {\n    return
if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the
array is empty.\n * \n * @sample samples.collections.Collections.Elements.last\n */\npublic fun
LongArray.lastOrNull(): Long? {\n    return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last
element, or `null` if the array is empty.\n * \n * @sample samples.collections.Collections.Elements.last\n */\npublic
fun FloatArray.lastOrNull(): Float? {\n    return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last
element, or `null` if the array is empty.\n * \n * @sample samples.collections.Collections.Elements.last\n */\npublic
fun DoubleArray.lastOrNull(): Double? {\n    return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the
last element, or `null` if the array is empty.\n * \n * @sample samples.collections.Collections.Elements.last\n
*/\npublic fun BooleanArray.lastOrNull(): Boolean? {\n    return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n *
Returns the last element, or `null` if the array is empty.\n * \n * @sample
samples.collections.Collections.Elements.last\n
*/\npublic fun CharArray.lastOrNull(): Char? {\n    return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n *
Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun <T> Array<out T>.lastOrNull(predicate: (T) ->
Boolean): T? {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if
(predicate(element)) return element\n    }\n    return null\n}\n\n/**\n * Returns the last element matching the given

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[predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun ByteArray.lastOrNull(predicate: (Byte) ->
Boolean): Byte? {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if
(predicate(element)) return element\n    }\n    return null\n}\n\n/**\n * Returns the last element
matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun ShortArray.lastOrNull(predicate: (Short) ->
Boolean): Short? {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if
(predicate(element)) return element\n    }\n    return null\n}\n\n/**\n * Returns the last element matching the given
[predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun IntArray.lastOrNull(predicate: (Int) ->
Boolean): Int? {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if
(predicate(element)) return element\n    }\n    return null\n}\n\n/**\n * Returns the last element matching the given
[predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun LongArray.lastOrNull(predicate:
(Long) -> Boolean): Long? {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if
(predicate(element)) return element\n    }\n    return null\n}\n\n/**\n * Returns the last element matching the given
[predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun FloatArray.lastOrNull(predicate: (Float) ->
Boolean): Float? {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if
(predicate(element)) return element\n    }\n    return null\n}\n\n/**\n * Returns the last element matching the given
[predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun DoubleArray.lastOrNull(predicate: (Double) ->
Boolean): Double? {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if
(predicate(element)) return element\n    }\n    return null\n}\n\n/**\n * Returns the last element matching the given
[predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.last\n */\npublic inline fun
BooleanArray.lastOrNull(predicate: (Boolean) -> Boolean): Boolean? {\n    for (index in this.indices.reversed()) {\n
        val element = this[index]\n        if (predicate(element)) return element\n    }\n    return null\n}\n\n/**\n * Returns
the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun CharArray.lastOrNull(predicate: (Char) ->
Boolean): Char? {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if
(predicate(element)) return element\n    }\n    return null\n}\n\n/**\n * Returns a random element from this array.\n
* \n * @throws NoSuchElementException if this array is empty.\n
* \n * @SinceKotlin("1.3")\n */\n@kotlin.internal.InlineOnly\npublic
inline fun <T> Array<out T>.random(): T {\n    return random(Random)\n}\n\n/**\n * Returns a random element
from this array.\n * \n * @throws NoSuchElementException if this array is empty.\n
* \n * @SinceKotlin("1.3")\n */\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.random(): Byte {\n    return
random(Random)\n}\n\n/**\n * Returns a random element from this array.\n * \n * @throws
NoSuchElementException if this array is empty.\n * \n * @SinceKotlin("1.3")\n */\n@kotlin.internal.InlineOnly\npublic
inline fun ShortArray.random(): Short {\n    return random(Random)\n}\n\n/**\n * Returns a random element from
this array.\n * \n * @throws NoSuchElementException if this array is empty.\n
* \n * @SinceKotlin("1.3")\n */\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.random(): Int {\n    return
random(Random)\n}\n\n/**\n * Returns a random element from this array.\n * \n * @throws
NoSuchElementException if this array is empty.\n * \n * @SinceKotlin("1.3")\n */\n@kotlin.internal.InlineOnly\npublic
inline fun LongArray.random(): Long {\n    return random(Random)\n}\n\n/**\n * Returns a random element from
this array.\n * \n * @throws NoSuchElementException if this array is empty.\n
* \n * @SinceKotlin("1.3")\n */\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.random(): Float {\n    return
random(Random)\n}\n\n/**\n * Returns a random element from this array.\n * \n * @throws

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NoSuchElementException if this array is empty.\n */\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic
inline fun DoubleArray.random(): Double {\n    return random(Random)\n}\n\n/**\n * Returns a random element
from this array.\n * \n * @throws NoSuchElementException if this array is empty.\n
*/\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.random(): Boolean {\n
return random(Random)\n}\n\n/**\n * Returns a random element from this array.\n * \n * @throws
NoSuchElementException if this array is empty.\n */\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic
inline fun CharArray.random(): Char {\n    return random(Random)\n}\n\n/**\n * Returns a random element from
this array using the specified source of randomness.\n * \n * @throws NoSuchElementException if this array is
empty.\n */\n@SinceKotlin("1.3")\npublic fun <T> Array<out T>.random(random: Random): T {\n    if
(isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n@SinceKotlin("1.3")\npublic
fun ByteArray.random(random: Random): Byte {\n    if (isEmpty())\n        throw NoSuchElementException("Array
is empty.")\n    return get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the
specified source of randomness.\n * \n * @throws NoSuchElementException if this array is
empty.\n */\n@SinceKotlin("1.3")\npublic fun ShortArray.random(random: Random): Short {\n    if (isEmpty())\n
throw NoSuchElementException("Array is empty.")\n    return get(random.nextInt(size))\n}\n\n/**\n * Returns
a random element from this array using the specified source of randomness.\n * \n * @throws
NoSuchElementException if this array is empty.\n */\n@SinceKotlin("1.3")\npublic fun IntArray.random(random:
Random): Int {\n    if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n@SinceKotlin("1.3")\npublic
fun LongArray.random(random: Random): Long {\n    if (isEmpty())\n        throw
NoSuchElementException("Array is empty.")\n    return get(random.nextInt(size))\n}\n\n/**\n * Returns a random
element from this array using the specified source
of randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n
*/\n@SinceKotlin("1.3")\npublic fun FloatArray.random(random: Random): Float {\n    if (isEmpty())\n        throw
NoSuchElementException("Array is empty.")\n    return get(random.nextInt(size))\n}\n\n/**\n * Returns a random
element from this array using the specified source of randomness.\n * \n * @throws NoSuchElementException if
this array is empty.\n */\n@SinceKotlin("1.3")\npublic fun DoubleArray.random(random: Random): Double {\n
if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n@SinceKotlin("1.3")\npublic
fun BooleanArray.random(random: Random): Boolean {\n    if (isEmpty())\n        throw
NoSuchElementException("Array is empty.")\n    return get(random.nextInt(size))\n}\n\n/**\n * Returns a random
element from this array using the specified source of randomness.\n * \n * @throws
NoSuchElementException if this array is empty.\n */\n@SinceKotlin("1.3")\npublic fun
CharArray.random(random: Random): Char {\n    if (isEmpty())\n        throw NoSuchElementException("Array is
empty.")\n    return get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array, or `null` if
this array is empty.\n
*/\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun <T> Array<out T>.randomOrNull(): T? {\n    return randomOrNull(Random)\n}\n\n/**\n * Returns a
random element from this array, or `null` if this array is empty.\n
*/\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun ByteArray.randomOrNull(): Byte? {\n    return randomOrNull(Random)\n}\n\n/**\n * Returns a random
element from this array, or `null`
if this array is empty.\n
*/\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli

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c inline fun ShortArray.randomOrNull(): Short? { \n  return randomOrNull(Random)\n}\n\n/**\n * Returns a
random element from this array, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun IntArray.randomOrNull(): Int? { \n  return randomOrNull(Random)\n}\n\n/**\n * Returns a random
element from this array, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun LongArray.randomOrNull(): Long? { \n  return randomOrNull(Random)\n}\n\n/**\n * Returns a
random element from this array, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun FloatArray.randomOrNull():
Float? { \n  return randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this array, or `null` if this
array is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun DoubleArray.randomOrNull(): Double? { \n  return randomOrNull(Random)\n}\n\n/**\n * Returns a
random element from this array, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun BooleanArray.randomOrNull(): Boolean? { \n  return randomOrNull(Random)\n}\n\n/**\n * Returns a
random element from this array, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun CharArray.randomOrNull(): Char? { \n  return randomOrNull(Random)\n}\n\n/**\n * Returns a
random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun <T> Array<out
T>.randomOrNull(random: Random): T? { \n  if (isEmpty())\n    return null\n  return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
ByteArray.randomOrNull(random: Random): Byte? { \n  if (isEmpty())\n    return null\n  return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
ShortArray.randomOrNull(random: Random): Short? { \n  if (isEmpty())\n    return null\n  return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from
this array using the specified source of randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
IntArray.randomOrNull(random: Random): Int? { \n  if (isEmpty())\n    return null\n  return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
LongArray.randomOrNull(random: Random): Long? { \n  if (isEmpty())\n    return null\n  return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
FloatArray.randomOrNull(random: Random): Float? { \n  if (isEmpty())\n    return null\n  return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is
empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
DoubleArray.randomOrNull(random: Random): Double? { \n  if (isEmpty())\n    return null\n  return

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get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
BooleanArray.randomOrNull(random: Random): Boolean? {\n if (isEmpty())\n return null\n return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
CharArray.randomOrNull(random: Random): Char? {\n if (isEmpty())\n return
null\n return get(random.nextInt(size))\n}\n\n/**\n * Returns the single element, or throws an exception if the
array is empty or has more than one element.\n *\npublic fun <T> Array<out T>.single(): T {\n return when (size)
{\n 0 -> throw NoSuchElementException("Array is empty.")\n 1 -> this[0]\n else -> throw
IllegalArgumentException("Array has more than one element.")\n }\n}\n\n/**\n * Returns the single element, or
throws an exception if the array is empty or has more than one element.\n *\npublic fun ByteArray.single(): Byte
{\n return when (size) {\n 0 -> throw NoSuchElementException("Array is empty.")\n 1 -> this[0]\n
else -> throw IllegalArgumentException("Array has more than one element.")\n }\n}\n\n/**\n * Returns the
single element, or throws an exception if the array is empty or has more than one element.\n *\npublic fun
ShortArray.single(): Short {\n return when (size) {\n 0 -> throw NoSuchElementException("Array
is empty.")\n 1 -> this[0]\n else -> throw IllegalArgumentException("Array has more than one
element.")\n }\n}\n\n/**\n * Returns the single element, or throws an exception if the array is empty or has more
than one element.\n *\npublic fun IntArray.single(): Int {\n return when (size) {\n 0 -> throw
NoSuchElementException("Array is empty.")\n 1 -> this[0]\n else -> throw
IllegalArgumentException("Array has more than one element.")\n }\n}\n\n/**\n * Returns the single element, or
throws an exception if the array is empty or has more than one element.\n *\npublic fun LongArray.single(): Long
{\n return when (size) {\n 0 -> throw NoSuchElementException("Array is empty.")\n 1 -> this[0]\n
else -> throw IllegalArgumentException("Array has more than one element.")\n }\n}\n\n/**\n * Returns the
single element, or throws an exception if the array is empty or has more than one
element.\n *\npublic fun FloatArray.single(): Float {\n return when (size) {\n 0 -> throw
NoSuchElementException("Array is empty.")\n 1 -> this[0]\n else -> throw
IllegalArgumentException("Array has more than one element.")\n }\n}\n\n/**\n * Returns the single element, or
throws an exception if the array is empty or has more than one
element.\n *\npublic fun DoubleArray.single(): Double {\n return when (size) {\n 0 -> throw
NoSuchElementException("Array is empty.")\n 1 -> this[0]\n else -> throw
IllegalArgumentException("Array has more than one element.")\n }\n}\n\n/**\n * Returns the single element, or
throws an exception if the array is empty or has more than one element.\n *\npublic fun BooleanArray.single():
Boolean {\n return when (size) {\n 0 -> throw NoSuchElementException("Array is empty.")\n 1 ->
this[0]\n else -> throw IllegalArgumentException("Array has more than one element.")\n }\n}\n\n/**\n * Returns the single element, or throws an exception if the array is empty or has more than one element.\n
*\npublic fun CharArray.single(): Char {\n return when (size) {\n 0 -> throw
NoSuchElementException("Array is empty.")\n 1 -> this[0]\n else -> throw
IllegalArgumentException("Array has more than one element.")\n }\n}\n\n/**\n * Returns the single element
matching the given [predicate], or throws exception if there is no or more than one matching element.\n *\npublic
inline fun <T> Array<out T>.single(predicate: (T) -> Boolean): T {\n var single: T? = null\n var found = false\n
for (element in this) {\n if (predicate(element)) {\n if (found) throw
IllegalArgumentException("Array contains more than one matching element.")\n single = element\n found = true\n }\n }\n if
(!found) throw NoSuchElementException("Array contains no element matching the predicate.")\n
}\n}\n\n@Suppress("UNCHECKED_CAST")\n
return single as T\n}\n\n/**\n * Returns the single element matching the given [predicate], or throws exception if
there is no or more than one matching element.\n *\npublic inline fun ByteArray.single(predicate: (Byte) ->
Boolean): Byte {\n var single: Byte? = null\n var found = false\n for (element in this) {\n if

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(predicate(element)) {\n        if (found) throw IllegalArgumentException("\nArray contains more than one
matching element.\n")\n        single = element\n        found = true\n        }\n    }\n    if (!found) throw
NoSuchElementException("\nArray contains no element matching the predicate.\n")\n
@Suppress("\nUNCHECKED_CAST\n")\n    return single as Byte\n}\n\n/**\n * Returns the single element matching
the given [predicate], or throws exception if there is no or more than one matching element.\n */\npublic inline fun
ShortArray.single(predicate: (Short) -> Boolean): Short {\n    var single: Short? = null\n    var found = false\n
    for (element in this) {\n        if (predicate(element)) {\n            if (found) throw IllegalArgumentException("\nArray
contains more than one matching element.\n")\n                single = element\n                found = true\n                }\n        }\n        if
(!found) throw NoSuchElementException("\nArray contains no element matching the predicate.\n")\n
@Suppress("\nUNCHECKED_CAST\n")\n        return single as Short\n}\n\n/**\n * Returns the single element matching
the given [predicate], or throws exception if there is no or more than one matching element.\n */\npublic inline fun
IntArray.single(predicate: (Int) -> Boolean): Int {\n    var single: Int? = null\n    var found = false\n    for (element in
this) {\n        if (predicate(element)) {\n            if (found) throw IllegalArgumentException("\nArray contains more
than one matching element.\n")\n                single = element\n                found = true\n                }\n        }\n        if
(!found) throw
NoSuchElementException("\nArray contains no element matching
the predicate.\n")\n    @Suppress("\nUNCHECKED_CAST\n")\n        return single as Int\n}\n\n/**\n * Returns the single
element matching the given [predicate], or throws exception if there is no or more than one matching element.\n
*/\npublic inline fun LongArray.single(predicate: (Long) -> Boolean): Long {\n    var single: Long? = null\n    var
found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) throw
IllegalArgumentException("\nArray contains more than one matching element.\n")\n                single = element\n
                found = true\n                }\n        }\n        if (!found) throw NoSuchElementException("\nArray contains no
element matching the predicate.\n")\n    @Suppress("\nUNCHECKED_CAST\n")\n        return single as Long\n}\n\n/**\n * Returns the
single element matching the given [predicate], or throws exception if there is no or more than one matching
element.\n */\npublic inline fun FloatArray.single(predicate: (Float) -> Boolean): Float {\n    var
single: Float? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if
(found) throw IllegalArgumentException("\nArray contains more than one matching element.\n")\n                single =
element\n                found = true\n                }\n        }\n        if (!found) throw NoSuchElementException("\nArray contains no
element matching the predicate.\n")\n    @Suppress("\nUNCHECKED_CAST\n")\n        return single as Float\n}\n\n/**\n * Returns the
single element matching the given [predicate], or throws exception if there is no or more than one
matching element.\n */\npublic inline fun DoubleArray.single(predicate: (Double) -> Boolean): Double {\n    var
single: Double? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if
(found) throw IllegalArgumentException("\nArray contains more than one matching element.\n")\n                single =
element\n                found = true\n                }\n        }\n        if (!found) throw NoSuchElementException("\nArray contains no
element matching the predicate.\n")\n    @Suppress("\nUNCHECKED_CAST\n")\n        return single as Double\n}\n\n/**\n * Returns the
single element matching the given [predicate], or throws exception if there is no or more than one matching
element.\n */\npublic inline fun BooleanArray.single(predicate: (Boolean) -> Boolean): Boolean {\n    var
single: Boolean? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if
(found) throw
IllegalArgumentException("\nArray contains more than one matching element.\n")\n                single = element\n
                found = true\n                }\n        }\n        if (!found) throw NoSuchElementException("\nArray contains no
element matching the predicate.\n")\n    @Suppress("\nUNCHECKED_CAST\n")\n        return single as Boolean\n}\n\n/**\n * Returns the
single element matching the given [predicate], or throws exception if there is no or more than one matching
element.\n */\npublic inline fun CharArray.single(predicate: (Char) -> Boolean): Char {\n    var single: Char? = null\n    var
found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) throw
IllegalArgumentException("\nArray contains more than one matching element.\n")\n                single = element\n
                found = true\n                }\n        }\n        if (!found) throw NoSuchElementException("\nArray contains no
element matching the predicate.\n")\n    @Suppress("\nUNCHECKED_CAST\n")\n        return single as Char\n}\n\n/**\n * Returns single

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element, or `null` if the array is empty or has more than one element.\n */\npublic fun <T> Array<out
T>.singleOrNull(): T? {\n    return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if
the array is empty or has more than one element.\n */\npublic fun ByteArray.singleOrNull(): Byte? {\n    return if
(size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has
more than one element.\n */\npublic fun ShortArray.singleOrNull(): Short? {\n    return if (size == 1) this[0] else
null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one element.\n */\npublic
fun IntArray.singleOrNull(): Int? {\n    return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element,
or `null` if the array is empty or has more than one element.\n */\npublic fun LongArray.singleOrNull(): Long? {\n
return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more
than one element.\n */\npublic fun FloatArray.singleOrNull(): Float? {\n    return if (size == 1) this[0] else
null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one element.\n */\npublic
fun DoubleArray.singleOrNull(): Double? {\n    return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single
element, or `null` if the array is empty or has more than one
element.\n */\npublic fun BooleanArray.singleOrNull(): Boolean? {\n    return if (size == 1) this[0] else
null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one element.\n */\npublic
fun CharArray.singleOrNull(): Char? {\n    return if (size == 1) this[0] else null\n}\n\n/**\n * Returns the single
element matching the given [predicate], or `null` if element was not found or more than one element was found.\n
*/\npublic inline fun <T> Array<out T>.singleOrNull(predicate: (T) -> Boolean): T? {\n    var single: T? = null\n
var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) return null\n
single = element\n            found = true\n        }\n    }\n    if (!found) return null\n    return single\n}\n\n/**\n
* Returns the single element matching the given [predicate], or `null` if element was not found or more than one
element was found.\n */\npublic inline fun ByteArray.singleOrNull(predicate:
(Byte) -> Boolean): Byte? {\n    var single: Byte? = null\n    var found = false\n    for (element in this) {\n       
if (predicate(element)) {\n            if (found) return null\n            single = element\n            found = true\n
        }\n    }\n    if (!found) return null\n    return single\n}\n\n/**\n * Returns the single element matching the
given [predicate], or `null` if element was not found or more than one element was found.\n */\npublic inline fun
ShortArray.singleOrNull(predicate: (Short) -> Boolean): Short? {\n    var single: Short? = null\n    var found =
false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) return null\n           
single = element\n            found = true\n        }\n    }\n    if (!found) return null\n    return single\n}\n\n/**\n
* Returns the single element matching the given [predicate], or `null` if element was not found or more than one element
was found.\n */\npublic inline fun IntArray.singleOrNull(predicate:
(Int) -> Boolean): Int? {\n    var single: Int? = null\n    var found = false\n    for (element in this) {\n       
if (predicate(element)) {\n            if (found) return null\n            single = element\n            found = true\n
        }\n    }\n    if (!found) return null\n    return single\n}\n\n/**\n * Returns the single element matching the
given [predicate], or `null` if element was not found or more than one element was found.\n */\npublic inline fun
LongArray.singleOrNull(predicate: (Long) -> Boolean): Long? {\n    var single: Long? = null\n    var found =
false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) return null\n           
single = element\n            found = true\n        }\n    }\n    if (!found) return null\n    return single\n}\n\n/**\n
* Returns the single element matching the given [predicate], or `null` if element was not found or more than one element
was found.\n */\npublic inline fun FloatArray.singleOrNull(predicate:
(Float) -> Boolean): Float? {\n    var single: Float? = null\n    var found = false\n    for (element in this) {\n
        if (predicate(element)) {\n            if (found) return null\n            single = element\n            found =
true\n        }\n    }\n    if (!found) return null\n    return single\n}\n\n/**\n * Returns the single element
matching the given [predicate], or `null` if element was not found or more than one element was found.\n */\npublic
inline fun DoubleArray.singleOrNull(predicate: (Double) -> Boolean): Double? {\n    var single: Double? = null\n
var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) return
null\n            single = element\n            found = true\n        }\n    }\n    if (!found) return null\n    return
single\n}\n\n/**\n * Returns the single element matching the given [predicate], or `null` if element was not found or
more than one element was

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found.\n *\npublic
inline fun BooleanArray.singleOrNull(predicate: (Boolean) -> Boolean): Boolean? {\n  var single: Boolean? =
null\n  var found = false\n  for (element in this) {\n    if (predicate(element)) {\n      if (found) return null\n      single = element\n      found = true\n    }\n  }\n  if (!found) return null\n  return single\n}\n\n/**\n * Returns the single element matching the given [predicate], or `null` if element was not found or more than one
element was found.\n *\npublic inline fun CharArray.singleOrNull(predicate: (Char) -> Boolean): Char? {\n  var
single: Char? = null\n  var found = false\n  for (element in this) {\n    if (predicate(element)) {\n      if
(found) return null\n      single = element\n      found = true\n    }\n  }\n  if (!found) return null\n  return
single\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n * \n * @throws
IllegalArgumentException if
[n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n *\npublic fun <T>
Array<out T>.drop(n: Int): List<T> {\n  require(n >= 0) { \"Requested element count $n is less than zero.\" }\n
return takeLast((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n]
elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic fun ByteArray.drop(n: Int): List<Byte> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  return takeLast((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic fun ShortArray.drop(n: Int): List<Short> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  return takeLast((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n]
elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic fun IntArray.drop(n: Int): List<Int> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  return takeLast((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic fun LongArray.drop(n: Int): List<Long> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  return takeLast((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\npublic fun FloatArray.drop(n: Int): List<Float> {\n  require(n >= 0) { \"Requested element count $n is less
than zero.\" }\n  return takeLast((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements
except first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic fun DoubleArray.drop(n: Int): List<Double> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  return takeLast((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic fun BooleanArray.drop(n: Int): List<Boolean>
{\n  require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  return takeLast((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n * \n * @throws
IllegalArgumentException if [n]
is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n *\npublic fun
CharArray.drop(n: Int): List<Char> {\n  require(n >= 0) { \"Requested element count $n is less than zero.\" }\n
return takeLast((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n]
elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic fun <T> Array<out T>.dropLast(n: Int): List<T>
{\n  require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  return take((size -

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n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
 * \n\npublic fun ByteArray.dropLast(n: Int): List<Byte> {\n    require(n >= 0) { \"Requested element count $n is less
than zero.\" }\n    return take((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except
last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
 * \n\npublic fun ShortArray.dropLast(n: Int): List<Short> {\n    require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    return take((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
 * \n\npublic fun IntArray.dropLast(n: Int): List<Int> {\n    require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    return take((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list
containing all elements except last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n *
\n * @sample samples.collections.Collections.Transformations.drop\n
 * \n\npublic fun LongArray.dropLast(n: Int):
List<Long> {\n    require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    return take((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
 * \n\npublic fun FloatArray.dropLast(n: Int): List<Float> {\n    require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    return take((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
 * \n\npublic fun DoubleArray.dropLast(n:
Int): List<Double> {\n    require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    return take((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
 * \n\npublic fun BooleanArray.dropLast(n: Int):
List<Boolean> {\n    require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    return take((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
 * \n\npublic fun CharArray.dropLast(n: Int): List<Char> {\n    require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    return take((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last
elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
 * \n\npublic inline fun <T> Array<out
T>.dropLastWhile(predicate: (T) -> Boolean): List<T> {\n    for (index in lastIndex downTo 0) {\n        if
(!predicate(this[index])) {\n            return take(index + 1)\n        }\n    }\n    return emptyList()\n}\n\n/**\n * Returns
a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
 * \n\npublic inline fun ByteArray.dropLastWhile(predicate:
(Byte) -> Boolean): List<Byte> {\n    for (index in lastIndex downTo 0) {\n        if (!predicate(this[index])) {\n
            return take(index + 1)\n        }\n    }\n    return emptyList()\n}\n\n/**\n * Returns a list containing all elements
except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
 * \n\npublic inline fun
ShortArray.dropLastWhile(predicate: (Short) -> Boolean): List<Short> {\n    for (index in lastIndex downTo 0) {\n
        if (!predicate(this[index])) {\n            return take(index + 1)\n        }\n    }\n    return emptyList()\n}\n\n/**\n *
Returns a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
 * \n\npublic inline fun IntArray.dropLastWhile(predicate:
(Int) -> Boolean): List<Int> {\n    for (index in lastIndex downTo 0) {\n        if (!predicate(this[index])) {\n

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return take(index + 1)\n    }\n    }\n    return emptyList()\n}\n\n/**\n * Returns a list containing all elements
except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun LongArray.dropLastWhile(predicate:
(Long) -> Boolean): List<Long> {\n    for (index in lastIndex downTo 0) {\n        if (!predicate(this[index]))
{\n            return take(index + 1)\n        }\n    }\n    return emptyList()\n}\n\n/**\n * Returns a list containing all
elements except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun FloatArray.dropLastWhile(predicate:
(Float) -> Boolean): List<Float> {\n    for (index in lastIndex downTo 0) {\n        if (!predicate(this[index])) {\n
return take(index + 1)\n        }\n    }\n    return emptyList()\n}\n\n/**\n * Returns a list containing all elements
except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun DoubleArray.dropLastWhile(predicate:
(Double) -> Boolean): List<Double> {\n    for (index in lastIndex downTo 0) {\n        if (!predicate(this[index])) {\n
return take(index + 1)\n        }\n    }\n    return emptyList()\n}\n\n/**\n * Returns a list containing
all elements except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun
BooleanArray.dropLastWhile(predicate: (Boolean) -> Boolean): List<Boolean> {\n    for (index in lastIndex
downTo 0) {\n        if (!predicate(this[index])) {\n            return take(index + 1)\n        }\n    }\n    return
emptyList()\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given
[predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n *\npublic inline fun
CharArray.dropLastWhile(predicate: (Char) -> Boolean): List<Char> {\n    for (index in lastIndex downTo 0) {\n
if (!predicate(this[index])) {\n        return take(index + 1)\n    }\n    }\n    return emptyList()\n}\n\n/**\n *
Returns a list containing all elements except first elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\npublic inline fun <T> Array<out T>.dropWhile(predicate: (T) -> Boolean): List<T> {\n    var yielding = false\n
val list = ArrayList<T>()\n    for (item in this)\n        if (yielding)\n            list.add(item)\n        else if
(!predicate(item)) {\n            list.add(item)\n            yielding = true\n        }\n    return list\n}\n\n/**\n * Returns a list
containing all elements except first elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\npublic inline fun ByteArray.dropWhile(predicate:
(Byte) -> Boolean): List<Byte> {\n    var yielding = false\n    val list = ArrayList<Byte>()\n    for (item in this)\n
if (yielding)\n        list.add(item)\n    else if (!predicate(item)) {\n        list.add(item)\n        yielding =
true\n    }\n    return list\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the
given [predicate].\n * \n *
\n * @sample samples.collections.Collections.Transformations.drop\n *\npublic inline fun
ShortArray.dropWhile(predicate: (Short) -> Boolean): List<Short> {\n    var yielding = false\n    val list =
ArrayList<Short>()\n    for (item in this)\n        if (yielding)\n            list.add(item)\n        else if (!predicate(item))
{\n            list.add(item)\n            yielding = true\n        }\n    return list\n}\n\n/**\n * Returns a list containing all
elements except first elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\npublic inline fun IntArray.dropWhile(predicate: (Int) ->
Boolean): List<Int> {\n    var yielding = false\n    val list = ArrayList<Int>()\n    for (item in this)\n        if
(yielding)\n            list.add(item)\n        else if (!predicate(item)) {\n            list.add(item)\n            yielding = true\n
        }\n    return list\n}\n\n/**\n * Returns a list containing all elements except
first elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\npublic inline fun LongArray.dropWhile(predicate:
(Long) -> Boolean): List<Long> {\n    var yielding = false\n    val list = ArrayList<Long>()\n    for (item in this)\n
if (yielding)\n        list.add(item)\n    else if (!predicate(item)) {\n        list.add(item)\n        yielding =
true\n    }\n    return list\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the
given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n *\npublic inline fun
FloatArray.dropWhile(predicate: (Float) -> Boolean): List<Float> {\n    var yielding = false\n    val list =

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ArrayList<Float>()\n for (item in this)\n     if (yielding)\n         list.add(item)\n     else if (!predicate(item))\n         {\n             list.add(item)\n             yielding = true\n         }\n return list\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given [predicate].\n * \n * @sample\n samples.collections.Collections.Transformations.drop\n */\npublic inline fun DoubleArray.dropWhile(predicate:\n (Double) -> Boolean): List<Double> {\n     var yielding = false\n     val list = ArrayList<Double>()\n     for (item in this)\n         if (yielding)\n             list.add(item)\n         else if (!predicate(item)) {\n             list.add(item)\n             yielding = true\n         }\n     return list\n}\n\n/**\n * Returns a list containing all elements except first elements that\n * satisfy the given [predicate].\n * \n * @sample\n samples.collections.Collections.Transformations.drop\n */\npublic inline fun BooleanArray.dropWhile(predicate: (Boolean) -> Boolean): List<Boolean> {\n     var yielding = false\n     val list = ArrayList<Boolean>()\n     for (item in this)\n         if (yielding)\n             list.add(item)\n         else if\n (!predicate(item)) {\n             list.add(item)\n             yielding = true\n         }\n     return list\n}\n\n/**\n * Returns a list containing all elements\n * except first elements that satisfy the given [predicate].\n * \n * @sample\n samples.collections.Collections.Transformations.drop\n */\npublic inline fun CharArray.dropWhile(predicate:\n (Char) -> Boolean): List<Char> {\n     var yielding = false\n     val list = ArrayList<Char>()\n     for (item in this)\n         if (yielding)\n             list.add(item)\n         else if (!predicate(item)) {\n             list.add(item)\n             yielding =\n true\n         }\n     return list\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @sample\n samples.collections.Collections.Filtering.filter\n */\npublic inline fun <T> Array<out\n T>.filter(predicate: (T) -> Boolean): List<T> {\n     return filterTo(ArrayList<T>(), predicate)\n}\n\n/**\n * Returns\n * a list containing only elements matching the given [predicate].\n * \n * @sample\n samples.collections.Collections.Filtering.filter\n */\npublic inline fun\n ByteArray.filter(predicate: (Byte) -> Boolean): List<Byte> {\n     return\n filterTo(ArrayList<Byte>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given\n [predicate].\n * \n * @sample\n samples.collections.Collections.Filtering.filter\n */\npublic inline fun\n ShortArray.filter(predicate: (Short) -> Boolean): List<Short> {\n     return\n filterTo(ArrayList<Short>(),\n predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @sample\n samples.collections.Collections.Filtering.filter\n */\npublic inline fun\n IntArray.filter(predicate: (Int) -> Boolean):\n List<Int> {\n     return\n filterTo(ArrayList<Int>(), predicate)\n}\n\n/**\n * Returns a list containing only elements\n * matching the given [predicate].\n * \n * @sample\n samples.collections.Collections.Filtering.filter\n */\npublic inline\n fun\n LongArray.filter(predicate: (Long) -> Boolean): List<Long> {\n     return\n filterTo(ArrayList<Long>(),\n predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @sample\n samples.collections.Collections.Filtering.filter\n */\npublic inline fun\n FloatArray.filter(predicate: (Float) ->\n Boolean): List<Float> {\n     return\n filterTo(ArrayList<Float>(), predicate)\n}\n\n/**\n * Returns a list containing\n * only elements matching the given [predicate].\n * \n * @sample\n samples.collections.Collections.Filtering.filter\n */\npublic inline fun\n DoubleArray.filter(predicate: (Double) -> Boolean): List<Double> {\n     return\n filterTo(ArrayList<Double>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given\n [predicate].\n * \n * @sample\n samples.collections.Collections.Filtering.filter\n */\npublic inline fun\n BooleanArray.filter(predicate: (Boolean) -> Boolean): List<Boolean> {\n     return\n filterTo(ArrayList<Boolean>(),\n predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @sample\n samples.collections.Collections.Filtering.filter\n */\npublic inline fun\n CharArray.filter(predicate:\n (Char) -> Boolean): List<Char> {\n     return\n filterTo(ArrayList<Char>(), predicate)\n}\n\n/**\n * Returns a list\n * containing only elements matching the given [predicate].\n * \n * @param\n [predicate] function that takes the index of an\n * element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample\n samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun <T> Array<out\n T>.filterIndexed(predicate: (index: Int, T) -> Boolean): List<T> {\n     return\n filterIndexedTo(ArrayList<T>(),\n predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @param\n [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate\n * evaluation on the element.\n * \n * @sample\n samples.collections.Collections.Filtering.filterIndexed\n */

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 * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n * \n public inline fun <C :
 MutableCollection<in Short>> ShortArray.filterIndexedTo(destination: C, predicate: (index: Int, Short) ->
 Boolean): C {\n   forEachIndexed { index, element ->\n     if (predicate(index, element))
 destination.add(element)\n   }\n   return destination\n}\n\n/**\n * Appends all elements matching the given
 [predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the
 element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample
 samples.collections.Collections.Filtering.filterIndexedTo\n * \n public inline fun <C : MutableCollection<in Int>>
 IntArray.filterIndexedTo(destination: C, predicate: (index: Int, Int) -> Boolean): C {\n   forEachIndexed { index,
 element ->\n     if (predicate(index, element)) destination.add(element)\n   }\n   return destination\n}\n\n/**\n *
 Appends all elements
 matching the given [predicate] to the given [destination].\n * @param [predicate] function that takes the index of an
 element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample
 samples.collections.Collections.Filtering.filterIndexedTo\n * \n public inline fun <C : MutableCollection<in Long>>
 LongArray.filterIndexedTo(destination: C, predicate: (index: Int, Long) -> Boolean): C {\n   forEachIndexed {
 index, element ->\n     if (predicate(index, element)) destination.add(element)\n   }\n   return
 destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n *
 @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of
 predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n
 * \n public inline fun <C : MutableCollection<in Float>> FloatArray.filterIndexedTo(destination:
 C, predicate: (index: Int, Float) -> Boolean): C {\n   forEachIndexed { index, element ->\n     if (predicate(index,
 element)) destination.add(element)\n   }\n   return destination\n}\n\n/**\n * Appends all elements matching the
 given [predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and
 the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample
 samples.collections.Collections.Filtering.filterIndexedTo\n * \n public inline fun <C : MutableCollection<in
 Double>> DoubleArray.filterIndexedTo(destination: C, predicate: (index: Int, Double) -> Boolean): C {\n   forEachIndexed
 { index, element ->\n     if (predicate(index, element)) destination.add(element)\n   }\n   return
 destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n *
 @param [predicate] function that takes the index of an element and the element itself\n * and returns
 the result of predicate evaluation on the element.\n * \n * @sample
 samples.collections.Collections.Filtering.filterIndexedTo\n * \n public inline fun <C : MutableCollection<in
 Boolean>> BooleanArray.filterIndexedTo(destination: C, predicate: (index: Int, Boolean) -> Boolean): C {\n   forEachIndexed
 { index, element ->\n     if (predicate(index, element)) destination.add(element)\n   }\n   return
 destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n *
 @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of
 predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n
 * \n public inline fun <C : MutableCollection<in Char>> CharArray.filterIndexedTo(destination: C, predicate:
 (index: Int, Char) -> Boolean): C {\n   forEachIndexed { index, element ->\n     if (predicate(index, element))
 destination.add(element)\n   }\n   return destination\n}\n\n/**\n * Returns a list containing all elements that are
 instances of specified type
 parameter R.\n * \n * @sample samples.collections.Collections.Filtering.filterIsInstance\n * \n public inline fun
 <reified R> Array<*>.filterIsInstance(): List<@kotlin.internal.NoInfer R> {\n   return
 filterIsInstanceTo(ArrayList<R>())\n}\n\n/**\n * Appends all elements that are instances of specified type
 parameter R to the given [destination].\n * \n * @sample
 samples.collections.Collections.Filtering.filterIsInstanceTo\n * \n public inline fun <reified R, C :
 MutableCollection<in R>> Array<*>.filterIsInstanceTo(destination: C): C {\n   for (element in this) if (element is
 R) destination.add(element)\n   return destination\n}\n\n/**\n * Returns a list containing all elements not matching
 the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n * \n public inline fun <T>
 Array<out T>.filterNot(predicate: (T) -> Boolean): List<T> {\n

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return filterNotTo(ArrayList<T>(), predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the
given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic inline fun
ByteArray.filterNot(predicate: (Byte) -> Boolean): List<Byte> {\n    return filterNotTo(ArrayList<Byte>(),
predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n */\npublic inline fun ShortArray.filterNot(predicate: (Short) ->
Boolean): List<Short> {\n    return filterNotTo(ArrayList<Short>(), predicate)\n}\n\n/**\n * Returns a list
containing all elements not matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n */\npublic inline fun IntArray.filterNot(predicate: (Int) -> Boolean):
List<Int> {\n    return filterNotTo(ArrayList<Int>(), predicate)\n}\n\n/**\n * Returns a list containing all elements
not matching
the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic inline fun
LongArray.filterNot(predicate: (Long) -> Boolean): List<Long> {\n    return filterNotTo(ArrayList<Long>(),
predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n */\npublic inline fun FloatArray.filterNot(predicate: (Float) ->
Boolean): List<Float> {\n    return filterNotTo(ArrayList<Float>(), predicate)\n}\n\n/**\n * Returns a list
containing all elements not matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n */\npublic inline fun DoubleArray.filterNot(predicate: (Double) ->
Boolean): List<Double> {\n    return filterNotTo(ArrayList<Double>(), predicate)\n}\n\n/**\n * Returns a list
containing all elements not matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n */\npublic
inline fun BooleanArray.filterNot(predicate: (Boolean) -> Boolean): List<Boolean> {\n    return
filterNotTo(ArrayList<Boolean>(), predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the
given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic inline fun
CharArray.filterNot(predicate: (Char) -> Boolean): List<Char> {\n    return filterNotTo(ArrayList<Char>(),
predicate)\n}\n\n/**\n * Returns a list containing all elements that are not `null`.\n * \n * @sample
samples.collections.Collections.Filtering.filterNotNull\n */\npublic fun <T : Any> Array<out T?>.filterNotNull():
List<T> {\n    return filterNotNullTo(ArrayList<T>())\n}\n\n/**\n * Appends all elements that are not `null` to the
given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterNotNullTo\n */\npublic fun <C
: MutableCollection<in T>, T : Any> Array<out T?>.filterNotNullTo(destination: C): C {\n    for (element in this) if
(element != null) destination.add(element)\n    return destination\n}\n\n/**\n * Appends all elements not matching
the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n
*/\npublic inline fun <T, C : MutableCollection<in T>> Array<out T>.filterNotTo(destination: C, predicate: (T) ->
Boolean): C {\n    for (element in this) if (!predicate(element)) destination.add(element)\n    return
destination\n}\n\n/**\n * Appends all elements not matching the given [predicate] to the given [destination].\n * \n *
@sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in
Byte>> ByteArray.filterNotTo(destination: C, predicate: (Byte) -> Boolean): C {\n    for (element in this) if
(!predicate(element)) destination.add(element)\n    return destination\n}\n\n/**\n * Appends all elements not
matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n
*/\npublic inline fun <C : MutableCollection<in Short>> ShortArray.filterNotTo(destination: C, predicate: (Short) -
> Boolean): C {\n    for (element in this) if (!predicate(element)) destination.add(element)\n    return
destination\n}\n\n/**\n * Appends all elements not matching the given [predicate] to the given [destination].\n * \n *
@sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in Int>>
IntArray.filterNotTo(destination: C, predicate: (Int) -> Boolean): C {\n    for (element in this) if
(!predicate(element)) destination.add(element)\n    return destination\n}\n\n/**\n * Appends all elements not
matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in Long>>
LongArray.filterNotTo(destination: C, predicate: (Long) -> Boolean): C {\n    for (element in this) if

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(!predicate(element))
destination.add(element)\n return destination\n}\n\n/**\n * Appends all elements not matching the given
[predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n
*\npublic inline fun <C : MutableCollection<in Float>> FloatArray.filterNotTo(destination: C, predicate: (Float) ->
Boolean): C {\n for (element in this) if (!predicate(element)) destination.add(element)\n return
destination\n}\n\n/**\n * Appends all elements not matching the given [predicate] to the given [destination].\n * \n *
@sample samples.collections.Collections.Filtering.filterTo\n *\npublic inline fun <C : MutableCollection<in
Double>> DoubleArray.filterNotTo(destination: C, predicate: (Double) -> Boolean): C {\n for (element in this) if
(!predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends all elements not
matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n
*\npublic inline fun <C : MutableCollection<in Boolean>> BooleanArray.filterNotTo(destination: C, predicate:
(Boolean) -> Boolean): C {\n for (element in this) if (!predicate(element)) destination.add(element)\n return
destination\n}\n\n/**\n * Appends all elements not matching the given [predicate] to the given [destination].\n * \n *
@sample samples.collections.Collections.Filtering.filterTo\n *\npublic inline fun <C : MutableCollection<in
Char>> CharArray.filterNotTo(destination: C, predicate: (Char) -> Boolean): C {\n for (element in this) if
(!predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends all elements matching
the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n
*\npublic inline fun <T, C : MutableCollection<in T>> Array<out T>.filterTo(destination: C, predicate: (T) ->
Boolean): C {\n for (element in this) if (predicate(element)) destination.add(element)\n
return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n
*\n * @sample samples.collections.Collections.Filtering.filterTo\n *\npublic inline fun <C : MutableCollection<in
Byte>> ByteArray.filterTo(destination: C, predicate: (Byte) -> Boolean): C {\n for (element in this) if
(predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends all elements matching
the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n
*\npublic inline fun <C : MutableCollection<in Short>> ShortArray.filterTo(destination: C, predicate: (Short) ->
Boolean): C {\n for (element in this) if (predicate(element)) destination.add(element)\n return
destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * \n *
@sample samples.collections.Collections.Filtering.filterTo\n *\npublic
inline fun <C : MutableCollection<in Int>> IntArray.filterTo(destination: C, predicate: (Int) -> Boolean): C {\n
for (element in this) if (predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends
all elements matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n *\npublic inline fun <C : MutableCollection<in Long>>
LongArray.filterTo(destination: C, predicate: (Long) -> Boolean): C {\n for (element in this) if
(predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends all elements matching
the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n
*\npublic inline fun <C : MutableCollection<in Float>> FloatArray.filterTo(destination: C, predicate: (Float) ->
Boolean): C {\n for (element in this) if (predicate(element)) destination.add(element)\n return
destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * \n *
@sample samples.collections.Collections.Filtering.filterTo\n *\npublic inline fun <C : MutableCollection<in
Double>> DoubleArray.filterTo(destination: C, predicate: (Double) -> Boolean): C {\n for (element in this) if
(predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends all elements matching
the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n
*\npublic inline fun <C : MutableCollection<in Boolean>> BooleanArray.filterTo(destination: C, predicate:
(Boolean) -> Boolean): C {\n for (element in this) if (predicate(element)) destination.add(element)\n return
destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * \n *
@sample samples.collections.Collections.Filtering.filterTo\n *\npublic inline fun <C : MutableCollection<in

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size = indices.collectionSizeOrDefault(10)\n  if (size == 0) return emptyList()\n  val list =
ArrayList<Boolean>(size)\n  for (index in indices) {\n    list.add(get(index))\n  }\n  return list\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n */\npublic fun CharArray.slice(indices: Iterable<Int>):
List<Char> {\n  val size = indices.collectionSizeOrDefault(10)\n  if (size == 0) return emptyList()\n  val list =
ArrayList<Char>(size)\n  for (index in indices) {\n    list.add(get(index))\n  }\n  return list\n}\n\n/**\n * Returns an array containing elements of this array at specified
[indices].\n */\npublic fun <T> Array<T>.sliceArray(indices: Collection<Int>): Array<T> {\n  val result =
arrayOfNulls(this, indices.size)\n  var targetIndex = 0\n  for (sourceIndex in indices) {\n
result[targetIndex++] = this[sourceIndex]\n  }\n  return result\n}\n\n/**\n * Returns an array containing elements
of this array at specified [indices].\n */\npublic fun ByteArray.sliceArray(indices: Collection<Int>): ByteArray {\n
val result = ByteArray(indices.size)\n  var targetIndex = 0\n  for (sourceIndex in indices) {\n
result[targetIndex++] = this[sourceIndex]\n  }\n  return result\n}\n\n/**\n * Returns an array containing elements
of this array at specified [indices].\n */\npublic fun ShortArray.sliceArray(indices: Collection<Int>): ShortArray {\n
val result = ShortArray(indices.size)\n  var targetIndex = 0\n  for (sourceIndex in indices) {\n
result[targetIndex++] = this[sourceIndex]\n  }\n  return result\n}\n\n/**\n * Returns
an array containing elements of this array at specified [indices].\n */\npublic fun IntArray.sliceArray(indices:
Collection<Int>): IntArray {\n  val result = IntArray(indices.size)\n  var targetIndex = 0\n  for (sourceIndex in
indices) {\n    result[targetIndex++] = this[sourceIndex]\n  }\n  return result\n}\n\n/**\n * Returns an array
containing elements of this array at specified [indices].\n */\npublic fun LongArray.sliceArray(indices:
Collection<Int>): LongArray {\n  val result = LongArray(indices.size)\n  var targetIndex = 0\n  for (sourceIndex
in indices) {\n    result[targetIndex++] = this[sourceIndex]\n  }\n  return result\n}\n\n/**\n * Returns an array
containing elements of this array at specified [indices].\n */\npublic fun FloatArray.sliceArray(indices:
Collection<Int>): FloatArray {\n  val result = FloatArray(indices.size)\n  var targetIndex = 0\n  for (sourceIndex
in indices) {\n    result[targetIndex++] = this[sourceIndex]\n  }\n
return result\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n */\npublic
fun DoubleArray.sliceArray(indices: Collection<Int>): DoubleArray {\n  val result = DoubleArray(indices.size)\n
var targetIndex = 0\n  for (sourceIndex in indices) {\n    result[targetIndex++] = this[sourceIndex]\n  }\n
return result\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n */\npublic fun
BooleanArray.sliceArray(indices: Collection<Int>): BooleanArray {\n  val result = BooleanArray(indices.size)\n
var targetIndex = 0\n  for (sourceIndex in indices) {\n    result[targetIndex++] = this[sourceIndex]\n  }\n
return result\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n */\npublic fun
CharArray.sliceArray(indices: Collection<Int>): CharArray {\n  val result = CharArray(indices.size)\n  var
targetIndex = 0\n  for (sourceIndex in indices) {\n
result[targetIndex++] = this[sourceIndex]\n  }\n  return result\n}\n\n/**\n * Returns an array containing
elements at indices in the specified [indices] range.\n */\npublic fun <T> Array<T>.sliceArray(indices: IntRange):
Array<T> {\n  if (indices.isEmpty()) return copyOfRange(0, 0)\n  return copyOfRange(indices.start,
indices.endInclusive + 1)\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices]
range.\n */\npublic fun ByteArray.sliceArray(indices: IntRange): ByteArray {\n  if (indices.isEmpty()) return
ByteArray(0)\n  return copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n * Returns an array
containing elements at indices in the specified [indices] range.\n */\npublic fun ShortArray.sliceArray(indices:
IntRange): ShortArray {\n  if (indices.isEmpty()) return ShortArray(0)\n  return copyOfRange(indices.start,
indices.endInclusive + 1)\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices]
range.\n */\npublic fun IntArray.sliceArray(indices: IntRange): IntArray {\n  if (indices.isEmpty()) return
IntArray(0)\n  return copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n * Returns an array
containing elements at indices in the specified [indices] range.\n */\npublic fun LongArray.sliceArray(indices:
IntRange): LongArray {\n  if (indices.isEmpty()) return LongArray(0)\n  return copyOfRange(indices.start,
indices.endInclusive + 1)\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices]
range.\n */\npublic fun FloatArray.sliceArray(indices: IntRange): FloatArray {\n  if (indices.isEmpty()) return

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FloatArray(0)\n  return copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n * Returns an array
containing elements at indices in the specified [indices] range.\n */\npublic fun DoubleArray.sliceArray(indices:
IntRange): DoubleArray {\n  if (indices.isEmpty()) return DoubleArray(0)\n  return copyOfRange(indices.start,
indices.endInclusive + 1)\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices]
range.\n */\npublic fun BooleanArray.sliceArray(indices: IntRange): BooleanArray {\n  if (indices.isEmpty())
return BooleanArray(0)\n  return copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n * Returns an
array containing elements at indices in the specified [indices] range.\n */\npublic fun CharArray.sliceArray(indices:
IntRange): CharArray {\n  if (indices.isEmpty()) return CharArray(0)\n  return copyOfRange(indices.start,
indices.endInclusive + 1)\n}\n\n/**\n * Returns a list containing first [n] elements.\n */\n * @throws
IllegalArgumentOutOfRangeException if [n] is negative.\n */\n * @sample
samples.collections.Collections.Transformations.take\n */\npublic fun <T> Array<out T>.take(n: Int): List<T> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  if (n == 0) return emptyList()\n  if (n >=
size) return toList()\n
  if (n == 1) return listOf(this[0])\n  var count = 0\n  val list = ArrayList<T>(n)\n  for (item in this) {\n
list.add(item)\n  if (++count == n)\n    break\n  }\n  return list\n}\n\n/**\n * Returns a list containing first
[n] elements.\n */\n * @throws IllegalArgumentOutOfRangeException if [n] is negative.\n */\n * @sample
samples.collections.Collections.Transformations.take\n */\npublic fun ByteArray.take(n: Int): List<Byte> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  if (n == 0) return emptyList()\n  if (n >=
size) return toList()\n  if (n == 1) return listOf(this[0])\n  var count = 0\n  val list = ArrayList<Byte>(n)\n
for (item in this) {\n  list.add(item)\n  if (++count == n)\n    break\n  }\n  return list\n}\n\n/**\n * Returns
a list containing first [n] elements.\n */\n * @throws IllegalArgumentOutOfRangeException if [n] is negative.\n */\n * @sample
samples.collections.Collections.Transformations.take\n
*/\npublic fun ShortArray.take(n: Int): List<Short> {\n  require(n >= 0) { \"Requested element count $n is less
than zero.\" }\n  if (n == 0) return emptyList()\n  if (n >= size) return toList()\n  if (n == 1) return
listOf(this[0])\n  var count = 0\n  val list = ArrayList<Short>(n)\n  for (item in this) {\n  list.add(item)\n
if (++count == n)\n    break\n  }\n  return list\n}\n\n/**\n * Returns a list containing first [n] elements.\n */\n * @throws IllegalArgumentOutOfRangeException if [n] is negative.\n */\n * @sample
samples.collections.Collections.Transformations.take\n */\npublic fun IntArray.take(n: Int): List<Int> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  if (n == 0) return emptyList()\n  if (n >=
size) return toList()\n  if (n == 1) return listOf(this[0])\n  var count = 0\n  val list = ArrayList<Int>(n)\n
for (item in this) {\n  list.add(item)\n  if (++count == n)\n
break\n  }\n  return list\n}\n\n/**\n * Returns a list containing first [n] elements.\n */\n * @throws
IllegalArgumentOutOfRangeException if [n] is negative.\n */\n * @sample
samples.collections.Collections.Transformations.take\n */\npublic fun LongArray.take(n: Int): List<Long> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  if (n == 0) return emptyList()\n  if (n >=
size) return toList()\n  if (n == 1) return listOf(this[0])\n  var count = 0\n  val list = ArrayList<Long>(n)\n
for (item in this) {\n  list.add(item)\n  if (++count == n)\n    break\n  }\n  return list\n}\n\n/**\n * Returns
a list containing first [n] elements.\n */\n * @throws IllegalArgumentOutOfRangeException if [n] is negative.\n */\n * @sample
samples.collections.Collections.Transformations.take\n */\npublic fun FloatArray.take(n: Int): List<Float> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  if (n == 0) return emptyList()\n
if (n >= size) return toList()\n  if (n == 1) return listOf(this[0])\n  var count = 0\n  val list =
ArrayList<Float>(n)\n  for (item in this) {\n  list.add(item)\n  if (++count == n)\n    break\n  }\n  return
list\n}\n\n/**\n * Returns a list containing first [n] elements.\n */\n * @throws IllegalArgumentOutOfRangeException if
[n] is negative.\n */\n * @sample samples.collections.Collections.Transformations.take\n */\npublic fun
DoubleArray.take(n: Int): List<Double> {\n  require(n >= 0) { \"Requested element count $n is less than zero.\"
}\n  if (n == 0) return emptyList()\n  if (n >= size) return toList()\n  if (n == 1) return listOf(this[0])\n
var count = 0\n  val list = ArrayList<Double>(n)\n  for (item in this) {\n  list.add(item)\n  if (++count == n)\n
break\n  }\n  return list\n}\n\n/**\n * Returns a list containing first [n] elements.\n */\n * @throws

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IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n *^\npublic fun BooleanArray.take(n: Int): List<Boolean>
{\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n if (n
>= size) return toList()\n if (n == 1) return listOf(this[0])\n var count = 0\n val list = ArrayList<Boolean>(n)\n
for (item in this) {\n list.add(item)\n if (++count == n)\n break\n }\n return list\n}\n\n/**\n *
Returns a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n *
@sample samples.collections.Collections.Transformations.take\n *^\npublic fun CharArray.take(n: Int): List<Char>
{\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n if (n
>= size) return toList()\n if (n == 1) return listOf(this[0])\n var count = 0\n val list = ArrayList<Char>(n)\n
for (item in this) {\n
list.add(item)\n if (++count == n)\n break\n }\n return list\n}\n\n/**\n * Returns a list containing
last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n *^\npublic fun <T> Array<out T>.takeLast(n: Int): List<T>
{\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val
size = size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list =
ArrayList<T>(n)\n for (index in size - n until size)\n list.add(this[index])\n return list\n}\n\n/**\n * Returns
a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n *^\npublic fun ByteArray.takeLast(n: Int): List<Byte> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n
if (n == 0) return emptyList()\n val size = size\n if (n >= size) return toList()\n if (n == 1) return
listOf(this[size - 1])\n val list = ArrayList<Byte>(n)\n for (index in size - n until size)\n
list.add(this[index])\n return list\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n *^\npublic fun ShortArray.takeLast(n: Int): List<Short> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val size =
size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list = ArrayList<Short>(n)\n
for (index in size - n until size)\n list.add(this[index])\n return list\n}\n\n/**\n * Returns a list containing last
[n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n *^\npublic fun IntArray.takeLast(n: Int): List<Int> {\n
require(n >= 0) { \"Requested element count $n is less than
zero.\" }\n if (n == 0) return emptyList()\n val size = size\n if (n >= size) return toList()\n if (n == 1) return
listOf(this[size - 1])\n val list = ArrayList<Int>(n)\n for (index in size - n until size)\n list.add(this[index])\n
return list\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if
[n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n *^\npublic fun
LongArray.takeLast(n: Int): List<Long> {\n require(n >= 0) { \"Requested element count $n is less than zero.\"
}\n if (n == 0) return emptyList()\n val size = size\n if (n >= size) return toList()\n if (n == 1) return
listOf(this[size - 1])\n val list = ArrayList<Long>(n)\n for (index in size - n until size)\n
list.add(this[index])\n
return list\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if
[n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n *^\npublic fun
FloatArray.takeLast(n: Int): List<Float> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n
if (n == 0) return emptyList()\n val size = size\n if (n >= size) return toList()\n if (n == 1) return
listOf(this[size - 1])\n val list = ArrayList<Float>(n)\n for (index in size - n until size)\n
list.add(this[index])\n return list\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n *^\npublic fun DoubleArray.takeLast(n: Int): List<Double>
{\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val
size = size\n

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    if (n >= size) return toList()\n    if (n == 1) return listOf(this[size - 1])\n    val list = ArrayList<Double>(n)\n    for
(index in size - n until size)\n        list.add(this[index])\n    return list\n}\n\n/**\n * Returns a list containing last [n]
elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n *\npublic fun BooleanArray.takeLast(n: Int):
List<Boolean> {\n    require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    if (n == 0) return
emptyList()\n    val size = size\n    if (n >= size) return toList()\n    if (n == 1) return listOf(this[size - 1])\n    val list
= ArrayList<Boolean>(n)\n    for (index in size - n until size)\n        list.add(this[index])\n    return list\n}\n\n/**\n *
Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n *
@sample samples.collections.Collections.Transformations.take\n *\npublic
fun CharArray.takeLast(n: Int): List<Char> {\n    require(n >= 0) { \"Requested element count $n is less than
zero.\" }\n    if (n == 0) return emptyList()\n    val size = size\n    if (n >= size) return toList()\n    if (n == 1) return
listOf(this[size - 1])\n    val list = ArrayList<Char>(n)\n    for (index in size - n until size)\n        list.add(this[index])\n    return list\n}\n\n/**\n * Returns a list containing last elements satisfying the given
[predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n *\npublic inline fun <T>
Array<out T>.takeLastWhile(predicate: (T) -> Boolean): List<T> {\n    for (index in lastIndex downTo 0) {\n        if
(!predicate(this[index])) {\n            return drop(index + 1)\n        }\n    }\n    return toList()\n}\n\n/**\n * Returns a
list containing last elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n *\npublic inline fun ByteArray.takeLastWhile(predicate:
(Byte) -> Boolean): List<Byte> {\n    for (index in lastIndex downTo 0) {\n        if (!predicate(this[index])) {\n
            return drop(index + 1)\n        }\n    }\n    return toList()\n}\n\n/**\n * Returns a list containing last elements
satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n *\npublic
inline fun ShortArray.takeLastWhile(predicate: (Short) -> Boolean): List<Short> {\n    for (index in lastIndex
downTo 0) {\n        if (!predicate(this[index])) {\n            return drop(index + 1)\n        }\n    }\n    return
toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n *\npublic inline fun IntArray.takeLastWhile(predicate: (Int)
-> Boolean): List<Int> {\n    for (index in lastIndex downTo 0) {\n        if (!predicate(this[index])) {\n            return
drop(index + 1)\n        }\n    }\n    return toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n *\npublic inline fun LongArray.takeLastWhile(predicate:
(Long) -> Boolean): List<Long> {\n    for (index in lastIndex downTo 0) {\n        if (!predicate(this[index])) {\n
            return drop(index + 1)\n        }\n    }\n    return toList()\n}\n\n/**\n * Returns a list containing last elements
satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n *\npublic
inline fun FloatArray.takeLastWhile(predicate: (Float) -> Boolean): List<Float> {\n    for (index in lastIndex
downTo 0) {\n        if (!predicate(this[index])) {\n            return drop(index + 1)\n        }\n    }\n    return
toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n *\npublic
inline fun DoubleArray.takeLastWhile(predicate: (Double) -> Boolean): List<Double> {\n    for (index in lastIndex
downTo 0) {\n        if (!predicate(this[index])) {\n            return drop(index + 1)\n        }\n    }\n    return
toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n *\npublic inline fun
BooleanArray.takeLastWhile(predicate: (Boolean) -> Boolean): List<Boolean> {\n    for (index in lastIndex
downTo 0) {\n        if (!predicate(this[index])) {\n            return drop(index + 1)\n        }\n    }\n    return
toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n *\npublic inline fun CharArray.takeLastWhile(predicate:
(Char) -> Boolean): List<Char> {\n    for (index in lastIndex downTo 0) {\n        if (!predicate(this[index])) {\n
            return drop(index + 1)\n        }\n    }\n    return toList()\n}\n\n/**\n * Returns a list containing first elements
satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n *\npublic
inline fun <T> Array<out T>.takeWhile(predicate: (T) -> Boolean): List<T> {\n    val list = ArrayList<T>()\n    for

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(item in this) {\n    if (!predicate(item))\n        break\n        list.add(item)\n    }\n    return list\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n *^npublic inline fun ByteArray.takeWhile(predicate: (Byte)
-> Boolean): List<Byte> {\n    val list = ArrayList<Byte>()\n    for (item in this) {\n        if (!predicate(item))\n            break\n            list.add(item)\n        }\n        return list\n}\n\n/**\n * Returns a list containing first elements satisfying the
given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n *^npublic inline fun ShortArray.takeWhile(predicate: (Short) -> Boolean): List<Short> {\n    val list =
ArrayList<Short>()\n    for (item in this) {\n        if (!predicate(item))\n            break\n            list.add(item)\n        }\n        return list\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n *^npublic inline fun IntArray.takeWhile(predicate: (Int) ->
Boolean): List<Int> {\n    val list = ArrayList<Int>()\n    for (item in this) {\n        if (!predicate(item))\n            break\n            list.add(item)\n        }\n        return list\n}\n\n/**\n * Returns a list containing first elements satisfying the
given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n *^npublic inline fun
LongArray.takeWhile(predicate: (Long) -> Boolean): List<Long> {\n    val list = ArrayList<Long>()\n    for (item
in this) {\n        if
(!predicate(item))\n            break\n            list.add(item)\n        }\n        return list\n}\n\n/**\n * Returns a list containing
first elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n *^npublic inline fun FloatArray.takeWhile(predicate:
(Float) -> Boolean): List<Float> {\n    val list = ArrayList<Float>()\n    for (item in this) {\n        if
(!predicate(item))\n            break\n            list.add(item)\n        }\n        return list\n}\n\n/**\n * Returns a list containing first
elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n
*^npublic inline fun DoubleArray.takeWhile(predicate: (Double) -> Boolean): List<Double> {\n    val list =
ArrayList<Double>()\n    for (item in this) {\n        if (!predicate(item))\n            break\n            list.add(item)\n        }\n        return list\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n *
\n * @sample samples.collections.Collections.Transformations.take\n *^npublic inline fun
BooleanArray.takeWhile(predicate: (Boolean) -> Boolean): List<Boolean> {\n    val list = ArrayList<Boolean>()\n
for (item in this) {\n        if (!predicate(item))\n            break\n            list.add(item)\n        }\n        return list\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n *^npublic inline fun CharArray.takeWhile(predicate: (Char)
-> Boolean): List<Char> {\n    val list = ArrayList<Char>()\n    for (item in this) {\n        if (!predicate(item))\n            break\n            list.add(item)\n        }\n        return list\n}\n\n/**\n * Reverses elements in the array in-place.\n *^npublic
fun <T> Array<T>.reverse(): Unit {\n    val midPoint = (size / 2) - 1\n    if (midPoint < 0) return\n    var
reverseIndex = lastIndex\n    for (index in 0..midPoint) {\n        val tmp = this[index]\n        this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses elements in the array in-place.\n *^npublic fun ByteArray.reverse(): Unit {\n    val midPoint = (size / 2) -
1\n    if (midPoint < 0) return\n    var reverseIndex = lastIndex\n    for (index in 0..midPoint) {\n        val tmp =
this[index]\n        this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses elements in the array in-place.\n *^npublic fun ShortArray.reverse(): Unit {\n    val
midPoint = (size / 2) - 1\n    if (midPoint < 0) return\n    var reverseIndex = lastIndex\n    for (index in 0..midPoint)
{\n        val tmp = this[index]\n        this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses elements in the array in-place.\n *^npublic fun IntArray.reverse(): Unit
{\n    val midPoint = (size / 2) - 1\n    if (midPoint <
0) return\n    var reverseIndex = lastIndex\n    for (index in 0..midPoint) {\n        val tmp = this[index]\n
this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses
elements in the array in-place.\n *^npublic fun LongArray.reverse(): Unit {\n    val midPoint = (size / 2) - 1\n    if
(midPoint < 0) return\n    var reverseIndex = lastIndex\n    for (index in 0..midPoint) {\n        val tmp = this[index]\n
this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses
elements in the array in-place.\n *^npublic fun FloatArray.reverse(): Unit {\n    val midPoint = (size / 2) -

```

```

1\n if (midPoint < 0) return\n var reverseIndex = lastIndex\n for (index in 0..midPoint) {\n val tmp =
this[index]\n this[index] = this[reverseIndex]\n this[reverseIndex] = tmp\n reverseIndex--\n
}\n}\n\n/**\n * Reverses elements in the array
in-place.\n */\npublic fun DoubleArray.reverse(): Unit {\n val midPoint = (size / 2) - 1\n if (midPoint < 0)
return\n var reverseIndex = lastIndex\n for (index in 0..midPoint) {\n val tmp = this[index]\n this[index]
= this[reverseIndex]\n this[reverseIndex] = tmp\n reverseIndex--\n }\n}\n\n/**\n * Reverses elements in
the array in-place.\n */\npublic fun BooleanArray.reverse(): Unit {\n val midPoint = (size / 2) - 1\n if (midPoint
< 0) return\n var reverseIndex = lastIndex\n for (index in 0..midPoint) {\n val tmp = this[index]\n
this[index] = this[reverseIndex]\n this[reverseIndex] = tmp\n reverseIndex--\n }\n}\n\n/**\n * Reverses
elements in the array in-place.\n */\npublic fun CharArray.reverse(): Unit {\n val midPoint = (size / 2) - 1\n if
(midPoint < 0) return\n var reverseIndex = lastIndex\n for (index in 0..midPoint) {\n val tmp = this[index]\n
this[index] = this[reverseIndex]\n
this[reverseIndex] = tmp\n reverseIndex--\n }\n}\n\n/**\n * Reverses elements of the array in the
specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n * @param
toIndex the end of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is
less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if
[fromIndex] is greater than [toIndex].\n */\n@SinceKotlin("1.4")\npublic fun <T> Array<T>.reverse(fromIndex:
Int, toIndex: Int): Unit {\n AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n val midPoint =
(fromIndex + toIndex) / 2\n if (fromIndex == midPoint) return\n var reverseIndex = toIndex - 1\n for (index in
fromIndex until midPoint) {\n val tmp = this[index]\n this[index] = this[reverseIndex]\n
this[reverseIndex] = tmp\n reverseIndex--\n }\n}\n\n/**\n * Reverses elements
of the array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to
reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *
@throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin("1.4")\npublic
fun ByteArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n AbstractList.checkRangeIndexes(fromIndex,
toIndex, size)\n val midPoint = (fromIndex + toIndex) / 2\n if (fromIndex == midPoint) return\n var
reverseIndex = toIndex - 1\n for (index in fromIndex until midPoint) {\n val tmp = this[index]\n
this[index] = this[reverseIndex]\n this[reverseIndex] = tmp\n reverseIndex--\n }\n}\n\n/**\n * Reverses
elements of the array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to
reverse.\n * \n * @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *
@throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin("1.4")\npublic fun
ShortArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n AbstractList.checkRangeIndexes(fromIndex, toIndex,
size)\n val midPoint = (fromIndex + toIndex) / 2\n if (fromIndex == midPoint) return\n var reverseIndex =
toIndex - 1\n for (index in fromIndex until midPoint) {\n val tmp = this[index]\n this[index] =
this[reverseIndex]\n this[reverseIndex] = tmp\n reverseIndex--\n }\n}\n\n/**\n * Reverses elements of the
array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n *
@param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *
@throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin("1.4")\npublic fun
IntArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n AbstractList.checkRangeIndexes(fromIndex, toIndex,
size)\n val midPoint = (fromIndex + toIndex) / 2\n if (fromIndex == midPoint) return\n var reverseIndex =
toIndex - 1\n for (index in fromIndex until midPoint) {\n val tmp = this[index]\n this[index] =
this[reverseIndex]\n this[reverseIndex] = tmp\n reverseIndex--\n }\n}\n\n/**\n * Reverses elements of the
array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n *
@param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws
IndexOutOfBoundsException if

```

[fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws

IllegalArgumentException

```
if [fromIndex] is greater than [toIndex].\n *\n@SinceKotlin("1.4")\npublic fun LongArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    val midPoint = (fromIndex + toIndex) / 2\n    if (fromIndex == midPoint) return\n    var reverseIndex = toIndex - 1\n    for (index in fromIndex until midPoint) {\n        val tmp = this[index]\n        this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses elements of the array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *\n@SinceKotlin("1.4")\npublic fun FloatArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    val midPoint = (fromIndex + toIndex) / 2\n    if (fromIndex == midPoint) return\n    var reverseIndex = toIndex - 1\n    for (index in fromIndex until midPoint) {\n        val tmp = this[index]\n        this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses elements of the array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *\n@SinceKotlin("1.4")\npublic fun DoubleArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    val midPoint = (fromIndex + toIndex) / 2\n    if (fromIndex == midPoint) return\n    var reverseIndex = toIndex - 1\n    for (index in fromIndex until midPoint) {\n        val tmp = this[index]\n        this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses elements of the array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *\n@SinceKotlin("1.4")\npublic fun BooleanArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    val midPoint = (fromIndex + toIndex) / 2\n    if (fromIndex == midPoint) return\n    var reverseIndex = toIndex - 1\n    for (index in fromIndex until midPoint) {\n        val tmp = this[index]\n        this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses elements of the array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *\n@SinceKotlin("1.4")\npublic fun CharArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    val midPoint = (fromIndex + toIndex) / 2\n    if (fromIndex == midPoint) return\n    var reverseIndex = toIndex - 1\n    for (index in fromIndex until midPoint) {\n        val tmp = this[index]\n        this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Returns a list with elements in reversed order.\n *\npublic fun <T> Array<out T>.reversed(): List<T> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n *\npublic fun ByteArray.reversed(): List<Byte> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n *\npublic fun ShortArray.reversed(): List<Short> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n *\npublic fun IntArray.reversed(): List<Int> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n}\n\n/**\n * Returns a list with elements
```

```

in reversed order.\n */\npublic fun LongArray.reversed(): List<Long> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun FloatArray.reversed(): List<Float> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun DoubleArray.reversed(): List<Double> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun BooleanArray.reversed(): List<Boolean> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun CharArray.reversed(): List<Char> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun <T> Array<T>.reversedArray(): Array<T> {\n    if (isEmpty()) return this\n    val result = arrayOfNulls(this, size)\n    val lastIndex = lastIndex\n    for (i in 0..lastIndex)\n        result[lastIndex - i] = this[i]\n    return result\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun ByteArray.reversedArray(): ByteArray {\n    if (isEmpty()) return this\n    val result = ByteArray(size)\n    val lastIndex = lastIndex\n    for (i in 0..lastIndex)\n        result[lastIndex - i] = this[i]\n    return result\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun ShortArray.reversedArray(): ShortArray {\n    if (isEmpty()) return this\n    val result = ShortArray(size)\n    val lastIndex = lastIndex\n    for (i in 0..lastIndex)\n        result[lastIndex - i] = this[i]\n    return result\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun IntArray.reversedArray(): IntArray {\n    if (isEmpty()) return this\n    val result = IntArray(size)\n    val lastIndex = lastIndex\n    for (i in 0..lastIndex)\n        result[lastIndex - i] = this[i]\n    return result\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun LongArray.reversedArray(): LongArray {\n    if (isEmpty()) return this\n    val result = LongArray(size)\n    val lastIndex = lastIndex\n    for (i in 0..lastIndex)\n        result[lastIndex - i] = this[i]\n    return result\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun FloatArray.reversedArray(): FloatArray {\n    if (isEmpty()) return this\n    val result = FloatArray(size)\n    val lastIndex = lastIndex\n    for (i in 0..lastIndex)\n        result[lastIndex - i] = this[i]\n    return result\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun DoubleArray.reversedArray(): DoubleArray {\n    if (isEmpty()) return this\n    val result = DoubleArray(size)\n    val lastIndex = lastIndex\n    for (i in 0..lastIndex)\n        result[lastIndex - i] = this[i]\n    return result\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun BooleanArray.reversedArray(): BooleanArray {\n    if (isEmpty()) return this\n    val result = BooleanArray(size)\n    val lastIndex = lastIndex\n    for (i in 0..lastIndex)\n        result[lastIndex - i] = this[i]\n    return result\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun CharArray.reversedArray(): CharArray {\n    if (isEmpty()) return this\n    val result = CharArray(size)\n    val lastIndex = lastIndex\n    for (i in 0..lastIndex)\n        result[lastIndex - i] = this[i]\n    return result\n}\n\n\n * Randomly shuffles elements in this array in-place.\n */\n@SinceKotlin("1.4")\npublic fun <T> Array<T>.shuffle(): Unit {\n    shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n */\n@SinceKotlin("1.4")\npublic fun ByteArray.shuffle(): Unit {\n    shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n */\n@SinceKotlin("1.4")\npublic fun ShortArray.shuffle(): Unit {\n    shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n */\n@SinceKotlin("1.4")\npublic fun IntArray.shuffle(): Unit {\n    shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n */\n@SinceKotlin("1.4")\npublic fun LongArray.shuffle(): Unit {\n    shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n */\n@SinceKotlin("1.4")\npublic fun FloatArray.shuffle(): Unit {\n    shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n */\n@SinceKotlin("1.4")\npublic fun DoubleArray.shuffle(): Unit {\n    shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n */\n@SinceKotlin("1.4")\npublic fun BooleanArray.shuffle(): Unit {\n    shuffle(Random)\n}\n\n

```


Randomly shuffles elements in this array in-place.

```

*^@SinceKotlin("1.4")
public fun CharArray.shuffle():
Unit {
    shuffle(Random)
}

```

Randomly shuffles elements in this array in-place using the specified [random] instance as the source of randomness.

See: https://en.wikipedia.org/wiki/Fisher%20%80%93Yates_shuffle#The_modern_algorithm

```

*^@SinceKotlin("1.4")
public fun <T> Array<T>.shuffle(random: Random): Unit {
    for (i in lastIndex downTo 1) {
        val j = random.nextInt(i + 1)
        val copy = this[i]
        this[i] = this[j]
        this[j] = copy
    }
}

```

Randomly shuffles elements in this array in-place using the specified [random] instance as the source of randomness.

See: https://en.wikipedia.org/wiki/Fisher%20%80%93Yates_shuffle#The_modern_algorithm

```

*^@SinceKotlin("1.4")
public fun ByteArray.shuffle(random: Random): Unit {
    for (i in lastIndex downTo 1) {
        val j = random.nextInt(i + 1)
        val copy = this[i]
        this[i] = this[j]
        this[j] = copy
    }
}

```

Randomly shuffles elements in this array in-place using the specified [random] instance as the source of randomness.

See: https://en.wikipedia.org/wiki/Fisher%20%80%93Yates_shuffle#The_modern_algorithm

```

*^@SinceKotlin("1.4")
public fun ShortArray.shuffle(random: Random): Unit {
    for (i in lastIndex downTo 1) {
        val j = random.nextInt(i + 1)
        val copy = this[i]
        this[i] = this[j]
        this[j] = copy
    }
}

```

Randomly shuffles elements in this array in-place using the specified [random] instance as the source of randomness.

See: https://en.wikipedia.org/wiki/Fisher%20%80%93Yates_shuffle#The_modern_algorithm

```

*^@SinceKotlin("1.4")
public fun IntArray.shuffle(random: Random): Unit {
    for (i in lastIndex downTo 1) {
        val j = random.nextInt(i + 1)
        val copy = this[i]
        this[i] = this[j]
        this[j] = copy
    }
}

```

Randomly shuffles elements in this array in-place using the specified [random] instance as the source of randomness.

See: https://en.wikipedia.org/wiki/Fisher%20%80%93Yates_shuffle#The_modern_algorithm

```

*^@SinceKotlin("1.4")
public fun LongArray.shuffle(random: Random): Unit {
    for (i in lastIndex downTo 1) {
        val j = random.nextInt(i + 1)
        val copy = this[i]
        this[i] = this[j]
        this[j] = copy
    }
}

```

Randomly shuffles elements in this array in-place using the specified [random] instance as the source of randomness.

See: https://en.wikipedia.org/wiki/Fisher%20%80%93Yates_shuffle#The_modern_algorithm

```

*^@SinceKotlin("1.4")
public fun
FloatArray.shuffle(random: Random): Unit {
    for (i in lastIndex downTo 1) {
        val j = random.nextInt(i + 1)
        val copy = this[i]
        this[i] = this[j]
        this[j] = copy
    }
}

```

Randomly shuffles elements in this array in-place using the specified [random] instance as the source of randomness.

See: https://en.wikipedia.org/wiki/Fisher%20%80%93Yates_shuffle#The_modern_algorithm

```

*^@SinceKotlin("1.4")
public fun DoubleArray.shuffle(random: Random): Unit {
    for (i in lastIndex downTo 1) {
        val j = random.nextInt(i + 1)
        val copy = this[i]
        this[i] = this[j]
        this[j] = copy
    }
}

```

Randomly shuffles elements in this array in-place using the specified [random] instance as the source of randomness.

See: https://en.wikipedia.org/wiki/Fisher%20%80%93Yates_shuffle#The_modern_algorithm

```

*^@SinceKotlin("1.4")
public fun BooleanArray.shuffle(random: Random): Unit {
    for (i in
lastIndex downTo 1) {
        val j = random.nextInt(i + 1)
        val copy = this[i]
        this[i] = this[j]
        this[j] = copy
    }
}

```

Randomly shuffles elements in this array in-place using the specified [random] instance as the source of randomness.

See: https://en.wikipedia.org/wiki/Fisher%20%80%93Yates_shuffle#The_modern_algorithm

```

*^@SinceKotlin("1.4")
public fun CharArray.shuffle(random: Random): Unit {
    for (i in lastIndex downTo 1) {
        val j = random.nextInt(i + 1)
        val copy = this[i]
        this[i] = this[j]
        this[j] = copy
    }
}

```

Sorts elements in the array in-place according to natural sort order of the value returned by specified [selector] function.

The sort is `_stable_`. It means that equal elements preserve their order relative to each

```

other after sorting.\n *\npublic inline fun <T, R : Comparable<R>> Array<out T>.sortBy(crossinline selector: (T) -
> R?): Unit {\n  if (size >
1) sortByDescending(selector)\n}\n\n/**\n * Sorts elements in the array in-place descending according to
natural sort order of the value returned by specified [selector] function.\n * \n * The sort is _stable_. It means that
equal elements preserve their order relative to each other after sorting.\n *\npublic inline fun <T, R :
Comparable<R>> Array<out T>.sortByDescending(crossinline selector: (T) -> R?): Unit {\n  if (size > 1)
sortByDescendingDescending(selector)\n}\n\n/**\n * Sorts elements in the array in-place descending according
to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to
each other after sorting.\n *\npublic fun <T : Comparable<T>> Array<out T>.sortDescending(): Unit {\n
sortByDescendingDescending(reverseOrder())\n}\n\n/**\n * Sorts elements in the array in-place descending according to their natural
sort order.\n *\npublic fun ByteArray.sortDescending(): Unit {\n  if (size > 1) {\n    sort()\n    reverse()\n  }\n}\n\n/**\n * Sorts elements in the array in-place descending according to their natural sort
order.\n *\npublic fun ShortArray.sortDescending(): Unit {\n  if (size > 1) {\n    sort()\n    reverse()\n  }\n}\n\n/**\n * Sorts elements in the array in-place descending according to their natural sort order.\n *\npublic fun
IntArray.sortDescending(): Unit {\n  if (size > 1) {\n    sort()\n    reverse()\n  }\n}\n\n/**\n * Sorts elements
in the array in-place descending according to their natural sort order.\n *\npublic fun LongArray.sortDescending():
Unit {\n  if (size > 1) {\n    sort()\n    reverse()\n  }\n}\n\n/**\n * Sorts elements in the array in-place
descending according to their natural sort order.\n *\npublic fun FloatArray.sortDescending(): Unit {\n  if (size >
1) {\n    sort()\n    reverse()\n  }\n}\n\n/**\n * Sorts elements in the array in-place descending according to
their natural sort order.\n *\npublic fun
DoubleArray.sortDescending(): Unit {\n  if (size > 1) {\n    sort()\n    reverse()\n  }\n}\n\n/**\n * Sorts
elements in the array in-place descending according to their natural sort order.\n *\npublic fun
CharArray.sortDescending(): Unit {\n  if (size > 1) {\n    sort()\n    reverse()\n  }\n}\n\n/**\n * Returns a list
of all elements sorted according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements
preserve their order relative to each other after sorting.\n *\npublic fun <T : Comparable<T>> Array<out
T>.sorted(): List<T> {\n  return sortedArray().asList()\n}\n\n/**\n * Returns a list of all elements sorted according
to their natural sort order.\n *\npublic fun ByteArray.sorted(): List<Byte> {\n  return toTypedArray().apply {
sort() }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to their natural sort order.\n *\npublic
fun ShortArray.sorted(): List<Short> {\n  return toTypedArray().apply
{ sort() }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to their natural sort order.\n
*\npublic fun IntArray.sorted(): List<Int> {\n  return toTypedArray().apply { sort() }.asList()\n}\n\n/**\n *
Returns a list of all elements sorted according to their natural sort order.\n *\npublic fun LongArray.sorted():
List<Long> {\n  return toTypedArray().apply { sort() }.asList()\n}\n\n/**\n * Returns a list of all elements sorted
according to their natural sort order.\n *\npublic fun FloatArray.sorted(): List<Float> {\n  return
toTypedArray().apply { sort() }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to their natural
sort order.\n *\npublic fun DoubleArray.sorted(): List<Double> {\n  return toTypedArray().apply { sort()
}.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to their natural sort order.\n *\npublic fun
CharArray.sorted(): List<Char> {\n  return toTypedArray().apply { sort() }.asList()\n}\n\n/**\n *
Returns an array with all elements of this array sorted according to their natural sort order.\n * \n * The sort is
_stable_. It means that equal elements preserve their order relative to each other after sorting.\n *\npublic fun <T :
Comparable<T>> Array<T>.sortedArray(): Array<T> {\n  if (isEmpty()) return this\n  return this.copyOf().apply {
sort() }\n}\n\n/**\n * Returns an array with all elements of this array sorted according to their natural sort order.\n
*\npublic fun ByteArray.sortedArray(): ByteArray {\n  if (isEmpty()) return this\n  return this.copyOf().apply {
sort() }\n}\n\n/**\n * Returns an array with all elements of this array sorted according to their natural sort order.\n
*\npublic fun ShortArray.sortedArray(): ShortArray {\n  if (isEmpty()) return this\n  return this.copyOf().apply {
sort() }\n}\n\n/**\n * Returns an array with all elements of this array sorted according to their natural sort order.\n
*\npublic fun IntArray.sortedArray():

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IntArray { \n  if (isEmpty()) return this \n  return this.copyOf().apply { sort() } } \n \n /** \n * Returns an array with
all elements of this array sorted according to their natural sort order. \n */ \n public fun LongArray.sortedArray():
LongArray { \n  if (isEmpty()) return this \n  return this.copyOf().apply { sort() } } \n \n /** \n * Returns an array
with all elements of this array sorted according to their natural sort order. \n */ \n public fun FloatArray.sortedArray():
FloatArray { \n  if (isEmpty()) return this \n  return this.copyOf().apply { sort() } } \n \n /** \n * Returns an array
with all elements of this array sorted according to their natural sort order. \n */ \n public fun
DoubleArray.sortedArray(): DoubleArray { \n  if (isEmpty()) return this \n  return this.copyOf().apply { sort()
} } \n \n /** \n * Returns an array with all elements of this array sorted according to their natural sort order. \n
*/ \n public fun CharArray.sortedArray(): CharArray { \n  if (isEmpty()) return this \n
return this.copyOf().apply { sort() } } \n \n /** \n * Returns an array with all elements of this array sorted
descending according to their natural sort order. \n * \n * The sort is _stable_. It means that equal elements preserve
their order relative to each other after sorting. \n */ \n public fun <T : Comparable<T>>
Array<T>.sortedArrayDescending(): Array<T> { \n  if (isEmpty()) return this \n  return this.copyOf().apply {
sortWith(reverseOrder()) } } \n \n /** \n * Returns an array with all elements of this array sorted descending
according to their natural sort order. \n */ \n public fun ByteArray.sortedArrayDescending(): ByteArray { \n  if
(isEmpty()) return this \n  return this.copyOf().apply { sortDescending() } } \n \n /** \n * Returns an array with all
elements of this array sorted descending according to their natural sort order. \n */ \n public fun
ShortArray.sortedArrayDescending(): ShortArray { \n  if (isEmpty()) return this \n  return this.copyOf().apply {
sortDescending() } } \n \n /** \n
* Returns an array with all elements of this array sorted descending according to their natural sort order. \n
*/ \n public fun IntArray.sortedArrayDescending(): IntArray { \n  if (isEmpty()) return this \n  return
this.copyOf().apply { sortDescending() } } \n \n /** \n * Returns an array with all elements of this array sorted
descending according to their natural sort order. \n */ \n public fun LongArray.sortedArrayDescending(): LongArray
{ \n  if (isEmpty()) return this \n  return this.copyOf().apply { sortDescending() } } \n \n /** \n * Returns an array
with all elements of this array sorted descending according to their natural sort order. \n */ \n public fun
FloatArray.sortedArrayDescending(): FloatArray { \n  if (isEmpty()) return this \n  return this.copyOf().apply {
sortDescending() } } \n \n /** \n * Returns an array with all elements of this array sorted descending according to
their natural sort order. \n */ \n public fun DoubleArray.sortedArrayDescending(): DoubleArray { \n  if
(isEmpty()) return this \n  return this.copyOf().apply { sortDescending() } } \n \n /** \n * Returns an array with all
elements of this array sorted descending according to their natural sort order. \n */ \n public fun
CharArray.sortedArrayDescending(): CharArray { \n  if (isEmpty()) return this \n  return this.copyOf().apply {
sortDescending() } } \n \n /** \n * Returns an array with all elements of this array sorted according the specified
[comparator]. \n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other
after sorting. \n */ \n public fun <T> Array<out T>.sortedArrayWith(comparator: Comparator<in T>): Array<out T>
{ \n  if (isEmpty()) return this \n  return this.copyOf().apply { sortWith(comparator) } } \n \n /** \n * Returns a list
of all elements sorted according to natural sort order of the value returned by specified [selector] function. \n * \n *
The sort is _stable_. It means that equal elements preserve their order relative to each other
after sorting. \n * \n * @sample samples.collections.Collections.Sorting.sortedBy \n */ \n public inline fun <T, R :
Comparable<R>> Array<out T>.sortedBy(crossinline selector: (T) -> R?): List<T> { \n  return
sortedWith(compareBy(selector)) } \n \n /** \n * Returns a list of all elements sorted according to natural sort order
of the value returned by specified [selector] function. \n * \n * @sample
samples.collections.Collections.Sorting.sortedBy \n */ \n public inline fun <R : Comparable<R>>
ByteArray.sortedBy(crossinline selector: (Byte) -> R?): List<Byte> { \n  return
sortedWith(compareBy(selector)) } \n \n /** \n * Returns a list of all elements sorted according to natural sort order
of the value returned by specified [selector] function. \n * \n * @sample
samples.collections.Collections.Sorting.sortedBy \n */ \n public inline fun <R : Comparable<R>>
ShortArray.sortedBy(crossinline selector: (Short) -> R?): List<Short> { \n  return
sortedWith(compareBy(selector)) } \n \n /** \n * Returns a list

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of all elements sorted according to natural sort order of the value returned by specified [selector] function.\n * \n * @sample samples.collections.Collections.Sorting.sortedBy\n *^\npublic inline fun <R : Comparable<R>>

IntArray.sortedBy(crossinline selector: (Int) -> R?): List<Int> {\n return sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order of the value returned by specified [selector] function.\n * \n * @sample samples.collections.Collections.Sorting.sortedBy\n *^\npublic inline fun <R : Comparable<R>>

LongArray.sortedBy(crossinline selector: (Long) -> R?): List<Long> {\n return sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order of the value returned by specified [selector] function.\n * \n * @sample samples.collections.Collections.Sorting.sortedBy\n *^\npublic inline fun <R : Comparable<R>>

FloatArray.sortedBy(crossinline selector: (Float) -> R?): List<Float> {\n return sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order of the value returned by specified [selector] function.\n * \n * @sample samples.collections.Collections.Sorting.sortedBy\n *^\npublic inline fun <R : Comparable<R>>

DoubleArray.sortedBy(crossinline selector: (Double) -> R?): List<Double> {\n return sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order of the value returned by specified [selector] function.\n * \n * @sample samples.collections.Collections.Sorting.sortedBy\n *^\npublic inline fun <R : Comparable<R>>

BooleanArray.sortedBy(crossinline selector: (Boolean) -> R?): List<Boolean> {\n return sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order of the value returned by specified [selector] function.\n * \n * @sample samples.collections.Collections.Sorting.sortedBy\n *^\npublic inline fun <R : Comparable<R>>

CharArray.sortedBy(crossinline selector: (Char) -> R?): List<Char> {\n return sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.\n * \n * The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.\n *^\npublic inline fun <T, R : Comparable<R>>

Array<out T>.sortedByDescending(crossinline selector: (T) -> R?): List<T> {\n return sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.\n *^\npublic inline fun <R : Comparable<R>>

ByteArray.sortedByDescending(crossinline selector: (Byte) -> R?): List<Byte> {\n return sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.\n *^\npublic inline fun <R : Comparable<R>>

ShortArray.sortedByDescending(crossinline selector: (Short) -> R?): List<Short> {\n return sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.\n *^\npublic inline fun <R : Comparable<R>>

IntArray.sortedByDescending(crossinline selector: (Int) -> R?): List<Int> {\n return sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.\n *^\npublic inline fun <R : Comparable<R>>

LongArray.sortedByDescending(crossinline selector: (Long) -> R?): List<Long> {\n return sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.\n *^\npublic inline fun <R : Comparable<R>>

FloatArray.sortedByDescending(crossinline selector: (Float) -> R?): List<Float> {\n return sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.\n *^\npublic inline fun <R : Comparable<R>>

DoubleArray.sortedByDescending(crossinline selector: (Double) -> R?): List<Double> {\n return sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.\n *^\npublic inline fun <R :

Comparable<R>> BooleanArray.sortedByDescending(crossinline selector: (Boolean) -> R?): List<Boolean> {\n return sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to

natural sort order of the value returned by specified [selector] function.\n *\npublic inline fun <R : Comparable<R>> CharArray.sortedByDescending(crossinline selector: (Char) -> R?): List<Char> {\n return sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to their natural sort order.\n *\n * The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.\n *\npublic fun <T : Comparable<T>> Array<out T>.sortedDescending(): List<T> {\n return sortedWith(reverseOrder())\n}\n\n/**\n * Returns a list of all elements sorted descending according to their natural sort order.\n *\npublic fun ByteArray.sortedDescending(): List<Byte> {\n return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns a list of all elements sorted descending according to their natural sort order.\n *\npublic fun ShortArray.sortedDescending(): List<Short> {\n return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns a list of all elements sorted descending according to their natural sort order.\n *\npublic fun IntArray.sortedDescending(): List<Int> {\n return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns a list of all elements sorted descending according to their natural sort order.\n *\npublic fun LongArray.sortedDescending(): List<Long> {\n return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns a list of all elements sorted descending according to their natural sort order.\n *\npublic fun FloatArray.sortedDescending(): List<Float> {\n return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns a list of all elements sorted descending according to their natural sort order.\n *\npublic fun DoubleArray.sortedDescending(): List<Double> {\n return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns a list of all elements sorted descending according to their natural sort order.\n *\npublic fun CharArray.sortedDescending(): List<Char> {\n return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns a list of all elements sorted according to the specified [comparator].\n *\n * The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.\n *\npublic fun <T> Array<out T>.sortedWith(comparator: Comparator<in T>): List<T> {\n return sortedArrayWith(comparator).asList()\n}\n\n/**\n * Returns a list of all elements sorted according to the specified [comparator].\n *\npublic fun ByteArray.sortedWith(comparator: Comparator<in Byte>): List<Byte> {\n return toTypedArray().apply { sortWith(comparator) }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to the specified [comparator].\n *\npublic fun ShortArray.sortedWith(comparator: Comparator<in Short>): List<Short> {\n return toTypedArray().apply { sortWith(comparator) }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to the specified [comparator].\n *\npublic fun IntArray.sortedWith(comparator: Comparator<in Int>): List<Int> {\n return toTypedArray().apply { sortWith(comparator) }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to the specified [comparator].\n *\npublic fun LongArray.sortedWith(comparator: Comparator<in Long>): List<Long> {\n return toTypedArray().apply { sortWith(comparator) }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to the specified [comparator].\n *\npublic fun FloatArray.sortedWith(comparator: Comparator<in Float>): List<Float> {\n return toTypedArray().apply { sortWith(comparator) }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to the specified [comparator].\n *\npublic fun DoubleArray.sortedWith(comparator: Comparator<in Double>): List<Double> {\n return toTypedArray().apply { sortWith(comparator) }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to the specified [comparator].\n *\npublic fun BooleanArray.sortedWith(comparator: Comparator<in Boolean>): List<Boolean> {\n return toTypedArray().apply { sortWith(comparator) }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to the specified [comparator].\n *\npublic fun CharArray.sortedWith(comparator: Comparator<in Char>): List<Char> {\n return toTypedArray().apply { sortWith(comparator) }.asList()\n}\n\n/**\n * Returns a [List] that wraps the original array.\n *\npublic expect fun <T> Array<out T>.asList(): List<T>\n\n/**\n * Returns a [List] that wraps the original array.\n *\npublic expect fun ByteArray.asList(): List<Byte>\n\n/**\n * Returns a [List] that wraps the original array.\n *\npublic expect fun ShortArray.asList(): List<Short>\n\n/**\n * Returns a [List] that

wraps the original array.
`public expect fun IntArray.asList(): List<Int>`
 Returns a [List] that wraps the original array.
`public expect fun LongArray.asList(): List<Long>`
 Returns a [List] that wraps the original array.
`public expect fun FloatArray.asList(): List<Float>`
 Returns a [List] that wraps the original array.
`public expect fun DoubleArray.asList(): List<Double>`
 Returns a [List] that wraps the original array.
`public expect fun BooleanArray.asList(): List<Boolean>`
 Returns a [List] that wraps the original array.
`public expect fun CharArray.asList(): List<Char>`
 Returns a [List] that wraps the original array.
`fun equals(a: Array<T>, b: Array<T>): Boolean`
 Returns `true` if the two specified arrays are *deeply* equal to one another, i.e. contain the same number of the same elements in the same order.
 If two corresponding elements are nested arrays, they are also compared deeply.
 If any of arrays contains itself on any nesting level the behavior is undefined.
 The elements of other types are compared for equality with the [equals][Any.equals] function.
 For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.

`@SinceKotlin("1.1")@kotlin.internal.LowPriorityInOverloadResolution`
`public expect infix fun <T> Array<out T>.contentDeepEquals(other: Array<out T>): Boolean`
 Returns `true` if the two specified arrays are *deeply* equal to one another, i.e. contain the same number of the same elements in the same order.
 The specified arrays are also considered deeply equal if both are `null`.
 If two corresponding elements are nested arrays, they are also compared deeply.
 If any of arrays contains itself on any nesting level the behavior is undefined.
 The elements of other types are compared for equality with the [equals][Any.equals] function.
 For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.
`@SinceKotlin("1.4")`
`public expect infix fun <T> Array<out T>?.contentDeepEquals(other: Array<out T>?): Boolean`
 Returns a hash code based on the contents of this array as if it is [List].
 Nested

arrays are treated as lists too.
 If any of arrays contains itself on any nesting level the behavior is undefined.
`@SinceKotlin("1.1")@kotlin.internal.LowPriorityInOverloadResolution`
`public expect fun <T> Array<out T>.contentDeepHashCode(): Int`
 Returns a hash code based on the contents of this array as if it is [List].
 Nested arrays are treated as lists too.
 If any of arrays contains itself on any nesting level the behavior is undefined.
`@SinceKotlin("1.4")`
`public expect fun <T> Array<out T>?.contentDeepHashCode(): Int`
 Returns a string representation of the contents of this array as if it is a [List].
 Nested arrays are treated as lists too.
 If any of arrays contains itself on any nesting level that reference is rendered as `[...]` to prevent recursion.
 @sample
 samples.collections.Arrays.ContentOperations.contentDeepToString

`@SinceKotlin("1.1")@kotlin.internal.LowPriorityInOverloadResolution`
`public expect fun <T> Array<out T>.contentDeepToString(): String`
 Returns a string representation of the contents of this array as if it is a [List].
 Nested arrays are treated as lists too.
 If any of arrays contains itself on any nesting level that reference is rendered as `[...]` to prevent recursion.
 @sample
 samples.collections.Arrays.ContentOperations.contentDeepToString
`@SinceKotlin("1.4")`
`public expect fun <T> Array<out T>?.contentDeepToString(): String`
 Returns `true` if the two specified arrays are *structurally* equal to one another, i.e. contain the same number of the same elements in the same order.
 The elements are compared for equality with the [equals][Any.equals] function.
 For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.
`@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")@SinceKotlin("1.1")@DeprecatedSinceKotlin(hiddenSince = "1.4")`
`public expect infix fun <T> Array<out T>.contentEquals(other: Array<out T>): Boolean`
 Returns `true` if the two specified arrays are *structurally* equal to one another, i.e. contain the same number of the same elements in the same order.
 The elements are compared for equality with the [equals][Any.equals] function.
 For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.
`@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")@SinceKotlin("1.1")@DeprecatedSinceKotlin(hiddenSince = "1.4")`
`public expect infix fun ByteArray.contentEquals(other: ByteArray): Boolean`
 Returns `true` if the two specified arrays are *structurally* equal to one another, i.e. contain the same number of the same elements in the same order.

* The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic expect infix fun ShortArray.contentEquals(other: ShortArray): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n */\n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic expect infix fun IntArray.contentEquals(other: IntArray): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n */\n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic expect infix fun LongArray.contentEquals(other: LongArray): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n */\n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic expect infix fun FloatArray.contentEquals(other: FloatArray): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n */\n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic expect infix fun DoubleArray.contentEquals(other: DoubleArray): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n */\n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic expect infix fun BooleanArray.contentEquals(other: BooleanArray): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n */\n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic expect infix fun CharArray.contentEquals(other: CharArray): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n */\n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin("1.4")\npublic expect infix fun <T> Array<out T>?.contentEquals(other: Array<out T>?): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n */\n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin("1.4")\npublic expect infix fun ByteArray?.contentEquals(other: ByteArray?): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n */\n

* The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n

*\n@SinceKotlin("1.4")\npublic expect infix fun ShortArray?.contentEquals(other: ShortArray?): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n *\n@SinceKotlin("1.4")\npublic expect infix fun IntArray?.contentEquals(other: IntArray?): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n *\n@SinceKotlin("1.4")\npublic expect infix fun LongArray?.contentEquals(other: LongArray?): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n *\n@SinceKotlin("1.4")\npublic expect infix fun FloatArray?.contentEquals(other: FloatArray?): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n *\n@SinceKotlin("1.4")\npublic expect infix fun DoubleArray?.contentEquals(other: DoubleArray?): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n *\n@SinceKotlin("1.4")\npublic expect infix fun BooleanArray?.contentEquals(other: BooleanArray?): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n *\n@SinceKotlin("1.4")\npublic expect infix fun CharArray?.contentEquals(other: CharArray?): Boolean\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n *\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic expect fun <T> Array<out T>.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n *\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic expect fun ByteArray.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n *\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic expect fun ShortArray.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n *\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic expect fun IntArray.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n *\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic expect fun LongArray.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n *\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic expect fun FloatArray.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n *\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic expect fun


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expect fun DoubleArray.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the
specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@Deprecated("Use
Kotlin compiler 1.4 to avoid deprecation
warning.\n")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic expect fun
BooleanArray.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified
array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.\n")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic expect fun
CharArray.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified array
as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@SinceKotlin("1.4")\npublic expect fun <T> Array<out T>?.contentToString(): String\n\n/**\n * Returns a
string representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@SinceKotlin("1.4")\npublic expect fun ByteArray?.contentToString(): String\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n */\n@SinceKotlin("1.4")\npublic expect fun
ShortArray?.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified
array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@SinceKotlin("1.4")\npublic expect fun IntArray?.contentToString(): String\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n */\n@SinceKotlin("1.4")\npublic expect fun
LongArray?.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified
array as if it is [List].\n
* \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@SinceKotlin("1.4")\npublic expect fun FloatArray?.contentToString(): String\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n */\n@SinceKotlin("1.4")\npublic expect fun
DoubleArray?.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified
array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@SinceKotlin("1.4")\npublic expect fun BooleanArray?.contentToString(): String\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n */\n@SinceKotlin("1.4")\npublic expect fun
CharArray?.contentToString(): String\n\n/**\n * Copies this array or its subrange
into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and
even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to
copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param
startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive)
of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or
[IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex
> endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array
starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n
*/\n * @return the [destination] array.\n */\n@SinceKotlin("1.3")\npublic expect
fun <T> Array<out T>.copyInto(destination: Array<T>, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int
= size): Array<T>\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n
* \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the
destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the
[destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy,

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\n * @return the [destination] array.\n *\n@SinceKotlin("1.3")\npublic expect fun
FloatArray.copyInto(destination: FloatArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int
= size): FloatArray\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n
*\n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with
the destination range.\n *\n * @param destination the array to copy to.\n * @param destinationOffset the position in
the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to
copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n
*\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out
of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the
subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is
out of the [destination] array indices range.\n *\n * @return
the [destination] array.\n *\n@SinceKotlin("1.3")\npublic expect fun DoubleArray.copyInto(destination:
DoubleArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): DoubleArray\n\n/**\n * Copies
this array or its subrange into the [destination] array and returns that array.\n *\n * It's allowed to pass the same
array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n *\n *
@param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to
copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n *
@param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n *\n * @throws
IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this
array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange
doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of
the [destination] array indices range.\n *\n * @return the [destination] array.\n *\n@SinceKotlin("1.3")\npublic
expect fun BooleanArray.copyInto(destination: BooleanArray, destinationOffset: Int = 0, startIndex: Int = 0,
endIndex: Int = size): BooleanArray\n\n/**\n * Copies this array or its subrange into the [destination] array and
returns that array.\n *\n * It's allowed to pass the same array in the [destination] and even specify the subrange so
that it overlaps with the destination range.\n *\n * @param destination the array to copy to.\n * @param
destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the
beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the
subrange to copy, size of this array by default.\n *\n * @throws IndexOutOfBoundsException
or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when
`startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the
[destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination]
array indices range.\n *\n * @return the [destination] array.\n *\n@SinceKotlin("1.3")\npublic expect fun
CharArray.copyInto(destination: CharArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size):
CharArray\n\n/**\n * Returns new array which is a copy of the original array.\n *\n * @sample
samples.collections.Arrays.CopyOfOperations.copyOfOf\n
*\n@Suppress("NO_ACTUAL_FOR_EXPECT")\npublic expect fun <T> Array<T>.copyOf():
Array<T>\n\n/**\n * Returns new array which is a copy of the original array.\n *\n * @sample
samples.collections.Arrays.CopyOfOperations.copyOfOf\n *\npublic expect fun ByteArray.copyOf():
ByteArray\n\n/**\n * Returns
new array which is a copy of the original array.\n *\n * @sample
samples.collections.Arrays.CopyOfOperations.copyOfOf\n *\npublic expect fun ShortArray.copyOf():
ShortArray\n\n/**\n * Returns new array which is a copy of the original array.\n *\n * @sample
samples.collections.Arrays.CopyOfOperations.copyOfOf\n *\npublic expect fun IntArray.copyOf(): IntArray\n\n/**\n
* Returns new array which is a copy of the original array.\n *\n * @sample
samples.collections.Arrays.CopyOfOperations.copyOfOf\n *\npublic expect fun LongArray.copyOf():
LongArray\n\n/**\n * Returns new array which is a copy of the original array.\n *\n * @sample
samples.collections.Arrays.CopyOfOperations.copyOfOf\n *\npublic expect fun FloatArray.copyOf():

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FloatArray\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n */\npublic expect fun DoubleArray.copyOf(): DoubleArray\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n */\npublic expect fun BooleanArray.copyOf(): BooleanArray\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\npublic expect fun ByteArray.copyOf(newSize: Int): ByteArray\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * \n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\npublic expect fun ShortArray.copyOf(newSize: Int): ShortArray\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\npublic expect fun IntArray.copyOf(newSize: Int): IntArray\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\npublic expect fun LongArray.copyOf(newSize: Int): LongArray\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\npublic expect fun FloatArray.copyOf(newSize: Int): FloatArray\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\npublic expect fun DoubleArray.copyOf(newSize: Int): DoubleArray\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with `false` values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with `false` values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\npublic expect fun BooleanArray.copyOf(newSize: Int): BooleanArray\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with null char (`\u0000`) values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the

[newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with null char ('\u0000') values.\n * \n * @sample

samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\npublic expect fun

CharArray.copyOf(newSize: Int): CharArray\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with `null` values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with `null` values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizingCopyOf\n */\n@Suppress("NO_ACTUAL_FOR_EXPECT")\npublic expect fun <T> Array<T>.copyOf(newSize: Int): Array<T?>\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@Suppress("NO_ACTUAL_FOR_EXPECT")\npublic expect fun <T> Array<T>.copyOfRange(fromIndex: Int, toIndex: Int): Array<T>\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\npublic expect fun ByteArray.copyOfRange(fromIndex: Int, toIndex: Int): ByteArray\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\npublic expect fun ShortArray.copyOfRange(fromIndex: Int, toIndex: Int): ShortArray\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\npublic expect fun IntArray.copyOfRange(fromIndex: Int, toIndex: Int): IntArray\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\npublic expect fun LongArray.copyOfRange(fromIndex: Int, toIndex: Int): LongArray\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\npublic expect fun FloatArray.copyOfRange(fromIndex: Int, toIndex: Int): FloatArray\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\npublic expect fun DoubleArray.copyOfRange(fromIndex: Int, toIndex: Int): DoubleArray\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\npublic expect fun DoubleArray.copyOfRange(fromIndex: Int, toIndex: Int): DoubleArray\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\npublic expect fun DoubleArray.copyOfRange(fromIndex: Int, toIndex: Int): DoubleArray


```

IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *\n@SinceKotlin("1.3")\npublic
expect fun BooleanArray.fill(element: Boolean, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Fills this
array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive)
to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n *
@throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this
array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.3")\npublic expect fun CharArray.fill(element: Char, fromIndex: Int = 0, toIndex: Int = size):
Unit\n\n/**\n * Returns the range of valid indices for the array.\n *\npublic val <T> Array<out T>.indices:
IntRange\n    get() = IntRange(0, lastIndex)\n\n/**\n * Returns the range of valid indices for the array.\n *\npublic
val ByteArray.indices: IntRange\n    get() = IntRange(0, lastIndex)\n\n/**\n * Returns the
range of valid indices for the array.\n *\npublic val ShortArray.indices: IntRange\n    get() = IntRange(0,
lastIndex)\n\n/**\n * Returns the range of valid indices for the array.\n *\npublic val IntArray.indices: IntRange\n
    get() = IntRange(0, lastIndex)\n\n/**\n * Returns the range of valid indices for the array.\n *\npublic val
LongArray.indices: IntRange\n    get() = IntRange(0, lastIndex)\n\n/**\n * Returns the range of valid indices for the
array.\n *\npublic val FloatArray.indices: IntRange\n    get() = IntRange(0, lastIndex)\n\n/**\n * Returns the range
of valid indices for the array.\n *\npublic val DoubleArray.indices: IntRange\n    get() = IntRange(0,
lastIndex)\n\n/**\n * Returns the range of valid indices for the array.\n *\npublic val BooleanArray.indices:
IntRange\n    get() = IntRange(0, lastIndex)\n\n/**\n * Returns the range of valid indices for the array.\n *\npublic
val CharArray.indices: IntRange\n    get() = IntRange(0, lastIndex)\n\n/**\n * Returns `true`
if the array is empty.\n *\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.isEmpty(): Boolean
{\n    return size == 0\n}\n\n/**\n * Returns `true` if the array is empty.\n *\n@kotlin.internal.InlineOnly\npublic
inline fun ByteArray.isEmpty(): Boolean {\n    return size == 0\n}\n\n/**\n * Returns `true` if the array is empty.\n
*\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.isEmpty(): Boolean {\n    return size == 0\n}\n\n/**\n
* Returns `true` if the array is empty.\n *\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.isEmpty():
Boolean {\n    return size == 0\n}\n\n/**\n * Returns `true` if the array is empty.\n
*\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.isEmpty(): Boolean {\n    return size == 0\n}\n\n/**\n
* Returns `true` if the array is empty.\n *\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.isEmpty():
Boolean {\n    return size == 0\n}\n\n/**\n * Returns `true` if the array is empty.\n
*\n@kotlin.internal.InlineOnly\npublic
inline fun DoubleArray.isEmpty(): Boolean {\n    return size == 0\n}\n\n/**\n * Returns `true` if the array is
empty.\n *\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.isEmpty(): Boolean {\n    return size ==
0\n}\n\n/**\n * Returns `true` if the array is empty.\n *\n@kotlin.internal.InlineOnly\npublic inline fun
CharArray.isEmpty(): Boolean {\n    return size == 0\n}\n\n/**\n * Returns `true` if the array is not empty.\n
*\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.isNotEmpty(): Boolean {\n    return
!isEmpty()\n}\n\n/**\n * Returns `true` if the array is not empty.\n *\n@kotlin.internal.InlineOnly\npublic inline
fun ByteArray.isNotEmpty(): Boolean {\n    return !isEmpty()\n}\n\n/**\n * Returns `true` if the array is not
empty.\n *\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.isNotEmpty(): Boolean {\n    return
!isEmpty()\n}\n\n/**\n * Returns `true` if the array is not empty.\n *\n@kotlin.internal.InlineOnly\npublic
inline fun IntArray.isNotEmpty(): Boolean {\n    return !isEmpty()\n}\n\n/**\n * Returns `true` if the array is not
empty.\n *\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.isNotEmpty(): Boolean {\n    return
!isEmpty()\n}\n\n/**\n * Returns `true` if the array is not empty.\n *\n@kotlin.internal.InlineOnly\npublic inline
fun FloatArray.isNotEmpty(): Boolean {\n    return !isEmpty()\n}\n\n/**\n * Returns `true` if the array is not
empty.\n *\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.isNotEmpty(): Boolean {\n    return
!isEmpty()\n}\n\n/**\n * Returns `true` if the array is not empty.\n *\n@kotlin.internal.InlineOnly\npublic inline
fun BooleanArray.isNotEmpty(): Boolean {\n    return !isEmpty()\n}\n\n/**\n * Returns `true` if the array is not
empty.\n *\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.isNotEmpty(): Boolean {\n    return
!isEmpty()\n}\n\n/**\n * Returns the last valid index for the array.\n *\npublic val <T> Array<out

```


`T>.lastIndex: Int` `get() = size - 1` Returns the last valid index for the array.

`ByteArray.lastIndex: Int` `get() = size - 1` Returns the last valid index for the array.

`ShortArray.lastIndex: Int` `get() = size - 1` Returns the last valid index for the array.

`IntArray.lastIndex: Int` `get() = size - 1` Returns the last valid index for the array.

`LongArray.lastIndex: Int` `get() = size - 1` Returns the last valid index for the array.

`FloatArray.lastIndex: Int` `get() = size - 1` Returns the last valid index for the array.

`DoubleArray.lastIndex: Int` `get() = size - 1` Returns the last valid index for the array.

`BooleanArray.lastIndex: Int` `get() = size - 1` Returns the last valid index for the array.

`CharArray.lastIndex: Int` `get() = size - 1` Returns an array containing all elements of the original array and then the given [element].

`@Suppress("NO_ACTUAL_FOR_EXPECT")` `expect operator fun <T> Array<T>.plus(element: T): Array<T>` Returns an array containing all elements of the original array and then the given [element].

`expect operator fun ByteArray.plus(element: Byte): ByteArray` Returns an array containing all elements of the original array and then the given [element].

`expect operator fun ShortArray.plus(element: Short): ShortArray` Returns an array containing all elements of the original array and then the given [element].

`expect operator fun IntArray.plus(element: Int): IntArray` Returns an array containing all elements of the original array and then the given [element].

`expect operator fun LongArray.plus(element: Long): LongArray` Returns an array containing all elements of the original array and then the given [element].

`expect operator fun FloatArray.plus(element: Float): FloatArray` Returns an array containing all elements of the original array and then the given [element].

`expect operator fun DoubleArray.plus(element: Double): DoubleArray` Returns an array containing all elements of the original array and then the given [element].

`expect operator fun BooleanArray.plus(element: Boolean): BooleanArray` Returns an array containing all elements of the original array and then the given [element].

`expect operator fun CharArray.plus(element: Char): CharArray` Returns an array containing all elements of the original array and then all elements of the given [elements] collection.

`@Suppress("NO_ACTUAL_FOR_EXPECT")` `expect operator fun <T> Array<T>.plus(elements: Collection<T>): Array<T>` Returns an array containing all elements of the original array and then all elements of the given [elements] collection.

`expect operator fun ByteArray.plus(elements: Collection<Byte>): ByteArray` Returns an array containing all elements of the original array and then all elements of the given [elements] collection.

`expect operator fun ShortArray.plus(elements: Collection<Short>): ShortArray` Returns an array containing all elements of the original array and then all elements of the given [elements] collection.

`expect operator fun IntArray.plus(elements: Collection<Int>): IntArray` Returns an array containing all elements of the original array and then all elements of the given [elements] collection.

`expect operator fun LongArray.plus(elements: Collection<Long>): LongArray` Returns an array containing all elements of the original array and then all elements of the given [elements] collection.

`expect operator fun FloatArray.plus(elements: Collection<Float>): FloatArray` Returns an array containing all elements of the original array and then all elements of the given [elements] collection.

`expect operator fun DoubleArray.plus(elements: Collection<Double>): DoubleArray` Returns an array containing all elements of the original array and then all elements of the given [elements] collection.

`expect operator fun BooleanArray.plus(elements: Collection<Boolean>): BooleanArray` Returns an array containing all elements of the original array and then all elements of the given [elements] collection.

`expect operator fun CharArray.plus(elements: Collection<Char>): CharArray` Returns an array containing all elements of the original array and then all elements of the given [elements] array.

`@Suppress("NO_ACTUAL_FOR_EXPECT")` `expect operator fun <T> Array<T>.plus(elements: Array<out T>): Array<T>` Returns an array containing all elements of the original

array and then all elements of the given [elements] array.\n */\npublic expect operator fun ByteArray.plus(elements: ByteArray): ByteArray\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\npublic expect operator fun ShortArray.plus(elements: ShortArray): ShortArray\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\npublic expect operator fun IntArray.plus(elements: IntArray): IntArray\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\npublic expect operator fun LongArray.plus(elements: LongArray): LongArray\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\npublic expect operator fun FloatArray.plus(elements: FloatArray): FloatArray\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\npublic expect operator fun DoubleArray.plus(elements: DoubleArray): DoubleArray\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\npublic expect operator fun BooleanArray.plus(elements: BooleanArray): BooleanArray\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n */\n@Suppress("NO_ACTUAL_FOR_EXPECT")\npublic expect fun <T> Array<T>.addElement(element: T): Array<T>\n\n/**\n * Sorts the array in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n */\npublic expect fun IntArray.sort(): Unit\n\n/**\n * Sorts the array in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n */\npublic expect fun LongArray.sort(): Unit\n\n/**\n * Sorts the array in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n */\npublic expect fun ByteArray.sort(): Unit\n\n/**\n * Sorts the array in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n */\npublic expect fun ShortArray.sort(): Unit\n\n/**\n * Sorts the array in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n */\npublic expect fun DoubleArray.sort(): Unit\n\n/**\n * Sorts the array in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n */\npublic expect fun FloatArray.sort(): Unit\n\n/**\n * Sorts the array in-place according to the natural order of its elements.\n * \n * The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.\n * \n * @sample samples.collections.Arrays.Sorting.sortArrayOfComparable\n */\npublic expect fun <T : Comparable<T>> Array<out T>.sort(): Unit\n\n/**\n * Sorts a range in the array in-place.\n * \n * The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArrayOfComparable\n */\n@SinceKotlin("1.4")\npublic expect fun <T : Comparable<T>> Array<out T>.sort(fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin("1.4")\npublic expect fun ByteArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin("1.4")\npublic expect fun ShortArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin("1.4")\npublic expect fun IntArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin("1.4")\npublic expect fun LongArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin("1.4")\npublic expect fun FloatArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin("1.4")\npublic expect fun DoubleArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin("1.4")\npublic expect fun BooleanArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin("1.4")\npublic expect fun CharArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin("1.4")\npublic expect fun CharArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit

```

 * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n *^\n@SinceKotlin("1.4")\npublic expect
fun ShortArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Sorts a range in the array in-place.\n *
\n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the
range (exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex]
is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if
[fromIndex] is greater than [toIndex].\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n
*^\n@SinceKotlin("1.4")\npublic expect fun IntArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n *
Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by
default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by
default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than
the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n *
@sample samples.collections.Arrays.Sorting.sortRangeOfArray\n *^\n@SinceKotlin("1.4")\npublic expect fun
LongArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Sorts a range in the array in-place.\n * \n *
@param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range
(exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is
less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if
[fromIndex] is greater than [toIndex].\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n
*^\n@SinceKotlin("1.4")\npublic expect fun FloatArray.sort(fromIndex: Int = 0, toIndex: Int = size):
Unit\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to
sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n *
@throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this
array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample
samples.collections.Arrays.Sorting.sortRangeOfArray\n *^\n@SinceKotlin("1.4")\npublic expect fun
DoubleArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Sorts a range in the array in-place.\n * \n
\n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range
(exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is
less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException
if [fromIndex] is greater than [toIndex].\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n
*^\n@SinceKotlin("1.4")\npublic expect fun CharArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n *
Sorts elements of the array in the specified range in-place.\n * The elements are sorted descending according to
their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order
relative to each other after sorting.\n * \n * @param fromIndex the start of the range (inclusive) to sort.\n * @param toIndex
the end of the range (exclusive) to sort.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than
zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is
greater than [toIndex].\n *^\n@SinceKotlin("1.4")\npublic fun <T : Comparable<T>> Array<out
T>.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n    sortWith(reverseOrder(), fromIndex,
toIndex)\n}\n\n/**\n * Sorts elements of the array in the specified range in-place.\n * The elements are sorted
descending according to their natural sort order.\n * \n * @param fromIndex the start of the range (inclusive) to
sort.\n * @param toIndex the end of the range (exclusive) to sort.\n * \n * @throws IndexOutOfBoundsException if
[fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *^\n@SinceKotlin("1.4")\npublic fun
ByteArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n    sort(fromIndex, toIndex)\n    reverse(fromIndex,
toIndex)\n}\n\n/**\n * Sorts elements of the array in the specified range in-place.\n * The elements are sorted
descending according to their natural sort order.\n * \n * @param fromIndex the start of the range (inclusive) to
sort.\n * @param toIndex the end of the range (exclusive) to sort.\n * \n * @throws IndexOutOfBoundsException if
[fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *^\n@SinceKotlin("1.4")\npublic fun
ShortArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n    sort(fromIndex, toIndex)\n}

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reverse(fromIndex, toIndex)\n}\n\n/**\n * Sorts elements of the array in the specified range in-place.\n * The
elements are sorted descending according to their natural sort order.\n * \n * @param fromIndex the start of the
range (inclusive) to sort.\n * @param toIndex the end of the range (exclusive) to sort.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *
@throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin("1.4")\npublic
fun IntArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n    sort(fromIndex, toIndex)\n
reverse(fromIndex, toIndex)\n}\n\n/**\n *
Sorts elements of the array in the specified range in-place.\n * The elements are sorted descending according to
their natural sort order.\n * \n * @param fromIndex the start of the range (inclusive) to sort.\n * @param toIndex
the end of the range (exclusive) to sort.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than
zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is
greater than [toIndex].\n */\n@SinceKotlin("1.4")\npublic fun LongArray.sortDescending(fromIndex: Int, toIndex:
Int): Unit {\n    sort(fromIndex, toIndex)\n    reverse(fromIndex, toIndex)\n}\n\n/**\n * Sorts elements of the
array in the specified range in-place.\n * The elements are sorted descending according to their natural sort order.\n
* \n * @param fromIndex the start of the range (inclusive) to sort.\n * @param toIndex the end of the range
(exclusive) to sort.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than
zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is
greater than [toIndex].\n */\n@SinceKotlin("1.4")\npublic fun FloatArray.sortDescending(fromIndex: Int, toIndex:
Int): Unit {\n    sort(fromIndex, toIndex)\n    reverse(fromIndex, toIndex)\n}\n\n/**\n * Sorts elements of the
array in the specified range in-place.\n * The elements are sorted descending according to their natural sort order.\n
* \n * @param fromIndex the start of the range (inclusive) to sort.\n * @param toIndex the end of the range
(exclusive) to sort.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is
greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*/\n@SinceKotlin("1.4")\npublic fun DoubleArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n    sort
(sort(fromIndex, toIndex)\n    reverse(fromIndex, toIndex)\n}\n\n/**\n * Sorts elements of the
array in the specified range in-place.\n * The elements are sorted descending according to their natural sort order.\n
* \n * @param fromIndex the start of the range (inclusive) to sort.\n * @param toIndex the end of the range
(exclusive) to sort.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is
greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*/\n@SinceKotlin("1.4")\npublic fun CharArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n    sort
(sort(fromIndex, toIndex)\n    reverse(fromIndex, toIndex)\n}\n\n/**\n * Sorts the array in-place according to the
order specified by the given [comparator].\n * \n * The sort is _stable_. It means that equal elements preserve their
order relative to each other after sorting.\n */\npublic expect fun <T> Array<out T>.sortWith(comparator:
Comparator<in T>): Unit\n\n/**\n * Sorts a range in the array in-place with the given [comparator].\n
* \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n
* \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the
range (exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex]
is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if
[fromIndex] is greater than [toIndex].\n */\npublic expect fun <T> Array<out T>.sortWith(comparator:
Comparator<in T>, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Returns an array of Boolean containing
all of the elements of this generic array.\n */\npublic fun Array<out Boolean>.toBooleanArray(): BooleanArray {\n
return BooleanArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of Byte containing all of the
elements of this generic array.\n */\npublic fun Array<out Byte>.toByteArray(): ByteArray {\n    return
ByteArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of Char containing all of the
elements of this generic array.\n */\npublic fun Array<out Char>.toCharArray(): CharArray {\n    return
CharArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of Double containing all of the elements of
this generic array.\n */\npublic fun Array<out Double>.toDoubleArray(): DoubleArray {\n    return
DoubleArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of Float containing all of the elements of

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this generic array.\n *^\npublic fun Array<out Float>.toFloatArray(): FloatArray {\n    return FloatArray(size) {
index -> this[index] }\n}\n\n/**\n * Returns an array of Int containing all of the elements of this generic array.\n *^\npublic fun Array<out Int>.toIntArray(): IntArray {\n    return IntArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of Long containing all of the elements of this generic array.\n *^\npublic fun
Array<out Long>.toLongArray(): LongArray {\n    return LongArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of Short containing all of the elements of this generic array.\n *^\npublic fun Array<out
Short>.toShortArray(): ShortArray {\n    return ShortArray(size) { index -> this[index] }\n}\n\n/**\n * Returns a
*typed* object array containing all of the elements of this primitive array.\n *^\npublic expect fun
ByteArray.toTypedArray(): Array<Byte>\n\n/**\n * Returns a *typed* object array containing all of the elements of
this primitive array.\n *^\npublic expect fun ShortArray.toTypedArray(): Array<Short>\n\n/**\n * Returns a
*typed* object array containing all of the elements of this primitive array.\n *^\npublic expect fun
IntArray.toTypedArray(): Array<Int>\n\n/**\n * Returns a *typed* object array containing all of the elements of
this primitive array.\n *^\npublic expect fun LongArray.toTypedArray(): Array<Long>\n\n/**\n * Returns a *typed*
object array containing
all of the elements of this primitive array.\n *^\npublic expect fun FloatArray.toTypedArray():
Array<Float>\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n
*^\npublic expect fun DoubleArray.toTypedArray(): Array<Double>\n\n/**\n * Returns a *typed* object array
containing all of the elements of this primitive array.\n *^\npublic expect fun BooleanArray.toTypedArray():
Array<Boolean>\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n
*^\npublic expect fun CharArray.toTypedArray(): Array<Char>\n\n/**\n * Returns a [Map] containing key-value
pairs provided by [transform] function\n * applied to elements of the given array.\n * \n * If any of two pairs would
have the same key the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order
of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitives\n
*^\npublic
inline fun <T, K, V> Array<out T>.associate(transform: (T) -> Pair<K, V>): Map<K, V> {\n    val capacity =
mapCapacity(size).coerceAtLeast(16)\n    return associateTo(LinkedHashMap<K, V>(capacity),
transform)\n}\n\n/**\n * Returns a [Map] containing key-value pairs provided by [transform] function\n * applied to
elements of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the
map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitives\n *^\npublic inline fun <K, V>
ByteArray.associate(transform: (Byte) -> Pair<K, V>): Map<K, V> {\n    val capacity =
mapCapacity(size).coerceAtLeast(16)\n    return associateTo(LinkedHashMap<K, V>(capacity),
transform)\n}\n\n/**\n * Returns a [Map] containing key-value pairs provided by [transform] function\n * applied to
elements of the given array.\n * \n * If any of two pairs would have
the same key the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the
original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitives\n
*^\npublic inline fun <K, V> ShortArray.associate(transform: (Short) -> Pair<K, V>): Map<K, V> {\n    val
capacity = mapCapacity(size).coerceAtLeast(16)\n    return associateTo(LinkedHashMap<K, V>(capacity),
transform)\n}\n\n/**\n * Returns a [Map] containing key-value pairs provided by [transform] function\n * applied to
elements of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the
map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitives\n *^\npublic inline fun <K, V>
IntArray.associate(transform: (Int) -> Pair<K, V>): Map<K, V> {\n    val capacity =
mapCapacity(size).coerceAtLeast(16)\n    return
associateTo(LinkedHashMap<K, V>(capacity), transform)\n}\n\n/**\n * Returns a [Map] containing key-value
pairs provided by [transform] function\n * applied to elements of the given array.\n * \n * If any of two pairs would
have the same key the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order
of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitives\n

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*public inline fun <K, V> LongArray.associate(transform: (Long) -> Pair<K, V>): Map<K, V> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

* Returns a [Map] containing key-value pairs provided by [transform] function applied to elements of the given array.
* If any of two pairs would have the same key the last one gets added to the map.
* The returned map preserves the entry iteration order of the original array.
@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitives

*public inline fun <K, V> FloatArray.associate(transform: (Float) -> Pair<K, V>): Map<K, V> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

* Returns a [Map] containing key-value pairs provided by [transform] function applied to elements of the given array.
* If any of two pairs would have the same key the last one gets added to the map.
* The returned map preserves the entry iteration order of the original array.
@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitives

*public inline fun <K, V> DoubleArray.associate(transform: (Double) -> Pair<K, V>): Map<K, V> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

* Returns a [Map] containing key-value pairs provided by [transform] function applied to elements of the given array.
* If any of two pairs would have the same key the last one gets added to the map.
* The returned map preserves the entry iteration order of the original array.
@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitives

*public inline fun <K, V> BooleanArray.associate(transform: (Boolean) -> Pair<K, V>): Map<K, V> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

* Returns a [Map] containing key-value pairs provided by [transform] function applied to elements of the given array.
* If any of two pairs would have the same key the last one gets added to the map.
* The returned map preserves the entry iteration order of the original array.
@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitives

*public inline fun <K, V> CharArray.associate(transform: (Char) -> Pair<K, V>): Map<K, V> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

* Returns a [Map] containing the elements from the given array indexed by the key returned from [keySelector] function applied to each element.
* If any two elements would have the same key returned by [keySelector] the last one gets added to the map.
* The returned map preserves the entry iteration order of the original array.
@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy

*public inline fun <T, K> Array<out T>.associateBy(keySelector: (T) -> K): Map<K, T> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateByTo(LinkedHashMap<K, T>(capacity), keySelector)
}

* Returns a [Map] containing the elements from the given array indexed by the key returned from [keySelector] function applied to each element.
* If any two elements would have the same key returned by [keySelector] the last one gets added to the map.
* The returned map preserves the entry iteration order of the original array.
@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy

*public inline fun <K> ByteArray.associateBy(keySelector: (Byte) -> K): Map<K, Byte> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateByTo(LinkedHashMap<K, Byte>(capacity), keySelector)
}

* Returns a [Map] containing the elements from the given array indexed by the key returned from [keySelector] function applied to each element.
* If any two elements would have the same key returned by [keySelector] the last one gets added to the map.
* The returned map preserves the entry iteration order of the original array.
@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy

*public inline fun <K> ShortArray.associateBy(keySelector: (Short) -> K): Map<K, Short> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateByTo(LinkedHashMap<K, Short>(capacity), keySelector)
}

* Returns a [Map] containing the

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elements from the given array indexed by the key\n * returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n */\npublic inline fun <K> IntArray.associateBy(keySelector: (Int) -> K): Map<K, Int> {\n val capacity = mapCapacity(size).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, Int>(capacity), keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n * returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n */\npublic inline fun <K> LongArray.associateBy(keySelector: (Long) -> K): Map<K, Long> {\n val capacity = mapCapacity(size).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, Long>(capacity), keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n * returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n */\npublic inline fun <K> FloatArray.associateBy(keySelector: (Float) -> K): Map<K, Float> {\n val capacity = mapCapacity(size).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, Float>(capacity), keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n * returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n */\npublic inline fun <K> DoubleArray.associateBy(keySelector: (Double) -> K): Map<K, Double> {\n val capacity = mapCapacity(size).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, Double>(capacity), keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n * returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n */\npublic inline fun <K> BooleanArray.associateBy(keySelector: (Boolean) -> K): Map<K, Boolean> {\n val capacity = mapCapacity(size).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, Boolean>(capacity), keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n * returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n */\npublic inline fun <K> CharArray.associateBy(keySelector: (Char) -> K): Map<K, Char> {\n val capacity = mapCapacity(size).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, Char>(capacity), keySelector)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform] and indexed by [keySelector] functions applied to elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n */\npublic inline fun <T, K, V> Array<out T>.associateBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, V> {\n val capacity = mapCapacity(size).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, V>(capacity),

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keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform]
and indexed by [keySelector] functions applied to elements of the given array.\n * \n * If any two elements would
have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves
the entry iteration order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n *\npublic inline
fun <K, V> ByteArray.associateBy(keySelector: (Byte) -> K, valueTransform: (Byte) -> V): Map<K, V> {\n val
capacity = mapCapacity(size).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, V>(capacity),
keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform]
and indexed by [keySelector] functions applied to elements of the given array.\n * \n * If any two elements would
have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves
the entry iteration order of the original
array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n *\npublic inline
fun <K, V> ShortArray.associateBy(keySelector: (Short) -> K, valueTransform: (Short) -> V): Map<K, V> {\n
val capacity = mapCapacity(size).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, V>(capacity),
keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform]
and indexed by [keySelector] functions applied to elements of the given array.\n * \n * If any two elements would
have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves
the entry iteration order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n *\npublic inline
fun <K, V> IntArray.associateBy(keySelector: (Int) -> K, valueTransform: (Int) -> V): Map<K, V> {\n val
capacity = mapCapacity(size).coerceAtLeast(16)\n
return associateByTo(LinkedHashMap<K, V>(capacity), keySelector, valueTransform)\n}\n\n/**\n * Returns a
[Map] containing the values provided by [valueTransform] and indexed by [keySelector] functions applied to
elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last
one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n
* @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n
*\npublic inline fun <K, V> LongArray.associateBy(keySelector: (Long) -> K, valueTransform: (Long) -> V):
Map<K, V> {\n val capacity = mapCapacity(size).coerceAtLeast(16)\n return
associateByTo(LinkedHashMap<K, V>(capacity), keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map]
containing the values provided by [valueTransform] and indexed by [keySelector] functions applied to elements of
the given array.\n
* \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n
* \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n *\npublic inline
fun <K, V> FloatArray.associateBy(keySelector: (Float) -> K, valueTransform: (Float) -> V): Map<K, V> {\n val
capacity = mapCapacity(size).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, V>(capacity),
keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform]
and indexed by [keySelector] functions applied to elements of the given array.\n * \n * If any two elements would
have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves
the entry iteration order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n
*\npublic inline fun <K, V> DoubleArray.associateBy(keySelector: (Double) -> K, valueTransform: (Double) ->
V): Map<K, V> {\n val capacity = mapCapacity(size).coerceAtLeast(16)\n return
associateByTo(LinkedHashMap<K, V>(capacity), keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map]
containing the values provided by [valueTransform] and indexed by [keySelector] functions applied to elements of
the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets
added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n *

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@sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n
*/\npublic inline fun <K, V> BooleanArray.associateBy(keySelector: (Boolean) -> K, valueTransform: (Boolean) ->
V): Map<K, V> {\n    val capacity = mapCapacity(size).coerceAtLeast(16)\n    return
associateByTo(LinkedHashMap<K,
V>(capacity), keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map] containing the values provided by
[valueTransform] and indexed by [keySelector] functions applied to elements of the given array.\n * \n * If any two
elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The
returned map preserves the entry iteration order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n
*/\npublic inline fun <K, V> CharArray.associateBy(keySelector: (Char) -> K, valueTransform: (Char) -> V): Map<K, V> {\n    val
capacity = mapCapacity(size).coerceAtLeast(16)\n    return associateByTo(LinkedHashMap<K, V>(capacity),
keySelector, valueTransform)\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value
pairs,\n * where key is provided by the [keySelector] function applied to each element of the given array\n * and
value is the element itself.\n
 * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n
 * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n
*/\npublic inline fun <T, K, M : MutableMap<in K, in T>> Array<out T>.associateByTo(destination: M, keySelector: (T) -> K): M
{\n    for (element in this) {\n        destination.put(keySelector(element), element)\n    }\n    return
destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is
provided by the [keySelector] function applied to each element of the given array\n * and value is the element
itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the
map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n
*/\npublic inline fun <K, M : MutableMap<in K, in Byte>> ByteArray.associateByTo(destination: M, keySelector: (Byte)
-> K): M {\n    for (element in this) {\n        destination.put(keySelector(element), element)\n    }\n    return
destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is
provided by the [keySelector] function applied to each element of the given array\n * and value is the element
itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the
map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n
*/\npublic inline fun <K, M : MutableMap<in K, in Short>> ShortArray.associateByTo(destination: M, keySelector: (Short) ->
K): M {\n    for (element in this) {\n        destination.put(keySelector(element), element)\n    }\n    return
destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is
provided by the [keySelector] function applied to each element of the given array\n * and value is the element
itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the
map.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n
*/\npublic inline fun <K, M :
MutableMap<in K, in Int>> IntArray.associateByTo(destination: M, keySelector: (Int) -> K): M {\n    for (element
in this) {\n        destination.put(keySelector(element), element)\n    }\n    return destination\n}\n\n/**\n * Populates
and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector]
function applied to each element of the given array\n * and value is the element itself.\n * \n * If any two elements
would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n
*/\npublic inline fun <K, M :
MutableMap<in K, in Long>> LongArray.associateByTo(destination:
M, keySelector: (Long) -> K): M {\n    for (element in this) {\n        destination.put(keySelector(element),
element)\n    }\n    return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-
value pairs,\n * where key is provided by the [keySelector] function applied to each element of the given array\n *
and value is the element itself.\n * \n * If any two elements would have the same key returned by [keySelector] the
last one gets added to the map.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n
*/\npublic inline fun <K, M :

```

```

MutableMap<in K, in Float>> FloatArray.associateByTo(destination: M, keySelector: (Float) -> K): M {
  for (element in this) {
    destination.put(keySelector(element), element)
  }
  return destination
}
Populates and returns the [destination] mutable map with key-value pairs,
where key is provided by the [keySelector] function applied to each element
of the given array
and value is the element itself.
If any two elements would have the same key returned
by [keySelector] the last one gets added to the map.
@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo
public inline fun <K, M :
MutableMap<in K, in Double>> DoubleArray.associateByTo(destination: M, keySelector: (Double) -> K): M {
  for (element in this) {
    destination.put(keySelector(element), element)
  }
  return destination
}
Populates and returns the [destination] mutable map with key-value pairs,
where key is provided by the [keySelector] function applied to each element of the given array
and value is the element itself.
If any two elements would have the same key returned by [keySelector] the last one gets added to the map.
@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo
public inline fun <K,
M : MutableMap<in K, in
Boolean>> BooleanArray.associateByTo(destination: M, keySelector: (Boolean) -> K): M {
  for (element in this) {
    destination.put(keySelector(element), element)
  }
  return destination
}
Populates and returns the [destination] mutable map with key-value pairs,
where key is provided by the [keySelector] function
applied to each element of the given array
and value is the element itself.
If any two elements would
have the same key returned by [keySelector] the last one gets added to the map.
@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo
public inline fun <K, M :
MutableMap<in K, in Char>> CharArray.associateByTo(destination: M, keySelector: (Char) -> K): M {
  for (element in this) {
    destination.put(keySelector(element), element)
  }
  return destination
}
Populates and returns the [destination] mutable map with key-value pairs,
where key is provided by the [keySelector] function and
and value is provided by the [valueTransform] function applied to elements of the
given array.
If any two elements would have the same key returned by [keySelector] the last one gets added
to the map.
@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform
public inline fun <T, K, V, M : MutableMap<in K, in V>> Array<out T>.associateByTo(destination: M, keySelector: (T) -
> K, valueTransform: (T) -> V): M {
  for (element in this) {
    destination.put(keySelector(element),
valueTransform(element))
  }
  return destination
}
Populates and returns the [destination] mutable
map with key-value pairs,
where key is provided by the [keySelector] function and
and value is provided by
the [valueTransform] function applied to elements of the given array.
If any two elements would have the
same key returned by [keySelector] the last one gets added to the
map.
@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform
public inline fun <K, V, M : MutableMap<in K, in V>> ByteArray.associateByTo(destination: M, keySelector: (Byte) ->
K, valueTransform: (Byte) -> V): M {
  for (element in this) {
    destination.put(keySelector(element),
valueTransform(element))
  }
  return destination
}
Populates and returns the [destination] mutable
map with key-value pairs,
where key is provided by the [keySelector] function and
and value is provided by
the [valueTransform] function applied to elements of the given array.
If any two elements would have the
same key returned by [keySelector] the last one gets added to the map.
@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform
public inline fun <K, V, M : MutableMap<in K, in V>> ShortArray.associateByTo(destination: M, keySelector: (Short) ->
K, valueTransform: (Short) -> V): M {
  for (element in this) {
    destination.put(keySelector(element),
valueTransform(element))
  }
  return destination
}
Populates and returns the [destination] mutable
map with key-value pairs,
where key is provided by the [keySelector] function and
and value is provided by
the [valueTransform] function applied to elements of the given array.
If any two elements would have the
same key returned by [keySelector] the last one gets added to the map.
@sample

```

samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n */\npublic inline fun <K, V, M : MutableMap<in K, in V>> IntArray.associateByTo(destination: M, keySelector: (Int) -> K, valueTransform: (Int) -> V): M {\n for (element in this) {\n destination.put(keySelector(element), valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with

key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function applied to elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample

samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n */\npublic inline fun <K, V, M : MutableMap<in K, in V>> LongArray.associateByTo(destination: M, keySelector: (Long) -> K, valueTransform: (Long) -> V): M {\n for (element in this) {\n destination.put(keySelector(element), valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function applied to elements of the given array.\n * \n * If any two elements would have the same key returned

by [keySelector] the last one gets added to the map.\n * \n * @sample

samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n */\npublic inline fun <K, V, M : MutableMap<in K, in V>> FloatArray.associateByTo(destination: M, keySelector: (Float) -> K, valueTransform: (Float) -> V): M {\n for (element in this) {\n destination.put(keySelector(element), valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function applied to elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample

samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n */\npublic inline fun <K, V, M : MutableMap<in K, in V>> DoubleArray.associateByTo(destination: M, keySelector: (Double) -> K, valueTransform: (Double) -> V): M {\n for (element in this) {\n destination.put(keySelector(element), valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function applied to elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample

samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n */\npublic inline fun <K, V, M : MutableMap<in K, in V>> BooleanArray.associateByTo(destination: M, keySelector: (Boolean) -> K, valueTransform: (Boolean) -> V): M {\n for (element in this) {\n destination.put(keySelector(element), valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function applied to elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample

samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n */\npublic inline fun <K, V, M : MutableMap<in K, in V>> CharArray.associateByTo(destination: M, keySelector: (Char) -> K, valueTransform: (Char) -> V): M {\n for (element in this) {\n destination.put(keySelector(element), valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs\n * provided by [transform] function applied to each element of the given array.\n * \n * If any of two pairs would have the same key the last one gets added

to the map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo\n */\npublic inline fun <T, K, V, M : MutableMap<in K, in V>> Array<out T>.associateTo(destination: M, transform: (T) -> Pair<K, V>): M {\n for (element in this) {\n destination += transform(element)\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs\n * provided by

[transform] function applied to each element of the given array.

* If any of two pairs would have the same key the last one gets added to the map.

@sample

```

samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo
*/public inline fun <K, V, M :
MutableMap<in K, in V>> ByteArray.associateTo(destination: M, transform: (Byte) -> Pair<K, V>): M {
for (element in this) {
destination += transform(element)
}
return destination
}
*/

```

* Populates and returns the [destination] mutable map with key-value pairs provided by [transform] function applied to each element of the given array.

* If any of two pairs would have the same key the last one gets added to the map.

@sample

```

samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo
*/public inline fun <K, V, M :
MutableMap<in K, in V>> ShortArray.associateTo(destination: M, transform: (Short) -> Pair<K, V>): M {
for (element in this) {
destination += transform(element)
}
return destination
}
*/

```

* Populates and returns the [destination] mutable map with key-value pairs provided by [transform] function applied to each element of the given array.

* If any of two pairs would have the same key the last one gets added to the map.

@sample

```

samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo
*/public inline fun <K, V, M : MutableMap<in K, in V>> IntArray.associateTo(destination: M, transform: (Int) -> Pair<K, V>): M {
for (element in this) {
destination += transform(element)
}
return destination
}
*/

```

* Populates and returns the [destination] mutable map with key-value pairs provided by [transform] function applied to each element of the given array.

* If any of two pairs would have the same key the last one gets added to the map.

@sample

```

samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo
*/public inline fun <K, V, M : MutableMap<in K, in V>> LongArray.associateTo(destination: M, transform: (Long) -> Pair<K, V>): M {
for (element in this) {
destination += transform(element)
}
return destination
}
*/

```

* Populates and returns the [destination] mutable map with key-value pairs provided by [transform] function applied to each element of the given array.

* If any of two pairs would have the same key the last one gets added to the map.

@sample

```

samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo
*/public inline fun <K, V, M : MutableMap<in K, in V>> FloatArray.associateTo(destination: M, transform: (Float) -> Pair<K, V>): M {
for (element in this) {
destination += transform(element)
}
return destination
}
*/

```

* Populates and returns the [destination] mutable map with key-value pairs provided by [transform] function applied to each element of the given array.

* If any of two pairs would have the same key the last one gets added to the map.

@sample

```

samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo
*/public inline fun <K, V, M :
MutableMap<in K, in V>> DoubleArray.associateTo(destination: M, transform: (Double) -> Pair<K, V>): M {
for (element in this) {
destination += transform(element)
}
return destination
}
*/

```

* Populates and returns the [destination] mutable map with key-value pairs provided by [transform] function applied to each element of the given array.

* If any of two pairs would have the same key the last one gets added to the map.

@sample

```

samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo
*/public inline fun <K, V, M : MutableMap<in K, in V>> BooleanArray.associateTo(destination: M, transform: (Boolean) -> Pair<K, V>): M {
for (element in this) {
destination += transform(element)
}
return destination
}
*/

```

* Populates and returns the [destination] mutable map with key-value pairs provided by [transform] function applied to each element of the given array.

* If any of two pairs would have the same key the last one gets added to the map.

@sample

```

samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo
*/public inline fun <K, V, M : MutableMap<in K, in V>> CharArray.associateTo(destination: M, transform: (Char) -> Pair<K, V>): M {
for (element in this) {
destination += transform(element)
}
return destination
}
*/

```

* Returns a [Map] where keys are elements from the given array and values are produced by the [valueSelector] function applied to each element.

* If any two elements are equal, the last one gets added to the map.

* The returned map preserves the entry iteration order of the original array.

```

\n * @sample samples.collections.Collections.Transformations.associateWith\n * \n@SinceKotlin("1.4")\npublic
inline fun <K, V> Array<out K>.associateWith(valueSelector: (K) -> V): Map<K, V> {\n    val result =
LinkedHashMap<K, V>(mapCapacity(size).coerceAtLeast(16))\n    return associateWithTo(result,
valueSelector)\n}\n\n/**\n * Returns a [Map] where keys are elements from the given array and values are\n *
produced by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one
gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n
* \n * @sample samples.collections.Collections.Transformations.associateWith\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V>
ByteArray.associateWith(valueSelector: (Byte) -> V): Map<Byte, V> {\n    val result = LinkedHashMap<Byte,
V>(mapCapacity(size).coerceAtLeast(16))\n    return associateWithTo(result, valueSelector)\n}\n\n/**\n * Returns a
[Map] where keys are elements from the given array and values are\n * produced by the [valueSelector] function
applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The
returned map preserves the entry iteration order of the original array.\n * \n * @sample
samples.collections.Collections.Transformations.associateWith\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V>
ShortArray.associateWith(valueSelector: (Short) -> V): Map<Short, V> {\n    val result = LinkedHashMap<Short,
V>(mapCapacity(size).coerceAtLeast(16))\n    return associateWithTo(result,
valueSelector)\n}\n\n/**\n * Returns a [Map] where keys are elements from the given array and values are\n *
produced by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one
gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n
* \n * @sample samples.collections.Collections.Transformations.associateWith\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V>
IntArray.associateWith(valueSelector: (Int) -> V): Map<Int, V> {\n    val result = LinkedHashMap<Int,
V>(mapCapacity(size).coerceAtLeast(16))\n    return associateWithTo(result, valueSelector)\n}\n\n/**\n * Returns a
[Map] where keys are elements from the given array and values are\n * produced by the [valueSelector] function
applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The
returned map preserves the entry iteration order
of the original array.\n * \n * @sample samples.collections.Collections.Transformations.associateWith\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V>
LongArray.associateWith(valueSelector: (Long) -> V): Map<Long, V> {\n    val result = LinkedHashMap<Long,
V>(mapCapacity(size).coerceAtLeast(16))\n    return associateWithTo(result, valueSelector)\n}\n\n/**\n * Returns a
[Map] where keys are elements from the given array and values are\n * produced by the [valueSelector] function
applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The
returned map preserves the entry iteration order of the original array.\n * \n * @sample
samples.collections.Collections.Transformations.associateWith\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V>
FloatArray.associateWith(valueSelector: (Float) -> V): Map<Float, V> {\n    val result = LinkedHashMap<Float,
V>(mapCapacity(size).coerceAtLeast(16))\n
return associateWithTo(result, valueSelector)\n}\n\n/**\n * Returns a [Map] where keys are elements from the
given array and values are\n * produced by the [valueSelector] function applied to each element.\n * \n * If any two
elements are equal, the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order
of the original array.\n * \n * @sample samples.collections.Collections.Transformations.associateWith\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V>
DoubleArray.associateWith(valueSelector: (Double) -> V): Map<Double, V> {\n    val result =
LinkedHashMap<Double, V>(mapCapacity(size).coerceAtLeast(16))\n    return associateWithTo(result,
valueSelector)\n}\n\n/**\n * Returns a [Map] where keys are elements from the given array and values are\n *
produced by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one
gets added to the map.\n * \n * The returned

```

```

map preserves the entry iteration order of the original array.\n * \n * @sample
samples.collections.Collections.Transformations.associateWith\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V>
BooleanArray.associateWith(valueSelector: (Boolean) -> V): Map<Boolean, V> {\n  val result =
LinkedHashMap<Boolean, V>(mapCapacity(size).coerceAtLeast(16))\n  return associateWithTo(result,
valueSelector)\n}\n\n/**\n * Returns a [Map] where keys are elements from the given array and values are\n *
produced by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one
gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n *
@sample samples.collections.Collections.Transformations.associateWith\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V>
CharArray.associateWith(valueSelector: (Char) -> V): Map<Char, V> {\n  val result
= LinkedHashMap<Char, V>(mapCapacity(size).coerceAtMost(128)).coerceAtLeast(16))\n  return
associateWithTo(result, valueSelector)\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-
value pairs for each element of the given array,\n * where key is the element itself and value is provided by the
[valueSelector] function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the
former value in the map.\n * \n * @sample samples.collections.Collections.Transformations.associateWithTo\n
*\n@SinceKotlin("1.4")\npublic inline fun <K, V, M : MutableMap<in K, in V>> Array<out
K>.associateWithTo(destination: M, valueSelector: (K) -> V): M {\n  for (element in this) {\n
destination.put(element, valueSelector(element))\n  }\n  return destination\n}\n\n/**\n * Populates and returns the
[destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element
itself and value is provided by
the [valueSelector] function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the
former value in the map.\n * \n * @sample samples.collections.Collections.Transformations.associateWithTo\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Byte, in V>>
ByteArray.associateWithTo(destination: M, valueSelector: (Byte) -> V): M {\n  for (element in this) {\n
destination.put(element, valueSelector(element))\n  }\n  return destination\n}\n\n/**\n * Populates and returns the
[destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element
itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are
equal, the last one overwrites the former value in the map.\n * \n * @sample
samples.collections.Collections.Transformations.associateWithTo\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic
inline fun <V, M : MutableMap<in Short, in V>> ShortArray.associateWithTo(destination: M, valueSelector:
(Short) -> V): M {\n  for (element in this) {\n    destination.put(element, valueSelector(element))\n  }\n  return
destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each element
of the given array,\n * where key is the element itself and value is provided by the [valueSelector] function applied
to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n *
@sample samples.collections.Collections.Transformations.associateWithTo\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Int, in V>>
IntArray.associateWithTo(destination: M, valueSelector: (Int) -> V): M {\n  for (element in this) {\n
destination.put(element, valueSelector(element))\n  }\n  return destination\n}\n\n/**\n * Populates and returns the
[destination]
mutable map with key-value pairs for each element of the given array,\n * where key is the element itself and value
is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are equal, the last one
overwrites the former value in the map.\n * \n * @sample
samples.collections.Collections.Transformations.associateWithTo\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Long, in V>>
LongArray.associateWithTo(destination: M, valueSelector: (Long) -> V): M {\n  for (element in this) {\n
destination.put(element, valueSelector(element))\n  }\n  return destination\n}\n\n/**\n * Populates and returns the

```

[destination] mutable map with key-value pairs for each element of the given array, where key is the element itself and value is provided by the [valueSelector] function applied to that key. If any two elements are equal, the last one overwrites the former value in the map.

```

@sample samples.collections.Collections.Transformations.associateWithTo
*/\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Float, in V>>
FloatArray.associateWithTo(destination: M, valueSelector: (Float) -> V): M {\n  for (element in this) {\n
destination.put(element, valueSelector(element))\n  }\n  return destination\n}\n\n/**\n * Populates and returns the
[destination] mutable map with key-value pairs for each element of the given array, where key is the element
itself and value is provided by the [valueSelector] function applied to that key. If any two elements are
equal, the last one overwrites the former value in the map.\n * \n * @sample
samples.collections.Collections.Transformations.associateWithTo\n
*/\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Double, in V>>
DoubleArray.associateWithTo(destination: M, valueSelector: (Double) -> V): M {\n  for (element
in this) {\n    destination.put(element, valueSelector(element))\n  }\n  return destination\n}\n\n/**\n *
Populates and returns the [destination] mutable map with key-value pairs for each element of the given array, where
key is the element itself and value is provided by the [valueSelector] function applied to that key. If any two
elements are equal, the last one overwrites the former value in the map.\n * \n * @sample
samples.collections.Collections.Transformations.associateWithTo\n
*/\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Boolean, in
V>> BooleanArray.associateWithTo(destination: M, valueSelector: (Boolean) -> V): M {\n  for (element in this)
{\n    destination.put(element, valueSelector(element))\n  }\n  return destination\n}\n\n/**\n * Populates and
returns the [destination] mutable map with key-value pairs for each element of the given array, where key is the
element itself and value is provided
by the [valueSelector] function applied to that key. If any two elements are equal, the last one overwrites
the former value in the map.\n * \n * @sample samples.collections.Collections.Transformations.associateWithTo\n
*/\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Char, in V>>
CharArray.associateWithTo(destination: M, valueSelector: (Char) -> V): M {\n  for (element in this) {\n
destination.put(element, valueSelector(element))\n  }\n  return destination\n}\n\n/**\n * Appends all elements to
the given [destination] collection.\n */\npublic fun <T, C : MutableCollection<in T>> Array<out
T>.toCollection(destination: C): C {\n  for (item in this) {\n    destination.add(item)\n  }\n  return
destination\n}\n\n/**\n * Appends all elements to the given [destination] collection.\n */\npublic fun <C :
MutableCollection<in Byte>> ByteArray.toCollection(destination: C): C {\n  for (item in this) {\n
destination.add(item)\n  }\n  return destination\n}\n\n/**\n * Appends all elements to the given [destination]
collection.\n */\npublic fun <C : MutableCollection<in Short>> ShortArray.toCollection(destination: C): C {\n
for (item in this) {\n    destination.add(item)\n  }\n  return destination\n}\n\n/**\n * Appends all elements to
the given [destination] collection.\n */\npublic fun <C : MutableCollection<in Int>> IntArray.toCollection(destination: C): C {\n
for (item in this) {\n    destination.add(item)\n  }\n  return destination\n}\n\n/**\n * Appends all elements to
the given [destination] collection.\n */\npublic fun <C : MutableCollection<in Long>>
LongArray.toCollection(destination: C): C {\n  for (item in this) {\n    destination.add(item)\n  }\n  return
destination\n}\n\n/**\n * Appends all elements to the given [destination] collection.\n */\npublic fun <C :
MutableCollection<in Float>> FloatArray.toCollection(destination: C): C {\n  for (item
in this) {\n    destination.add(item)\n  }\n  return destination\n}\n\n/**\n * Appends all elements to the given
[destination] collection.\n */\npublic fun <C : MutableCollection<in Double>>
DoubleArray.toCollection(destination: C): C {\n  for (item in this) {\n    destination.add(item)\n  }\n  return
destination\n}\n\n/**\n * Appends all elements to the given [destination] collection.\n */\npublic fun <C :
MutableCollection<in Boolean>> BooleanArray.toCollection(destination: C): C {\n  for (item in this) {\n
destination.add(item)\n  }\n  return destination\n}\n\n/**\n * Appends all elements to the given [destination]

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collection.\n *\npublic fun <C : MutableCollection<in Char>> CharArray.toCollection(destination: C): C {\n for
(item in this) {\n destination.add(item)\n }\n return destination\n}\n\n/**\n * Returns a new [HashSet] of all
elements.\n *\npublic fun <T> Array<out T>.toHashSet(): HashSet<T> {\n return
toCollection(HashSet<T>(mapCapacity(size)))\n}\n\n/**\n
* Returns a new [HashSet] of all elements.\n *\npublic fun ByteArray.toHashSet(): HashSet<Byte> {\n return
toCollection(HashSet<Byte>(mapCapacity(size)))\n}\n\n/**\n
* Returns a new [HashSet] of all elements.\n *\npublic fun ShortArray.toHashSet(): HashSet<Short> {\n return
toCollection(HashSet<Short>(mapCapacity(size)))\n}\n\n/**\n
* Returns a new [HashSet] of all elements.\n *\npublic fun IntArray.toHashSet(): HashSet<Int> {\n return
toCollection(HashSet<Int>(mapCapacity(size)))\n}\n\n/**\n
* Returns a new [HashSet] of all elements.\n *\npublic
fun LongArray.toHashSet(): HashSet<Long> {\n return
toCollection(HashSet<Long>(mapCapacity(size)))\n}\n\n/**\n
* Returns a new [HashSet] of all elements.\n *\npublic fun FloatArray.toHashSet(): HashSet<Float> {\n return
toCollection(HashSet<Float>(mapCapacity(size)))\n}\n\n/**\n
* Returns a new [HashSet] of all elements.\n *\npublic fun DoubleArray.toHashSet(): HashSet<Double> {\n
return toCollection(HashSet<Double>(mapCapacity(size)))\n}\n\n/**\n
* Returns a new [HashSet] of all
elements.\n *\npublic fun BooleanArray.toHashSet(): HashSet<Boolean> {\n return
toCollection(HashSet<Boolean>(mapCapacity(size)))\n}\n\n/**\n
* Returns a new [HashSet] of all elements.\n *\npublic fun CharArray.toHashSet(): HashSet<Char> {\n return
toCollection(HashSet<Char>(mapCapacity(size.coerceAtMost(128))))\n}\n\n/**\n
* Returns a [List] containing all
elements.\n *\npublic fun <T> Array<out T>.toList(): List<T> {\n return when (size) {\n 0 -> emptyList()\n
1 -> listOf(this[0])\n else -> this.toMutableList()\n }\n}\n\n/**\n
* Returns a [List] containing all
elements.\n *\npublic fun ByteArray.toList(): List<Byte> {\n return when (size) {\n 0 -> emptyList()\n 1
-> listOf(this[0])\n else -> this.toMutableList()\n }\n}\n\n/**\n
* Returns a [List] containing all elements.\n *\npublic fun ShortArray.toList(): List<Short> {\n
return when (size) {\n 0 -> emptyList()\n 1 -> listOf(this[0])\n else -> this.toMutableList()\n
}\n}\n\n/**\n
* Returns a [List] containing all elements.\n *\npublic fun IntArray.toList(): List<Int> {\n return
when (size) {\n 0 -> emptyList()\n 1 -> listOf(this[0])\n else -> this.toMutableList()\n }\n}\n\n/**\n
Returns a [List] containing all elements.\n *\npublic fun LongArray.toList(): List<Long> {\n return when (size)
{\n 0 -> emptyList()\n 1 -> listOf(this[0])\n else -> this.toMutableList()\n }\n}\n\n/**\n
* Returns a
[List] containing all elements.\n *\npublic fun FloatArray.toList(): List<Float> {\n return when (size) {\n 0 ->
emptyList()\n 1 -> listOf(this[0])\n else -> this.toMutableList()\n }\n}\n\n/**\n
* Returns a [List]
containing all elements.\n *\npublic fun DoubleArray.toList(): List<Double> {\n return when (size) {\n 0 ->
emptyList()\n 1
-> listOf(this[0])\n else -> this.toMutableList()\n }\n}\n\n/**\n
* Returns a [List] containing all elements.\n *\npublic fun BooleanArray.toList(): List<Boolean> {\n return when (size) {\n 0 -> emptyList()\n 1 ->
listOf(this[0])\n else -> this.toMutableList()\n }\n}\n\n/**\n
* Returns a [List] containing all elements.\n *\npublic fun CharArray.toList(): List<Char> {\n return when (size) {\n 0 -> emptyList()\n 1 ->
listOf(this[0])\n else -> this.toMutableList()\n }\n}\n\n/**\n
* Returns a new [MutableList] filled with all
elements of this array.\n *\npublic fun <T> Array<out T>.toMutableList(): MutableList<T> {\n return
ArrayList(this.asCollection())\n}\n\n/**\n
* Returns a new [MutableList] filled with all elements of this array.\n *\npublic fun ByteArray.toMutableList(): MutableList<Byte> {\n val list = ArrayList<Byte>(size)\n for (item
in this) list.add(item)\n return list\n}\n\n/**\n
* Returns a new [MutableList]
filled with all elements of this array.\n *\npublic fun ShortArray.toMutableList(): MutableList<Short> {\n val list
= ArrayList<Short>(size)\n for (item in this) list.add(item)\n return list\n}\n\n/**\n
* Returns a new
[MutableList] filled with all elements of this array.\n *\npublic fun IntArray.toMutableList(): MutableList<Int> {\n
val list = ArrayList<Int>(size)\n for (item in this) list.add(item)\n return list\n}\n\n/**\n
* Returns a new
[MutableList] filled with all elements of this array.\n *\npublic fun LongArray.toMutableList():

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MutableList<Long> {\n  val list = ArrayList<Long>(size)\n  for (item in this) list.add(item)\n  return
list}\n\n/**\n * Returns a new [MutableList] filled with all elements of this array.\n */\npublic fun
FloatArray.toMutableList(): MutableList<Float> {\n  val list = ArrayList<Float>(size)\n  for (item in this)
list.add(item)\n  return list}\n\n/**\n * Returns a new [MutableList] filled with all elements of
this array.\n */\npublic fun DoubleArray.toMutableList(): MutableList<Double> {\n  val list =
ArrayList<Double>(size)\n  for (item in this) list.add(item)\n  return list}\n\n/**\n * Returns a new
[MutableList] filled with all elements of this array.\n */\npublic fun BooleanArray.toMutableList():
MutableList<Boolean> {\n  val list = ArrayList<Boolean>(size)\n  for (item in this) list.add(item)\n  return
list}\n\n/**\n * Returns a new [MutableList] filled with all elements of this array.\n */\npublic fun
CharArray.toMutableList(): MutableList<Char> {\n  val list = ArrayList<Char>(size)\n  for (item in this)
list.add(item)\n  return list}\n\n/**\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the
element iteration order of the original array.\n */\npublic fun <T> Array<out T>.toSet(): Set<T> {\n  return when
(size) {\n    0 -> emptySet()\n    1 -> setOf(this[0])\n    else ->
toCollection(LinkedHashSet<T>(mapCapacity(size)))\n  }\n}\n\n/**\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the element iteration order of
the original array.\n */\npublic fun ByteArray.toSet(): Set<Byte> {\n  return when (size) {\n    0 -> emptySet()\n
    1 -> setOf(this[0])\n    else -> toCollection(LinkedHashSet<Byte>(mapCapacity(size)))\n  }\n}\n\n/**\n *
Returns a [Set] of all elements.\n * \n * The returned set preserves the element iteration order of the original array.\n
*/\npublic fun ShortArray.toSet(): Set<Short> {\n  return when (size) {\n    0 -> emptySet()\n    1 ->
setOf(this[0])\n    else -> toCollection(LinkedHashSet<Short>(mapCapacity(size)))\n  }\n}\n\n/**\n * Returns a
[Set] of all elements.\n * \n * The returned set preserves the element iteration order of the original array.\n
*/\npublic fun IntArray.toSet(): Set<Int> {\n  return when (size) {\n    0 -> emptySet()\n    1 -> setOf(this[0])\n
    else -> toCollection(LinkedHashSet<Int>(mapCapacity(size)))\n  }\n}\n\n/**\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the element iteration order of
the original array.\n */\npublic fun LongArray.toSet(): Set<Long> {\n  return when (size) {\n    0 ->
emptySet()\n    1 -> setOf(this[0])\n    else -> toCollection(LinkedHashSet<Long>(mapCapacity(size)))\n  }\n}\n\n/**\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the element iteration order of the
original array.\n */\npublic fun FloatArray.toSet(): Set<Float> {\n  return when (size) {\n    0 -> emptySet()\n
    1 -> setOf(this[0])\n    else -> toCollection(LinkedHashSet<Float>(mapCapacity(size)))\n  }\n}\n\n/**\n *
Returns a [Set] of all elements.\n * \n * The returned set preserves the element iteration order of the original array.\n
*/\npublic fun DoubleArray.toSet(): Set<Double> {\n  return when (size) {\n    0 -> emptySet()\n    1 ->
setOf(this[0])\n    else -> toCollection(LinkedHashSet<Double>(mapCapacity(size)))\n  }\n}\n\n/**\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the element iteration order of
the original array.\n */\npublic fun BooleanArray.toSet(): Set<Boolean> {\n  return when (size) {\n    0 ->
emptySet()\n    1 -> setOf(this[0])\n    else -> toCollection(LinkedHashSet<Boolean>(mapCapacity(size)))\n  }\n}\n\n/**\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the element iteration order of the
original array.\n */\npublic fun CharArray.toSet(): Set<Char> {\n  return when (size) {\n    0 -> emptySet()\n
    1 -> setOf(this[0])\n    else -> toCollection(LinkedHashSet<Char>(mapCapacity(size.coerceAtMost(128))))\n  }\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on
each element of original array.\n * \n * @sample samples.collections.Collections.Transformations.flatMap\n
*/\npublic inline fun <T,
R> Array<out T>.flatMap(transform: (T) -> Iterable<R>): List<R> {\n  return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element of original array.\n * \n * @sample
samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <R> ByteArray.flatMap(transform:
(Byte) -> Iterable<R>): List<R> {\n  return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single
list of all elements yielded from results of [transform] function being invoked on each element of original array.\n *
\n * @sample samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <R>

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ShortArray.flatMap(transform: (Short) -> Iterable<R>): List<R> {\n  return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element of original array.\n * \n * @sample
samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <R> IntArray.flatMap(transform:
(Int) -> Iterable<R>): List<R> {\n  return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single
list of all elements yielded from results of [transform] function being invoked on each element of original array.\n *
\n * @sample samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <R>
LongArray.flatMap(transform: (Long) -> Iterable<R>): List<R> {\n  return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element of original array.\n * \n * @sample
samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <R> FloatArray.flatMap(transform:
(Float) -> Iterable<R>): List<R> {\n  return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single
list of all elements yielded from results of [transform]
function being invoked on each element of original array.\n * \n * @sample
samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <R>
DoubleArray.flatMap(transform: (Double) -> Iterable<R>): List<R> {\n  return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element of original array.\n * \n * @sample
samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <R>
BooleanArray.flatMap(transform: (Boolean) -> Iterable<R>): List<R> {\n  return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element of original array.\n * \n * @sample
samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <R> CharArray.flatMap(transform:
(Char) -> Iterable<R>): List<R> {\n  return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element of
original array.\n * \n * @sample samples.collections.Collections.Transformations.flatMap\n
*/\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapSequence")\npublic inline fun <T, R> Array<out
T>.flatMap(transform: (T) -> Sequence<R>): List<R> {\n  return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element\n * and its index in the original array.\n * \n * @sample
samples.collections.Collections.Transformations.flatMapIndexed\n
*/\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterable")\n@kotlin.internal.InlineOnly\npublic
inline fun
<T, R> Array<out T>.flatMapIndexed(transform: (index: Int, T) -> Iterable<R>): List<R> {\n  return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
\n * @sample samples.collections.Collections.Transformations.flatMapIndexed\n
*/\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterable")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> ByteArray.flatMapIndexed(transform: (index: Int, Byte) -> Iterable<R>): List<R> {\n  return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
\n * @sample samples.collections.Collections.Transformations.flatMapIndexed\n
*/\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterable")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> ShortArray.flatMapIndexed(transform: (index: Int, Short) -> Iterable<R>): List<R> {\n  return

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flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterable")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> IntArray.flatMapIndexed(transform: (index: Int, Int) -> Iterable<R>): List<R> {\n return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element\n
* and its index in the original array.\n * \n * @sample
samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterable")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> LongArray.flatMapIndexed(transform: (index: Int, Long) -> Iterable<R>): List<R> {\n return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterable")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> FloatArray.flatMapIndexed(transform: (index: Int, Float) -> Iterable<R>): List<R> {\n return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterable")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> DoubleArray.flatMapIndexed(transform: (index: Int, Double) -> Iterable<R>): List<R> {\n return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the
original array.\n * \n * @sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterable")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> BooleanArray.flatMapIndexed(transform: (index: Int, Boolean) -> Iterable<R>): List<R> {\n
return flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded
from results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterable")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> CharArray.flatMapIndexed(transform: (index: Int, Char)
-> Iterable<R>): List<R> {\n return flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a
single list of all elements yielded from results of [transform] function being invoked on each element\n * and its
index in the original array.\n * \n * @sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedSequence")\n@kotlin.internal.InlineOnly\npubli
c inline fun <T, R> Array<out T>.flatMapIndexed(transform: (index: Int, T) -> Sequence<R>): List<R> {\n return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Appends all elements yielded from results of
[transform] function being invoked on each element\n * and its index in the original array, to the given
[destination].\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npubli

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inline fun <T, R, C : MutableCollection<in R>> Array<out T>.flatMapIndexedTo(destination: C, transform: (index: Int, T) -> Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list = transform(index++, element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n * Appends all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original array, to the given [destination].\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> ByteArray.flatMapIndexedTo(destination: C, transform: (index: Int, Byte) -> Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list = transform(index++, element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n * Appends all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original array, to the given [destination].\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> ShortArray.flatMapIndexedTo(destination: C, transform: (index: Int, Short) -> Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list = transform(index++, element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n * Appends all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original array, to the given [destination].\n
```

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npublic
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inline fun <R, C : MutableCollection<in R>> IntArray.flatMapIndexedTo(destination: C, transform: (index: Int, Int) -> Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list = transform(index++, element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n * Appends all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original array, to the given [destination].\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> LongArray.flatMapIndexedTo(destination: C, transform: (index: Int, Long)
```

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-> Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list = transform(index++, element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n * Appends all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original array, to the given [destination].\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> FloatArray.flatMapIndexedTo(destination: C, transform: (index: Int, Float) -> Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list = transform(index++, element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n * Appends all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original array, to the given [destination].\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> DoubleArray.flatMapIndexedTo(destination: C, transform: (index: Int, Double) -> Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list = transform(index++, element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n * Appends all elements yielded from
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results of [transform] function being invoked on each element\n * and its index in the original array, to the given [destination].\n

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>>
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```
R>> BooleanArray.flatMapIndexedTo(destination: C, transform: (index: Int, Boolean) -> Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list = transform(index++, element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original array, to the given [destination].\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> CharArray.flatMapIndexedTo(destination: C, transform: (index: Int, Char) -> Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list = transform(index++, element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original array, to the given [destination].\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedSequenceTo")\n@kotlin.internal.InlineOnly\npublic inline fun <T, R, C : MutableCollection<in R>> Array<out T>.flatMapIndexedTo(destination: C, transform: (index: Int, T) -> Sequence<R>): C {\n    var index = 0\n    for (element in this) {\n        val list = transform(index++, element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n *\n * Appends all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original array, to the given [destination].\n
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```
*\npublic inline fun <T, R, C : MutableCollection<in R>> Array<out T>.flatMapTo(destination: C, transform: (T) -> Iterable<R>): C {\n    for (element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n *\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n
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*\npublic inline fun <R, C : MutableCollection<in R>> ByteArray.flatMapTo(destination: C, transform: (Byte) -> Iterable<R>): C {\n    for (element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n *\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n
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*\npublic inline fun <R, C : MutableCollection<in R>> ShortArray.flatMapTo(destination: C, transform: (Short) -> Iterable<R>): C {\n    for (element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n *\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n
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*\npublic inline fun <R, C : MutableCollection<in R>> IntArray.flatMapTo(destination: C, transform: (Int) -> Iterable<R>): C {\n    for (element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n *\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n
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*\npublic inline fun <R, C : MutableCollection<in R>> LongArray.flatMapTo(destination: C, transform: (Long) -> Iterable<R>): C {\n    for (element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n *\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n
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*\npublic inline fun <R, C : MutableCollection<in R>> FloatArray.flatMapTo(destination: C, transform: (Float) -> Iterable<R>): C {\n    for (element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n *\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n
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*\npublic inline fun <R, C : MutableCollection<in R>> DoubleArray.flatMapTo(destination: C, transform: (Double) -> Iterable<R>): C {\n    for (element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n
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[transform] function being invoked on each element of original array, to the given [destination].\n *\npublic inline
fun <R, C : MutableCollection<in R>> BooleanArray.flatMapTo(destination: C, transform: (Boolean) ->
Iterable<R>): C {\n    for (element in this) {\n        val list = transform(element)\n
        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of
[transform] function being invoked on each element of original array, to the given [destination].\n *\npublic inline
fun <R, C : MutableCollection<in R>> CharArray.flatMapTo(destination: C, transform: (Char) -> Iterable<R>): C
{\n    for (element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return
destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each
element of original array, to the given [destination].\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapSequenceTo")\npublic inline fun <T, R, C :
MutableCollection<in R>> Array<out T>.flatMapTo(destination: C, transform: (T) -> Sequence<R>): C {\n    for
(element in this) {\n        val list = transform(element)\n
        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Groups elements of the original array by the
key returned by the given [keySelector] function\n * applied to each element and returns a map where each group
key is associated with a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order
of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n *\npublic inline fun <T, K> Array<out
T>.groupBy(keySelector: (T) -> K): Map<K, List<T>> {\n    return groupByTo(LinkedHashMap<K,
MutableList<T>>(), keySelector)\n}\n\n/**\n * Groups elements of the original array by the key returned by the
given [keySelector] function\n * applied to each element and returns a map where each group key is associated with
a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced
from the original array.\n * \n *
@sample samples.collections.Collections.Transformations.groupBy\n *\npublic inline fun <K>
ByteArray.groupBy(keySelector: (Byte) -> K): Map<K, List<Byte>> {\n    return groupByTo(LinkedHashMap<K,
MutableList<Byte>>(), keySelector)\n}\n\n/**\n * Groups elements of the original array by the key returned by the
given [keySelector] function\n * applied to each element and returns a map where each group key is associated with
a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced
from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n *\npublic
inline fun <K> ShortArray.groupBy(keySelector: (Short) -> K): Map<K, List<Short>> {\n    return
groupByTo(LinkedHashMap<K, MutableList<Short>>(), keySelector)\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map
where each group key is associated
with a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys
produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*\npublic inline fun <K> IntArray.groupBy(keySelector: (Int) -> K): Map<K, List<Int>> {\n    return
groupByTo(LinkedHashMap<K, MutableList<Int>>(), keySelector)\n}\n\n/**\n * Groups elements of the original
array by the key returned by the given [keySelector] function\n * applied to each element and returns a map where
each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the entry
iteration order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n *\npublic inline fun <K>
LongArray.groupBy(keySelector: (Long) -> K): Map<K, List<Long>> {\n    return
groupByTo(LinkedHashMap<K, MutableList<Long>>(), keySelector)\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map
where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the
entry iteration order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n *\npublic inline fun <K>
FloatArray.groupBy(keySelector: (Float) -> K): Map<K, List<Float>> {\n    return groupByTo(LinkedHashMap<K,

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MutableList<Float>>(), keySelector)\n}\n\n/**\n * Groups elements of the original array by the key returned by the
given [keySelector] function\n * applied to each element and returns a map where each group key is associated with
a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced
from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic
inline fun <K> DoubleArray.groupBy(keySelector:
(Double) -> K): Map<K, List<Double>> {\n return groupByTo(LinkedHashMap<K, MutableList<Double>>(),
keySelector)\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector]
function\n * applied to each element and returns a map where each group key is associated with a list of
corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the
original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun
<K> BooleanArray.groupBy(keySelector: (Boolean) -> K): Map<K, List<Boolean>> {\n return
groupByTo(LinkedHashMap<K, MutableList<Boolean>>(), keySelector)\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map
where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the
entry iteration
order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K>
CharArray.groupBy(keySelector: (Char) -> K): Map<K, List<Char>> {\n return groupByTo(LinkedHashMap<K,
MutableList<Char>>(), keySelector)\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied
to each element of the original array\n * by the key returned by the given [keySelector] function applied to the
element\n * and returns a map where each group key is associated with a list of corresponding values.\n * \n * The
returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <T, K, V>
Array<out T>.groupBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, List<V>> {\n return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the
key returned by the given [keySelector] function applied to the element\n * and returns a map where each group key
is associated with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the
keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <K, V>
ByteArray.groupBy(keySelector: (Byte) -> K, valueTransform: (Byte) -> V): Map<K, List<V>> {\n return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated
with a list of corresponding values.\n * \n * The returned
map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <K, V>
ShortArray.groupBy(keySelector: (Short) -> K, valueTransform: (Short) -> V): Map<K, List<V>> {\n return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated
with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys
produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <K, V>
IntArray.groupBy(keySelector: (Int) -> K, valueTransform: (Int) -> V): Map<K, List<V>> {\n
return groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups
values returned by the [valueTransform] function applied to each element of the original array\n * by the key
returned by the given [keySelector] function applied to the element\n * and returns a map where each group key is

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associated with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample

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samples.collections.Collections.Transformations.groupByKeyAndValues\n * \n public inline fun <K, V>
LongArray.groupBy(keySelector: (Long) -> K, valueTransform: (Long) -> V): Map<K, List<V>> {\n return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n } \n \n /**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by
the given [keySelector] function applied to the element\n * and returns a map
where each group key is associated with a list of corresponding values.\n * \n * The returned map preserves the
entry iteration order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeyAndValues\n * \n public inline fun <K, V>
FloatArray.groupBy(keySelector: (Float) -> K, valueTransform: (Float) -> V): Map<K, List<V>> {\n return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n } \n \n /**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated
with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys
produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeyAndValues\n * \n public inline fun <K, V>
DoubleArray.groupBy(keySelector:
(Double) -> K, valueTransform: (Double) -> V): Map<K, List<V>> {\n return groupByTo(LinkedHashMap<K,
MutableList<V>>(), keySelector, valueTransform)\n } \n \n /**\n * Groups values returned by the [valueTransform]
function applied to each element of the original array\n * by the key returned by the given [keySelector] function
applied to the element\n * and returns a map where each group key is associated with a list of corresponding
values.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n
* \n * @sample
samples.collections.Collections.Transformations.groupByKeyAndValues\n * \n public inline fun
<K, V> BooleanArray.groupBy(keySelector: (Boolean) -> K, valueTransform: (Boolean) -> V): Map<K, List<V>>>
{\n return groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n } \n \n /**\n *
Groups values returned by the [valueTransform] function applied to each element of the original array\n
* by the key returned by the given [keySelector] function applied to the element\n * and returns a map where each
group key is associated with a list of corresponding values.\n * \n * The returned map preserves the entry iteration
order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeyAndValues\n * \n public inline fun <K, V>
CharArray.groupBy(keySelector: (Char) -> K, valueTransform: (Char) -> V): Map<K, List<V>> {\n return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n } \n \n /**\n * Groups elements
of the original array by the key returned by the given [keySelector] function\n * applied to each element and puts to
the [destination] map each group key associated with a list of corresponding elements.\n * \n * @return The
[destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n * \n public inline
fun <T, K, M : MutableMap<in K, MutableList<T>>>>
Array<out T>.groupByTo(destination: M, keySelector: (T) -> K): M {\n for (element in this) {\n val key =
keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<T>() }\n list.add(element)\n }\n return
destination\n } \n \n /**\n * Groups elements of the original array by the key returned by the given [keySelector]
function\n * applied to each element and puts to the [destination] map each group key associated with a list of
corresponding elements.\n * \n * @return The [destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n * \n public inline fun <K, M : MutableMap<in K,
MutableList<Byte>>>> ByteArray.groupByTo(destination: M, keySelector: (Byte) -> K): M {\n for (element in
this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<Byte>() }\n
list.add(element)\n }\n return destination\n } \n \n /**\n * Groups elements of the original array by the
key returned by the given [keySelector] function\n * applied to each element and puts to the [destination] map each
group key associated with a list of corresponding elements.\n * \n * @return The [destination] map.\n * \n *

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@sample samples.collections.Collections.Transformations.groupBy\n *\npublic inline fun <K, M : MutableMap<in
K, MutableList<Short>>> ShortArray.groupByTo(destination: M, keySelector: (Short) -> K): M {\n for (element
in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<Short>() }\n
list.add(element)\n }\n return destination\n}\n\n**\n * Groups elements of the original array by the key
returned by the given [keySelector] function\n * applied to each element and puts to the [destination] map each
group key associated with a list of corresponding elements.\n * \n * @return The [destination] map.\n * \n *
@sample samples.collections.Collections.Transformations.groupBy\n *\npublic inline fun <K,
M : MutableMap<in K, MutableList<Int>>> IntArray.groupByTo(destination: M, keySelector: (Int) -> K): M {\n
for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) {
ArrayList<Int>() }\n list.add(element)\n }\n return destination\n}\n\n**\n * Groups elements of the original
array by the key returned by the given [keySelector] function\n * applied to each element and puts to the
[destination] map each group key associated with a list of corresponding elements.\n * \n * @return The
[destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n *\npublic inline
fun <K, M : MutableMap<in K, MutableList<Long>>> LongArray.groupByTo(destination: M, keySelector: (Long)
-> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list =
destination.getOrPut(key) { ArrayList<Long>() }\n list.add(element)\n }\n return destination\n}\n\n**\n *
Groups elements
of the original array by the key returned by the given [keySelector] function\n * applied to each element and puts to
the [destination] map each group key associated with a list of corresponding elements.\n * \n * @return The
[destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n *\npublic inline
fun <K, M : MutableMap<in K, MutableList<Float>>> FloatArray.groupByTo(destination: M, keySelector: (Float)
-> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list =
destination.getOrPut(key) { ArrayList<Float>() }\n list.add(element)\n }\n return destination\n}\n\n**\n *
Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each
element and puts to the [destination] map each group key associated with a list of corresponding elements.\n * \n *
@return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*\npublic inline fun <K, M : MutableMap<in K, MutableList<Double>>> DoubleArray.groupByTo(destination:
M, keySelector: (Double) -> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list
= destination.getOrPut(key) { ArrayList<Double>() }\n list.add(element)\n }\n return
destination\n}\n\n**\n * Groups elements of the original array by the key returned by the given [keySelector]
function\n * applied to each element and puts to the [destination] map each group key associated with a list of
corresponding elements.\n * \n * @return The [destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n *\npublic inline fun <K, M : MutableMap<in K,
MutableList<Boolean>>> BooleanArray.groupByTo(destination: M, keySelector: (Boolean) -> K): M {\n for
(element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) {
ArrayList<Boolean>() }\n list.add(element)\n
}\n return destination\n}\n\n**\n * Groups elements of the original array by the key returned by the given
[keySelector] function\n * applied to each element and puts to the [destination] map each group key associated with
a list of corresponding elements.\n * \n * @return The [destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n *\npublic inline fun <K, M : MutableMap<in K,
MutableList<Char>>> CharArray.groupByTo(destination: M, keySelector: (Char) -> K): M {\n for (element in
this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<Char>() }\n
list.add(element)\n }\n return destination\n}\n\n**\n * Groups values returned by the [valueTransform] function
applied to each element of the original array\n * by the key returned by the given [keySelector] function applied to
the element\n * and puts to the [destination] map each group key associated with a list of corresponding
values.\n * \n * @return The [destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n *\npublic inline fun <T, K, V, M :
MutableMap<in K, MutableList<V>>> Array<out T>.groupByTo(destination: M, keySelector: (T) -> K,

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valueTransform: (T) -> V): M {\n  for (element in this) {\n    val key = keySelector(element)\n    val list =
destination.getOrPut(key) { ArrayList<V>() }\n    list.add(valueTransform(element))\n  }\n  return
destination}\n}\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the
original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the
[destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination]
map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeyAndValues\n */\npublic
inline fun <K, V, M : MutableMap<in K, MutableList<V>>>
ByteArray.groupByTo(destination: M, keySelector: (Byte) -> K, valueTransform: (Byte) -> V): M {\n  for
(element in this) {\n    val key = keySelector(element)\n    val list = destination.getOrPut(key) {
ArrayList<V>() }\n    list.add(valueTransform(element))\n  }\n  return destination}\n}\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by
the given [keySelector] function applied to the element\n * and puts to the [destination] map each group key
associated with a list of corresponding values.\n * \n * @return The [destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeyAndValues\n */\npublic inline fun <K, V, M :
MutableMap<in K, MutableList<V>>> ShortArray.groupByTo(destination: M, keySelector: (Short) -> K,
valueTransform: (Short) -> V): M {\n  for (element in this) {\n    val key = keySelector(element)\n    val list =
destination.getOrPut(key)
{ ArrayList<V>() }\n    list.add(valueTransform(element))\n  }\n  return destination}\n}\n/**\n * Groups
values returned by the [valueTransform] function applied to each element of the original array\n * by the key
returned by the given [keySelector] function applied to the element\n * and puts to the [destination] map each group
key associated with a list of corresponding values.\n * \n * @return The [destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeyAndValues\n */\npublic inline fun <K, V, M :
MutableMap<in K, MutableList<V>>> IntArray.groupByTo(destination: M, keySelector: (Int) -> K,
valueTransform: (Int) -> V): M {\n  for (element in this) {\n    val key = keySelector(element)\n    val list =
destination.getOrPut(key) { ArrayList<V>() }\n    list.add(valueTransform(element))\n  }\n  return
destination}\n}\n/**\n * Groups values returned by the [valueTransform] function applied to each
element of the original array\n * by the key returned by the given [keySelector] function applied to the element\n *
and puts to the [destination] map each group key associated with a list of corresponding values.\n * \n * @return
The [destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeyAndValues\n */\npublic inline fun <K, V, M :
MutableMap<in K, MutableList<V>>> LongArray.groupByTo(destination: M, keySelector: (Long) -> K,
valueTransform: (Long) -> V): M {\n  for (element in this) {\n    val key = keySelector(element)\n    val list =
destination.getOrPut(key) { ArrayList<V>() }\n    list.add(valueTransform(element))\n  }\n  return
destination}\n}\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the
original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the
[destination] map each group key associated with a list of corresponding
values.\n * \n * @return The [destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeyAndValues\n */\npublic inline fun <K, V, M :
MutableMap<in K, MutableList<V>>> FloatArray.groupByTo(destination: M, keySelector: (Float) -> K,
valueTransform: (Float) -> V): M {\n  for (element in this) {\n    val key = keySelector(element)\n    val list =
destination.getOrPut(key) { ArrayList<V>() }\n    list.add(valueTransform(element))\n  }\n  return
destination}\n}\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the
original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the
[destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination]
map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeyAndValues\n */\npublic
inline fun <K, V, M : MutableMap<in K, MutableList<V>>>
DoubleArray.groupByTo(destination: M, keySelector: (Double) -> K, valueTransform: (Double) -> V): M {\n  for
(element in this) {\n    val key = keySelector(element)\n    val list = destination.getOrPut(key) {

```


`CharArray.map(transform: (Char) -> R): List<R> {`
`return mapTo(ArrayList<R>(size), transform)}`
`}`
Returns a list containing the results of applying the given [transform] function to each element and its index in the original array.
@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.
`public inline fun <T, R> Array<out T>.mapIndexed(transform: (index: Int, T) -> R): List<R> {`
`return mapIndexedTo(ArrayList<R>(size), transform)}`
`}`
Returns a list containing the results of applying the given [transform] function to each element and its index in the original array.
@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.
`public inline fun <R>`
`ByteArray.mapIndexed(transform: (index: Int, Byte) -> R): List<R> {`
`return mapIndexedTo(ArrayList<R>(size), transform)}`
`}`
Returns a list containing the results of applying the given [transform] function to each element and its index in the original array.
@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.
`public inline fun <R>`
`ShortArray.mapIndexed(transform: (index: Int, Short) -> R): List<R> {`
`return mapIndexedTo(ArrayList<R>(size), transform)}`
`}`
Returns a list containing the results of applying the given [transform] function to each element and its index in the original array.
@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.
`public inline fun <R>`
`IntArray.mapIndexed(transform: (index: Int, Int) -> R): List<R> {`
`return mapIndexedTo(ArrayList<R>(size), transform)}`
`}`
Returns a list containing the results of applying the given [transform] function to each element and its index in the original array.
@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.
`public inline fun <R>`
`LongArray.mapIndexed(transform: (index: Int, Long) -> R): List<R> {`
`return mapIndexedTo(ArrayList<R>(size), transform)}`
`}`
Returns a list containing the results of applying the given [transform] function to each element and its index in the original array.
@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.
`public inline fun <R>`
`FloatArray.mapIndexed(transform: (index: Int, Float) -> R): List<R> {`
`return mapIndexedTo(ArrayList<R>(size), transform)}`
`}`
Returns a list containing the results of applying the given [transform] function to each element and its index in the original array.
@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.
`public inline fun <R>`
`DoubleArray.mapIndexed(transform: (index: Int, Double) -> R): List<R> {`
`return mapIndexedTo(ArrayList<R>(size), transform)}`
`}`
Returns a list containing the results of applying the given [transform] function to each element and its index in the original array.
@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.
`public inline fun <R>`
`BooleanArray.mapIndexed(transform: (index: Int, Boolean) -> R): List<R> {`
`return mapIndexedTo(ArrayList<R>(size), transform)}`
`}`
Returns a list containing the results of applying the given [transform] function to each element and its index in the original array.
@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.
`public inline fun <R>`
`CharArray.mapIndexed(transform: (index: Int, Char) -> R): List<R> {`
`return mapIndexedTo(ArrayList<R>(size), transform)}`
`}`
Returns a list containing only the non-null results of applying the given [transform] function to each element and its index in the original array.
@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.
`public inline fun <T, R : Any> Array<out T>.mapIndexedNotNull(transform: (index: Int, T) -> R?): List<R> {`
`return mapIndexedNotNullTo(ArrayList<R>(), transform)}`
`}`
Applies the given [transform] function to each element and its index in the original array and appends only the non-null results to the given [destination].
@param [transform] function that takes the index of an element and the element itself

```

* and returns the result of the transform applied to the element.\n */\npublic inline fun <T, R : Any, C :
MutableCollection<in R>> Array<out T>.mapIndexedNotNullTo(destination: C, transform: (index: Int, T) -> R?):
C {\n  forEachIndexed { index, element -> transform(index, element)?.let { destination.add(it) } }\n  return
destination\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original array\n
* and appends the results to the given [destination].\n * @param [transform] function that takes
the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n
*/\npublic inline fun <T, R, C : MutableCollection<in R>> Array<out T>.mapIndexedTo(destination: C, transform:
(index: Int, T) -> R): C {\n  var index = 0\n  for (item in this)\n    destination.add(transform(index++, item))\n
return destination\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original
array\n * and appends the results to the given [destination].\n * @param [transform] function that takes the index of
an element and the element itself\n * and returns the result of the transform applied to the element.\n */\npublic
inline fun <R, C : MutableCollection<in R>> ByteArray.mapIndexedTo(destination: C, transform: (index: Int, Byte)
-> R): C {\n  var index = 0\n  for (item in this)\n    destination.add(transform(index++, item))\n  return
destination\n}\n\n/**\n * Applies the given [transform] function
to each element and its index in the original array\n * and appends the results to the given [destination].\n *
@param [transform] function that takes the index of an element and the element itself\n * and returns the result of
the transform applied to the element.\n */\npublic inline fun <R, C : MutableCollection<in R>>
ShortArray.mapIndexedTo(destination: C, transform: (index: Int, Short) -> R): C {\n  var index = 0\n  for (item in
this)\n    destination.add(transform(index++, item))\n  return destination\n}\n\n/**\n * Applies the given
[transform] function to each element and its index in the original array\n * and appends the results to the given
[destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and
returns the result of the transform applied to the element.\n */\npublic inline fun <R, C : MutableCollection<in R>>
IntArray.mapIndexedTo(destination: C, transform: (index: Int, Int) -> R): C {\n  var index = 0\n
for (item in this)\n    destination.add(transform(index++, item))\n  return destination\n}\n\n/**\n * Applies the
given [transform] function to each element and its index in the original array\n * and appends the results to the given
[destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and
returns the result of the transform applied to the element.\n */\npublic inline fun <R, C : MutableCollection<in R>>
LongArray.mapIndexedTo(destination: C, transform: (index: Int, Long) -> R): C {\n  var index = 0\n  for (item in
this)\n    destination.add(transform(index++, item))\n  return destination\n}\n\n/**\n * Applies the given
[transform] function to each element and its index in the original array\n * and appends the results to the given
[destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and
returns the result of the transform applied to the element.\n */\npublic
inline fun <R, C : MutableCollection<in R>> FloatArray.mapIndexedTo(destination: C, transform: (index: Int,
Float) -> R): C {\n  var index = 0\n  for (item in this)\n    destination.add(transform(index++, item))\n  return
destination\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original array\n
* and appends the results to the given [destination].\n * @param [transform] function that takes the index of an
element and the element itself\n * and returns the result of the transform applied to the element.\n */\npublic inline
fun <R, C : MutableCollection<in R>> DoubleArray.mapIndexedTo(destination: C, transform: (index: Int, Double)
-> R): C {\n  var index = 0\n  for (item in this)\n    destination.add(transform(index++, item))\n  return
destination\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original array\n
* and appends the results to the given [destination].\n * @param [transform]
function that takes the index of an element and the element itself\n * and returns the result of the transform applied
to the element.\n */\npublic inline fun <R, C : MutableCollection<in R>> BooleanArray.mapIndexedTo(destination:
C, transform: (index: Int, Boolean) -> R): C {\n  var index = 0\n  for (item in this)\n
destination.add(transform(index++, item))\n  return destination\n}\n\n/**\n * Applies the given [transform]
function to each element and its index in the original array\n * and appends the results to the given [destination].\n
* @param [transform] function that takes the index of an element and the element itself\n * and returns the result of
the transform applied to the element.\n */\npublic inline fun <R, C : MutableCollection<in R>>

```

```

CharArray.mapIndexedTo(destination: C, transform: (index: Int, Char) -> R): C {
    var index = 0
    for (item in this)
        destination.add(transform(index++, item))
    return destination
}

Returns a list containing only the non-null results of applying the given [transform] function to each element in the original array.

@sample samples.collections.Collections.Transformations.mapNotNull

public inline fun <T, R : Any> Array<out T>.mapNotNull(transform: (T) -> R?): List<R> {
    return mapNotNullTo(ArrayList<R>(), transform)
}

Applies the given [transform] function to each element in the original array and appends only the non-null results to the given [destination].

public inline fun <T, R : Any, C : MutableCollection<in R>> Array<out T>.mapNotNullTo(destination: C, transform: (T) -> R?): C {
    forEach { element -> transform(element)?.let { destination.add(it) } }
    return destination
}

Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

public inline fun <T, R, C : MutableCollection<in R>> Array<out T>.mapTo(destination: C, transform: (T) -> R): C {
    for (item in this)
        destination.add(transform(item))
    return destination
}

Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

public inline fun <R, C : MutableCollection<in R>> ByteArray.mapTo(destination: C, transform: (Byte) -> R): C {
    for (item in this)
        destination.add(transform(item))
    return destination
}

Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

public inline fun <R, C : MutableCollection<in R>> ShortArray.mapTo(destination: C, transform: (Short) -> R): C {
    for (item in this)
        destination.add(transform(item))
    return destination
}

Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

public inline fun <R, C : MutableCollection<in R>> IntArray.mapTo(destination: C, transform: (Int) -> R): C {
    for (item in this)
        destination.add(transform(item))
    return destination
}

Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

public inline fun <R, C : MutableCollection<in R>> LongArray.mapTo(destination: C, transform: (Long) -> R): C {
    for (item in this)
        destination.add(transform(item))
    return destination
}

Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

public inline fun <R, C : MutableCollection<in R>> FloatArray.mapTo(destination: C, transform: (Float) -> R): C {
    for (item in this)
        destination.add(transform(item))
    return destination
}

Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

public inline fun <R, C : MutableCollection<in R>> DoubleArray.mapTo(destination: C, transform: (Double) -> R): C {
    for (item in this)
        destination.add(transform(item))
    return destination
}

Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

public inline fun <R, C : MutableCollection<in R>> BooleanArray.mapTo(destination: C, transform: (Boolean) -> R): C {
    for (item in this)
        destination.add(transform(item))
    return destination
}

Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

public inline fun <R, C : MutableCollection<in R>> CharArray.mapTo(destination: C, transform: (Char) -> R): C {
    for (item in this)
        destination.add(transform(item))
    return destination
}

Returns a lazy [Iterable] that wraps each element of the original array into an [IndexedValue] containing the index of that element and the element itself.

public fun <T> Array<out T>.withIndex(): Iterable<IndexedValue<T>> {
    return IndexingIterable { iterator() }
}

Returns a lazy [Iterable] that wraps each element of the original array into an [IndexedValue] containing the index of that element and the element itself.

public fun ByteArray.withIndex(): Iterable<IndexedValue<Byte>> {
    return IndexingIterable { iterator() }
}

Returns a lazy [Iterable] that wraps each element of the original array into an [IndexedValue] containing the index of that element and the element itself.

public fun ShortArray.withIndex(): Iterable<IndexedValue<Short>> {
    return IndexingIterable { iterator() }
}

Returns a lazy [Iterable]

```

that wraps each element of the original array into an [IndexedValue] containing the index of that element and the element itself.

```
public fun IntArray.withIndex(): Iterable<IndexedValue<Int>> { return IndexingIterable { iterator() } }
Returns a lazy [Iterable] that wraps each element of the original array into an [IndexedValue] containing the index of that element and the element itself.

public fun LongArray.withIndex(): Iterable<IndexedValue<Long>> { return IndexingIterable { iterator() } }
Returns a lazy [Iterable] that wraps each element of the original array into an [IndexedValue] containing the index of that element and the element itself.

public fun FloatArray.withIndex(): Iterable<IndexedValue<Float>> { return IndexingIterable { iterator() } }
Returns a lazy [Iterable] that wraps each element of the original array into an [IndexedValue] containing the index of that element and the element itself.

public fun DoubleArray.withIndex(): Iterable<IndexedValue<Double>> { return IndexingIterable { iterator() } }
Returns a lazy [Iterable] that wraps each element of the original array into an [IndexedValue] containing the index of that element and the element itself.

public fun BooleanArray.withIndex(): Iterable<IndexedValue<Boolean>> { return IndexingIterable { iterator() } }
Returns a lazy [Iterable] that wraps each element of the original array into an [IndexedValue] containing the index of that element and the element itself.

public fun CharArray.withIndex(): Iterable<IndexedValue<Char>> { return IndexingIterable { iterator() } }
Returns a list containing only distinct elements from the given array. Among equal elements of the given array, only the first one will be present in the resulting list. The elements in the resulting list are in the same order as they were in the source array.

@sample
samples.collections.Collections.Transformations.distinctAndDistinctBy

public fun <T> Array<out T>.distinct(): List<T>
{ return this.toMutableSet().toList() }
Returns a list containing only distinct elements from the given array. The elements in the resulting list are in the same order as they were in the source array.

@sample
samples.collections.Collections.Transformations.distinctAndDistinctBy

public fun ByteArray.distinct(): List<Byte> { return this.toMutableSet().toList() }
Returns a list containing only distinct elements from the given array. The elements in the resulting list are in the same order as they were in the source array.

@sample
samples.collections.Collections.Transformations.distinctAndDistinctBy

public fun ShortArray.distinct(): List<Short> { return this.toMutableSet().toList() }
Returns a list containing only distinct elements from the given array. The elements in the resulting list are in the same order as they were in the source array.

@sample
samples.collections.Collections.Transformations.distinctAndDistinctBy

public fun IntArray.distinct(): List<Int> { return this.toMutableSet().toList() }
Returns a list containing only distinct elements from the given array. The elements in the resulting list are in the same order as they were in the source array.

@sample
samples.collections.Collections.Transformations.distinctAndDistinctBy

public fun LongArray.distinct(): List<Long> { return this.toMutableSet().toList() }
Returns a list containing only distinct elements from the given array. The elements in the resulting list are in the same order as they were in the source array.

@sample
samples.collections.Collections.Transformations.distinctAndDistinctBy

public fun FloatArray.distinct(): List<Float> { return this.toMutableSet().toList() }
Returns a list containing only distinct elements from the given array. The elements in the resulting list are in the same order as they were in the source array.

@sample
samples.collections.Collections.Transformations.distinctAndDistinctBy

public fun DoubleArray.distinct(): List<Double> { return this.toMutableSet().toList() }
Returns a list containing only distinct elements from the given array. The elements in the resulting list are in the same order as they were in the source array.

@sample
samples.collections.Collections.Transformations.distinctAndDistinctBy

public fun BooleanArray.distinct(): List<Boolean> { return this.toMutableSet().toList() }
Returns a list containing only distinct elements from the given array. The elements in the resulting list are in the same order as they were in the source array.

@sample
```

```

samples.collections.Collections.Transformations.distinctAndDistinctBy\n *^\npublic fun CharArray.distinct():
List<Char> {\n    return this.toMutableSet().toList()\n}\n\n/**\n * Returns
a list containing only elements from the given array\n * having distinct keys returned by the given [selector]
function.\n * \n * Among elements of the given array with equal keys, only the first one will be present in the
resulting list.\n * The elements in the resulting list are in the same order as they were in the source array.\n * \n *
@sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n *^\npublic inline fun <T, K>
Array<out T>.distinctBy(selector: (T) -> K): List<T> {\n    val set = HashSet<K>()\n    val list = ArrayList<T>()\n
for (e in this) {\n        val key = selector(e)\n        if (set.add(key))\n            list.add(e)\n    }\n    return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys returned by the given
[selector] function.\n * \n * The elements in the resulting list are in the same order as they were in the source
array.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n *^\npublic inline fun <K>
ByteArray.distinctBy(selector: (Byte) -> K): List<Byte> {\n    val set = HashSet<K>()\n
val list = ArrayList<Byte>()\n    for (e in this) {\n        val key = selector(e)\n        if (set.add(key))\n
list.add(e)\n    }\n    return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having
distinct keys returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same
order as they were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n *^\npublic inline fun <K>
ShortArray.distinctBy(selector: (Short) -> K): List<Short> {\n    val set = HashSet<K>()\n    val list =
ArrayList<Short>()\n    for (e in this) {\n        val key = selector(e)\n        if (set.add(key))\n            list.add(e)\n    }\n
return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having
distinct keys returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same
order as they were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n *^\npublic inline fun <K>
IntArray.distinctBy(selector: (Int) -> K): List<Int> {\n    val set = HashSet<K>()\n    val list = ArrayList<Int>()\n
for (e in this) {\n        val key = selector(e)\n        if (set.add(key))\n            list.add(e)\n    }\n    return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys returned by the given
[selector] function.\n * \n * The elements in the resulting list are in the same order as they were in the source
array.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n *^\npublic inline
fun <K> LongArray.distinctBy(selector: (Long) -> K): List<Long> {\n    val set = HashSet<K>()\n    val list =
ArrayList<Long>()\n
for (e in this) {\n        val key = selector(e)\n        if (set.add(key))\n            list.add(e)\n    }\n    return
list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys returned by
the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they were in the
source array.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n *^\npublic
inline fun <K> FloatArray.distinctBy(selector: (Float) -> K): List<Float> {\n    val set = HashSet<K>()\n    val list =
ArrayList<Float>()\n    for (e in this) {\n        val key = selector(e)\n        if (set.add(key))\n            list.add(e)\n    }\n
return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys
returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they
were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n *^\npublic inline fun <K>
DoubleArray.distinctBy(selector: (Double) -> K): List<Double> {\n    val set = HashSet<K>()\n    val list =
ArrayList<Double>()\n    for (e in this) {\n        val key = selector(e)\n        if (set.add(key))\n            list.add(e)\n
}\n    return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys
returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they
were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n *^\npublic inline fun <K>
BooleanArray.distinctBy(selector: (Boolean) -> K): List<Boolean> {\n    val set = HashSet<K>()\n    val list =
ArrayList<Boolean>()\n    for (e in this) {\n        val key = selector(e)\n        if (set.add(key))\n            list.add(e)\n
}\n    return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys
returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they
were in the source array.\n * \n * @sample

```



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}\n return list\n}\n\n/**\n * Returns
a list containing only elements from the given array\n * having distinct keys returned by the given [selector]
function.\n * \n * The elements in the resulting list are in the same order as they were in the source array.\n * \n *
@sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n *^\npublic inline fun <K>
CharArray.distinctBy(selector: (Char) -> K): List<Char> {\n val set = HashSet<K>()\n val list =
ArrayList<Char>()\n for (e in this) {\n val key = selector(e)\n if (set.add(key))\n list.add(e)\n }\n
return list\n}\n\n/**\n * Returns a set containing all elements that are contained by both this array and the specified
collection.\n * \n * The returned set preserves the element iteration order of the original array.\n * \n * To get a set
containing all elements that are contained at least in one of these collections use [union].\n *^\npublic infix fun <T>
Array<out T>.intersect(other: Iterable<T>): Set<T> {\n val set
= this.toMutableSet()\n set.retainAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that
are contained by both this array and the specified collection.\n * \n * The returned set preserves the element iteration
order of the original array.\n * \n * To get a set containing all elements that are contained at least in one of these
collections use [union].\n *^\npublic infix fun ByteArray.intersect(other: Iterable<Byte>): Set<Byte> {\n val set =
this.toMutableSet()\n set.retainAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that are
contained by both this array and the specified collection.\n * \n * The returned set preserves the element iteration
order of the original array.\n * \n * To get a set containing all elements that are contained at least in one of these
collections use [union].\n *^\npublic infix fun ShortArray.intersect(other: Iterable<Short>): Set<Short> {\n val set
= this.toMutableSet()\n set.retainAll(other)\n
return set\n}\n\n/**\n * Returns a set containing all elements that are contained by both this array and the
specified collection.\n * \n * The returned set preserves the element iteration order of the original array.\n * \n * To
get a set containing all elements that are contained at least in one of these collections use [union].\n *^\npublic infix
fun IntArray.intersect(other: Iterable<Int>): Set<Int> {\n val set = this.toMutableSet()\n set.retainAll(other)\n
return set\n}\n\n/**\n * Returns a set containing all elements that are contained by both this array and the specified
collection.\n * \n * The returned set preserves the element iteration order of the original array.\n * \n * To get a set
containing all elements that are contained at least in one of these collections use [union].\n *^\npublic infix fun
LongArray.intersect(other: Iterable<Long>): Set<Long> {\n val set = this.toMutableSet()\n set.retainAll(other)\n
return set\n}\n\n/**\n * Returns
a set containing all elements that are contained by both this array and the specified collection.\n * \n * The returned
set preserves the element iteration order of the original array.\n * \n * To get a set containing all elements that are
contained at least in one of these collections use [union].\n *^\npublic infix fun FloatArray.intersect(other:
Iterable<Float>): Set<Float> {\n val set = this.toMutableSet()\n set.retainAll(other)\n return set\n}\n\n/**\n *
Returns a set containing all elements that are contained by both this array and the specified collection.\n * \n * The
returned set preserves the element iteration order of the original array.\n * \n * To get a set containing all elements
that are contained at least in one of these collections use [union].\n *^\npublic infix fun DoubleArray.intersect(other:
Iterable<Double>): Set<Double> {\n val set = this.toMutableSet()\n set.retainAll(other)\n return
set\n}\n\n/**\n * Returns a set containing all elements that
are contained by both this array and the specified collection.\n * \n * The returned set preserves the element
iteration order of the original array.\n * \n * To get a set containing all elements that are contained at least in one of
these collections use [union].\n *^\npublic infix fun BooleanArray.intersect(other: Iterable<Boolean>):
Set<Boolean> {\n val set = this.toMutableSet()\n set.retainAll(other)\n return set\n}\n\n/**\n * Returns a set
containing all elements that are contained by both this array and the specified collection.\n * \n * The returned set
preserves the element iteration order of the original array.\n * \n * To get a set containing all elements that are
contained at least in one of these collections use [union].\n *^\npublic infix fun CharArray.intersect(other:
Iterable<Char>): Set<Char> {\n val set = this.toMutableSet()\n set.retainAll(other)\n return set\n}\n\n/**\n *
Returns a set containing all elements that are contained by this array and not
contained by the specified collection.\n * \n * The returned set preserves the element iteration order of the original
array.\n *^\npublic infix fun <T> Array<out T>.subtract(other: Iterable<T>): Set<T> {\n val set =

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this.toMutableSet()\n set.removeAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that
are contained by this array and not contained by the specified collection.\n * \n * The returned set preserves the
element iteration order of the original array.\n */\npublic infix fun ByteArray.subtract(other: Iterable<Byte>):
Set<Byte> {\n val set = this.toMutableSet()\n set.removeAll(other)\n return set\n}\n\n/**\n * Returns a set
containing all elements that are contained by this array and not contained by the specified collection.\n * \n * The
returned set preserves the element iteration order of the original array.\n */\npublic infix fun
ShortArray.subtract(other: Iterable<Short>): Set<Short> {\n val set = this.toMutableSet()\n
set.removeAll(other)\n
return set\n}\n\n/**\n * Returns a set containing all elements that are contained by this array and not contained by
the specified collection.\n * \n * The returned set preserves the element iteration order of the original array.\n
*/\npublic infix fun IntArray.subtract(other: Iterable<Int>): Set<Int> {\n val set = this.toMutableSet()\n
set.removeAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that are contained by this
array and not contained by the specified collection.\n * \n * The returned set preserves the element iteration order of
the original array.\n */\npublic infix fun LongArray.subtract(other: Iterable<Long>): Set<Long> {\n val set =
this.toMutableSet()\n set.removeAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that
are contained by this array and not contained by the specified collection.\n * \n * The returned set preserves the
element iteration order of the original array.\n */\npublic infix fun FloatArray.subtract(other: Iterable<Float>): Set<Float> {\n val set = this.toMutableSet()\n
set.removeAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that are contained by this
array and not contained by the specified collection.\n * \n * The returned set preserves the element iteration order of
the original array.\n */\npublic infix fun DoubleArray.subtract(other: Iterable<Double>): Set<Double> {\n val set
= this.toMutableSet()\n set.removeAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that
are contained by this array and not contained by the specified collection.\n * \n * The returned set preserves the
element iteration order of the original array.\n */\npublic infix fun BooleanArray.subtract(other: Iterable<Boolean>):
Set<Boolean> {\n val set = this.toMutableSet()\n set.removeAll(other)\n return set\n}\n\n/**\n * Returns a set
containing all elements that are contained by this array
and not contained by the specified collection.\n * \n * The returned set preserves the element iteration order of the
original array.\n */\npublic infix fun CharArray.subtract(other: Iterable<Char>): Set<Char> {\n val set =
this.toMutableSet()\n set.removeAll(other)\n return set\n}\n\n/**\n * Returns a new [MutableSet] containing all
distinct elements from the given array.\n * \n * The returned set preserves the element iteration order of the original
array.\n */\npublic fun <T> Array<out T>.toMutableSet(): MutableSet<T> {\n return
toCollection(LinkedHashSet<T>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [MutableSet] containing all
distinct elements from the given array.\n * \n * The returned set preserves the element iteration order of the original
array.\n */\npublic fun ByteArray.toMutableSet(): MutableSet<Byte> {\n return
toCollection(LinkedHashSet<Byte>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [MutableSet] containing all
distinct elements from the given
array.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic fun
ShortArray.toMutableSet(): MutableSet<Short> {\n return
toCollection(LinkedHashSet<Short>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [MutableSet] containing all
distinct elements from the given array.\n * \n * The returned set preserves the element iteration order of the original
array.\n */\npublic fun IntArray.toMutableSet(): MutableSet<Int> {\n return
toCollection(LinkedHashSet<Int>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [MutableSet] containing all
distinct elements from the given array.\n * \n * The returned set preserves the element iteration order of the original
array.\n */\npublic fun LongArray.toMutableSet(): MutableSet<Long> {\n return
toCollection(LinkedHashSet<Long>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [MutableSet] containing all
distinct elements from the given array.\n * \n * The returned set preserves the element iteration order
of the original array.\n */\npublic fun FloatArray.toMutableSet(): MutableSet<Float> {\n return
toCollection(LinkedHashSet<Float>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [MutableSet] containing all

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distinct elements from the given array.

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    * The returned set preserves the element iteration order of the original
    array.
    * Returns a new [MutableSet] containing
    all distinct elements from the given array.
    * The returned set preserves the element iteration order of the
    original array.
    * Returns a new [MutableSet] containing
    all distinct elements from the given array.
    * The returned set preserves the element iteration order of the
    original array.
    * Returns a new [MutableSet] containing
    all distinct elements from both collections.
    * The returned set preserves the element iteration order of the
    original array.
    * Those elements of the [other] collection that are unique are iterated in the end
    * in the order of
    the [other] collection.
    * To get a set containing all elements that are contained in both collections use
    [intersect].
    * Returns a set containing all distinct elements
    from both collections.
    * The returned set preserves the element iteration order of the original array.
    * Those
    elements of the [other] collection that are unique are iterated in the end
    * in the order of the [other] collection.
    * To get a set containing
    all elements that are contained in both collections use [intersect].
    * Returns a set containing all distinct elements from both collections.
    * The returned set preserves the element
    iteration order of the original array.
    * Those elements of the [other] collection that are unique are iterated in the
    end
    * in the order of the [other] collection.
    * To get a set containing all elements that are contained in both
    collections use [intersect].
    * Returns a set containing all distinct elements
    from both collections.
    * The returned set preserves the element iteration order of the original array.
    * Those
    elements of the [other] collection that are unique are iterated in the end
    * in the order of the [other] collection.
    * To get a set containing all elements
    that are contained in both collections use [intersect].
    * Returns a set
    containing all distinct elements from both collections.
    * The returned set preserves the element
    iteration order of the original array.
    * Those elements of the [other] collection that are unique are iterated in the
    end
    * in the order of the [other] collection.
    * To get a set containing all elements
    that are contained in both collections use [intersect].
    * Returns a set
    containing all distinct elements from both collections.
    * The returned set preserves the element
    iteration order of the original array.
    * Those elements of the [other] collection that are unique are iterated in the
    end
    * in the order of the [other] collection.
    * To get a set containing all elements
    that are contained in both
  
```



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BooleanArray.any(): Boolean {\n  return isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample samples.collections.Collections.Aggregates.any\n */\npublic fun CharArray.any(): Boolean {\n  return isEmpty()\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun <T> Array<out T>.any(predicate: (T) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return true\n  return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun ByteArray.any(predicate: (Byte) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return true\n  return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun ShortArray.any(predicate: (Short) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return true\n  return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun IntArray.any(predicate: (Int) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return true\n  return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun LongArray.any(predicate: (Long) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return true\n  return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun FloatArray.any(predicate: (Float) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return true\n  return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun DoubleArray.any(predicate: (Double) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return true\n  return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun BooleanArray.any(predicate: (Boolean) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return true\n  return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun CharArray.any(predicate: (Char) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return true\n  return false\n}\n}\n\n/**\n * Returns the number of elements in this array.\n * \n * @kotlin.internal.InlineOnly\n */\npublic inline fun <T> Array<out T>.count(): Int {\n  return size\n}\n\n/**\n * Returns the number of elements in this array.\n * \n * @kotlin.internal.InlineOnly\n */\npublic inline fun ByteArray.count(): Int {\n  return size\n}\n\n/**\n * Returns the number of elements in this array.\n * \n * @kotlin.internal.InlineOnly\n */\npublic inline fun ShortArray.count(): Int {\n  return size\n}\n\n/**\n * Returns the number of elements in this array.\n * \n * @kotlin.internal.InlineOnly\n */\npublic inline fun IntArray.count(): Int {\n  return size\n}\n\n/**\n * Returns the number of elements in this array.\n * \n * @kotlin.internal.InlineOnly\n */\npublic inline fun LongArray.count(): Int {\n  return size\n}\n\n/**\n * Returns the number of elements in this array.\n * \n * @kotlin.internal.InlineOnly\n */\npublic inline fun FloatArray.count(): Int {\n  return size\n}\n\n/**\n * Returns the number of elements in this array.\n * \n * @kotlin.internal.InlineOnly\n */\npublic inline fun DoubleArray.count(): Int {\n  return size\n}\n\n/**\n * Returns the number of elements in this array.\n * \n * @kotlin.internal.InlineOnly\n */\npublic inline fun BooleanArray.count(): Int {\n  return size\n}\n\n/**\n * Returns the number of elements in this array.\n * \n * @kotlin.internal.InlineOnly\n */\npublic inline fun CharArray.count(): Int {\n  return size\n}\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n * \n * @kotlin.internal.InlineOnly\n */\npublic inline fun <T> Array<out T>.count(predicate: (T) -> Boolean): Int {\n  var count = 0\n  for (element in this) if (predicate(element)) ++count\n  return count\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n * \n * @kotlin.internal.InlineOnly\n */\npublic inline fun ByteArray.count(predicate: (Byte) -> Boolean): Int {\n  var count = 0\n  for (element in this) if (predicate(element)) ++count\n  return count\n}\n\n/**\n * Returns the number of elements matching the given

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[predicate].\n *\npublic inline fun ShortArray.count(predicate: (Short) -> Boolean): Int {\n  var count = 0\n  for (element in this) if (predicate(element)) ++count\n  return count\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n *\npublic inline fun IntArray.count(predicate: (Int) -> Boolean): Int {\n  var count = 0\n  for (element in this) if (predicate(element)) ++count\n  return count\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n *\npublic inline fun LongArray.count(predicate: (Long) -> Boolean): Int {\n  var count = 0\n  for (element in this) if (predicate(element)) ++count\n  return count\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n *\npublic inline fun FloatArray.count(predicate: (Float) -> Boolean): Int {\n  var count = 0\n  for (element in this) if (predicate(element)) ++count\n  return count\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n *\npublic inline fun DoubleArray.count(predicate: (Double) -> Boolean): Int {\n  var count = 0\n  for (element in this) if (predicate(element)) ++count\n  return count\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n *\npublic inline fun BooleanArray.count(predicate: (Boolean) -> Boolean): Int {\n  var count = 0\n  for (element in this) if (predicate(element)) ++count\n  return count\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n *\npublic inline fun CharArray.count(predicate: (Char) -> Boolean): Int {\n  var count = 0\n  for (element in this) if (predicate(element)) ++count\n  return count\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n * Returns the specified [initial] value if the array is empty.\n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n *\npublic inline fun <T, R> Array<out T>.fold(initial: R, operation: (acc: R, T) -> R): R {\n  var accumulator = initial\n  for (element in this) accumulator = operation(accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n * Returns the specified [initial] value if the array is empty.\n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n *\npublic inline fun <R> ByteArray.fold(initial: R, operation: (acc: R, Byte) -> R): R {\n  var accumulator = initial\n  for (element in this) accumulator = operation(accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n * Returns the specified [initial] value if the array is empty.\n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n *\npublic inline fun <R> ShortArray.fold(initial: R, operation: (acc: R, Short) -> R): R {\n  var accumulator = initial\n  for (element in this) accumulator = operation(accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n * Returns the specified [initial] value if the array is empty.\n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n *\npublic inline fun <R> IntArray.fold(initial: R, operation: (acc: R, Int) -> R): R {\n  var accumulator = initial\n  for (element in this) accumulator = operation(accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n * Returns the specified [initial] value if the array is empty.\n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n *\npublic inline fun <R> LongArray.fold(initial: R, operation: (acc: R, Long) -> R): R {\n  var accumulator = initial\n  for (element in this) accumulator = operation(accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n * Returns the specified [initial] value if the array is empty.\n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n *\npublic inline fun <R> FloatArray.fold(initial: R, operation: (acc: R, Float) -> R): R {\n  var accumulator = initial\n  for (element in this) accumulator = operation(accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n * Returns the specified [initial] value if the array is empty.\n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n *

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the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n */\npublic inline fun <R> DoubleArray.fold(initial: R, operation: (acc: R, Double) -> R): R {\n var accumulator = initial\n for (element in this) accumulator = operation(accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n */\npublic inline fun <R> BooleanArray.fold(initial: R, operation: (acc: R, Boolean) -> R): R {\n var accumulator = initial\n for (element in this) accumulator = operation(accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n */\npublic inline fun <R> CharArray.fold(initial: R, operation: (acc: R, Char) -> R): R {\n var accumulator = initial\n for (element in this) accumulator = operation(accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n */\npublic inline fun <T, R> Array<out T>.foldIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): R {\n var index = 0\n var accumulator = initial\n for (element in this) accumulator = operation(index++, accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n */\npublic inline fun <R> ByteArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Byte) -> R): R {\n var index = 0\n var accumulator = initial\n for (element in this) accumulator = operation(index++, accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n */\npublic inline fun <R> ShortArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Short) -> R): R {\n var index = 0\n var accumulator = initial\n for (element in this) accumulator = operation(index++, accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n */\npublic inline fun <R> IntArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Int) -> R): R {\n var index = 0\n var accumulator = initial\n for (element in this) accumulator = operation(index++, accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n */\npublic inline fun <R> LongArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Long) -> R): R {\n var index = 0\n var accumulator = initial\n for (element in this) accumulator = operation(index++, accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n

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* to current accumulator value and each element with its index in the original array.\n * \n * Returns the specified
[initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, current
accumulator value\n * and the element itself, and calculates the next accumulator value.\n */\npublic inline fun <R>
FloatArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Float) -> R): R {\n    var index = 0\n    var
accumulator = initial\n    for (element in this) accumulator = operation(index++, accumulator, element)\n    return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to
right\n * to current accumulator value and each element with its index in the original array.\n * \n * Returns the
specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an
element, current accumulator value\n * and the element itself, and calculates
the next accumulator value.\n */\npublic inline fun <R> DoubleArray.foldIndexed(initial: R, operation: (index: Int,
acc: R, Double) -> R): R {\n    var index = 0\n    var accumulator = initial\n    for (element in this) accumulator =
operation(index++, accumulator, element)\n    return accumulator\n}\n\n/**\n * Accumulates value starting with
[initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its
index in the original array.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param
[operation] function that takes the index of an element, current accumulator value\n * and the element itself, and
calculates the next accumulator value.\n */\npublic inline fun <R> BooleanArray.foldIndexed(initial: R, operation:
(index: Int, acc: R, Boolean) -> R): R {\n    var index = 0\n    var accumulator = initial\n    for (element in this)
accumulator = operation(index++, accumulator, element)\n    return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current
accumulator value and each element with its index in the original array.\n * \n * Returns the specified [initial] value
if the array is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator
value\n * and the element itself, and calculates the next accumulator value.\n */\npublic inline fun <R>
CharArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Char) -> R): R {\n    var index = 0\n    var
accumulator = initial\n    for (element in this) accumulator = operation(index++, accumulator, element)\n    return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to
left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the array is
empty.\n * \n * @param [operation] function that takes an element and
current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <T, R> Array<out
T>.foldRight(initial: R, operation: (T, acc: R) -> R): R {\n    var index = lastIndex\n    var accumulator = initial\n
while (index >= 0) {\n        accumulator = operation(get(index--), accumulator)\n    }\n    return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to
left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the array is
empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the
next accumulator value.\n */\npublic inline fun <R> ByteArray.foldRight(initial: R, operation: (Byte, acc: R) -> R):
R {\n    var index = lastIndex\n    var accumulator = initial\n    while (index >= 0) {\n        accumulator =
operation(get(index--), accumulator)\n    }\n    return accumulator\n}\n\n/**\n * Accumulates
value starting with [initial] value and applying [operation] from right to left\n * to each element and current
accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation]
function that takes an element and current accumulator value, and calculates the next accumulator value.\n */\n
public inline fun <R> ShortArray.foldRight(initial: R, operation: (Short, acc: R) -> R): R {\n    var index =
lastIndex\n    var accumulator = initial\n    while (index >= 0) {\n        accumulator = operation(get(index--),
accumulator)\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying
[operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns the specified
[initial] value if the array is empty.\n * \n * @param [operation] function that takes an element and current
accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R>
IntArray.foldRight(initial: R, operation: (Int, acc: R) -> R): R {\n    var index = lastIndex\n    var accumulator =
initial\n    while (index >= 0) {\n        accumulator = operation(get(index--), accumulator)\n    }\n    return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to

```



```

left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the array is
empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the
next accumulator value.\n */\npublic inline fun <R> LongArray.foldRight(initial: R, operation: (Long, acc: R) -> R):
R {\n    var index = lastIndex\n    var accumulator = initial\n    while (index >= 0) {\n        accumulator =
operation(get(index--), accumulator)\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with
[initial] value and applying [operation] from right to left\n * to each element
and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param
[operation] function that takes an element and current accumulator value, and calculates the next accumulator
value.\n */\npublic inline fun <R> FloatArray.foldRight(initial: R, operation: (Float, acc: R) -> R): R {\n    var index
= lastIndex\n    var accumulator = initial\n    while (index >= 0) {\n        accumulator = operation(get(index--),
accumulator)\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying
[operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns the specified
[initial] value if the array is empty.\n * \n * @param [operation] function that takes an element and current
accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R>
DoubleArray.foldRight(initial: R, operation: (Double, acc: R) -> R): R {\n    var index = lastIndex\n
    var accumulator = initial\n    while (index >= 0) {\n        accumulator = operation(get(index--), accumulator)\n
    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from
right to left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the
array is empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and
calculates the next accumulator value.\n */\npublic inline fun <R> BooleanArray.foldRight(initial: R, operation:
(Boolean, acc: R) -> R): R {\n    var index = lastIndex\n    var accumulator = initial\n    while (index >= 0) {\n
    accumulator = operation(get(index--), accumulator)\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value
starting with [initial] value and applying [operation] from right to left\n * to each element and current accumulator
value.\n * \n * Returns the specified [initial] value if the array is
empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates
the next accumulator value.\n */\npublic inline fun <R> CharArray.foldRight(initial: R, operation: (Char, acc: R) ->
R): R {\n    var index = lastIndex\n    var accumulator = initial\n    while (index >= 0) {\n        accumulator =
operation(get(index--), accumulator)\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with
[initial] value and applying [operation] from right to left\n * to each element with its index in the original array and
current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param
[operation] function that takes the index of an element, the element itself\n * and current accumulator value, and
calculates the next accumulator value.\n */\npublic inline fun <T, R> Array<out T>.foldRightIndexed(initial: R,
operation: (index: Int, T, acc: R) -> R): R {\n    var index = lastIndex\n    var
    accumulator = initial\n    while (index >= 0) {\n        accumulator = operation(index, get(index), accumulator)\n
--index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying
[operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n
\n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the
index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator
value.\n */\npublic inline fun <R> ByteArray.foldRightIndexed(initial: R, operation: (index: Int, Byte, acc: R) -> R):
R {\n    var index = lastIndex\n    var accumulator = initial\n    while (index >= 0) {\n        accumulator =
operation(index, get(index), accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates
value starting with [initial] value and applying [operation] from
right to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns
the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an
element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n
\n */\npublic inline fun <R> ShortArray.foldRightIndexed(initial: R, operation: (index: Int, Short, acc: R) -> R): R {\n
    var index = lastIndex\n    var accumulator = initial\n    while (index >= 0) {\n        accumulator = operation(index,
get(index), accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with

```

[initial] value and applying [operation] from right to left to each element with its index in the original array and current accumulator value. Returns the specified [initial] value if the array is empty. @param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value.

```

public inline fun <R> IntArray.foldRightIndexed(initial: R, operation: (index: Int, Int, acc: R) -> R): R {
    var index = lastIndex
    var accumulator = initial
    while (index >= 0) {
        accumulator = operation(index, get(index), accumulator)
        --index
    }
    return accumulator
}

```

Accumulates value starting with [initial] value and applying [operation] from right to left to each element with its index in the original array and current accumulator value. Returns the specified [initial] value if the array is empty. @param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value.

```

public inline fun <R> LongArray.foldRightIndexed(initial: R, operation: (index: Int, Long, acc: R) -> R): R {
    var index = lastIndex
    var accumulator = initial
    while (index >= 0) {
        accumulator = operation(index, get(index), accumulator)
        --index
    }
    return accumulator
}

```

Accumulates value starting with [initial] value and applying [operation] from right to left to each element with its index in the original array and current accumulator value. Returns the specified [initial] value if the array is empty. @param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value.

```

public inline fun <R> FloatArray.foldRightIndexed(initial: R, operation: (index: Int, Float, acc: R) -> R): R {
    var index = lastIndex
    var accumulator = initial
    while (index >= 0) {
        accumulator = operation(index, get(index), accumulator)
        --index
    }
    return accumulator
}

```

Accumulates value starting with [initial] value and applying [operation] from right to left to each element with its index in the original array and current accumulator value. Returns the specified [initial] value if the array is empty. @param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value.

```

public inline fun <R> DoubleArray.foldRightIndexed(initial: R, operation: (index: Int, Double, acc: R) -> R): R {
    var index = lastIndex
    var accumulator = initial
    while (index >= 0) {
        accumulator = operation(index, get(index), accumulator)
        --index
    }
    return accumulator
}

```

Accumulates value starting with [initial] value and applying [operation] from right to left to each element with its index in the original array and current accumulator value. Returns the specified [initial] value if the array is empty. @param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value.

```

public inline fun <R> BooleanArray.foldRightIndexed(initial: R, operation: (index: Int, Boolean, acc: R) -> R): R {
    var index = lastIndex
    var accumulator = initial
    while (index >= 0) {
        accumulator = operation(index, get(index), accumulator)
        --index
    }
    return accumulator
}

```

Accumulates value starting with [initial] value and applying [operation] from right to left to each element with its index in the original array and current accumulator value. Returns the specified [initial] value if the array is empty. @param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value.

```

public inline fun <R> CharArray.foldRightIndexed(initial: R, operation: (index: Int, Char, acc: R) -> R): R {
    var index = lastIndex
    var accumulator = initial
    while (index >= 0) {
        accumulator = operation(index, get(index), accumulator)
        --index
    }
    return accumulator
}

```

Performs the given [action] on each element.

```

public inline fun <T> Array<out T>.forEach(action: (T) -> Unit): Unit {
    for (element in this) action(element)
}

```

Performs the given [action] on each element.

```

public inline fun ByteArray.forEach(action: (Byte) -> Unit): Unit {
    for (element in this) action(element)
}

```

Performs the given [action] on each element.

```

public inline fun ShortArray.forEach(action: (Short) -> Unit): Unit {
    for (element in this) action(element)
}

```

Performs the given [action] on each element.

```

public inline fun IntArray.forEach(action: (Int) -> Unit): Unit {
    for (element in this) action(element)
}

```

Performs the given [action] on each element.

```

public inline fun LongArray.forEach(action: (Long) -> Unit): Unit {
    for (element in this) action(element)
}

```

```

(element in this) action(element)\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline fun
FloatArray.forEach(action: (Float) -> Unit): Unit {\n    for (element in this) action(element)\n}\n\n/**\n * Performs
the given [action] on each element.\n */\npublic inline fun DoubleArray.forEach(action: (Double) -> Unit): Unit {\n
    for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline
fun BooleanArray.forEach(action: (Boolean) -> Unit): Unit {\n    for (element in this) action(element)\n}\n\n/**\n *
Performs the given [action] on each element.\n */\npublic inline fun CharArray.forEach(action: (Char) -> Unit):
Unit {\n    for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element, providing
sequential index with the element.\n * @param [action] function that takes the index of an element and the element
itself\n * and performs the action on the element.\n */\npublic
inline fun <T> Array<out T>.forEachIndexed(action: (index: Int, T) -> Unit): Unit {\n    var index = 0\n    for (item
in this) action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index
with the element.\n * @param [action] function that takes the index of an element and the element itself\n * and
performs the action on the element.\n */\npublic inline fun ByteArray.forEachIndexed(action: (index: Int, Byte) ->
Unit): Unit {\n    var index = 0\n    for (item in this) action(index++, item)\n}\n\n/**\n * Performs the given [action]
on each element, providing sequential index with the element.\n * @param [action] function that takes the index of
an element and the element itself\n * and performs the action on the element.\n */\npublic inline fun
ShortArray.forEachIndexed(action: (index: Int, Short) -> Unit): Unit {\n    var index = 0\n    for (item in this)
action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing
sequential index with the element.\n * @param [action] function that takes the index of an element and the element
itself\n * and performs the action on the element.\n */\npublic inline fun IntArray.forEachIndexed(action: (index:
Int, Int) -> Unit): Unit {\n    var index = 0\n    for (item in this) action(index++, item)\n}\n\n/**\n * Performs the
given [action] on each element, providing sequential index with the element.\n * @param [action] function that
takes the index of an element and the element itself\n * and performs the action on the element.\n */\npublic inline
fun LongArray.forEachIndexed(action: (index: Int, Long) -> Unit): Unit {\n    var index = 0\n    for (item in this)
action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with
the element.\n * @param [action] function that takes the index of an element and the element itself\n * and performs
the action on the element.\n */\npublic inline fun FloatArray.forEachIndexed(action:
(index: Int, Float) -> Unit): Unit {\n    var index = 0\n    for (item in this) action(index++, item)\n}\n\n/**\n *
Performs the given [action] on each element, providing sequential index with the element.\n * @param [action]
function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\n
public inline fun DoubleArray.forEachIndexed(action: (index: Int, Double) -> Unit): Unit {\n    var index = 0\n
for (item in this) action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing
sequential index with the element.\n * @param [action] function that takes the index of an element and the element
itself\n * and performs the action on the element.\n */\npublic inline fun BooleanArray.forEachIndexed(action:
(index: Int, Boolean) -> Unit): Unit {\n    var index = 0\n    for (item in this) action(index++, item)\n}\n\n/**\n *
Performs the given [action] on each element, providing sequential index with
the element.\n * @param [action] function that takes the index of an element and the element itself\n * and
performs the action on the element.\n */\npublic inline fun CharArray.forEachIndexed(action: (index: Int, Char) ->
Unit): Unit {\n    var index = 0\n    for (item in this) action(index++, item)\n}\n\n@Deprecated("Use maxOrNull
instead.", ReplaceWith("this.maxOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince = "1.6")\n@SinceKotlin("1.1")\npublic fun Array<out Double>.max(): Double? {\n    return
maxOrNull()\n}\n\n@Deprecated("Use maxOrNull instead.",
ReplaceWith("this.maxOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\n@SinceKotlin("1.1")\npublic fun Array<out Float>.max(): Float? {\n    return
maxOrNull()\n}\n\n@Deprecated("Use maxOrNull instead.",
ReplaceWith("this.maxOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince

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= \"1.6\")\npublic fun <T : Comparable<T>> Array<out T>.max(): T? {\n    return
maxOrNull()\n}\n\n@Deprecated(\"Use maxOrNull instead.\",
ReplaceWith(\"this.maxOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince = \"1.5\",
hiddenSince = \"1.6\")\npublic fun ByteArray.max(): Byte? {\n    return maxOrNull()\n}\n\n@Deprecated(\"Use
maxOrNull instead.\", ReplaceWith(\"this.maxOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\",
errorSince = \"1.5\", hiddenSince = \"1.6\")\npublic fun ShortArray.max(): Short? {\n    return
maxOrNull()\n}\n\n@Deprecated(\"Use maxOrNull instead.\",
ReplaceWith(\"this.maxOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince = \"1.5\",
hiddenSince = \"1.6\")\npublic fun IntArray.max(): Int? {\n    return maxOrNull()\n}\n\n@Deprecated(\"Use
maxOrNull instead.\", ReplaceWith(\"this.maxOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\",
errorSince = \"1.5\", hiddenSince = \"1.6\")\npublic fun LongArray.max():
Long? {\n    return maxOrNull()\n}\n\n@Deprecated(\"Use maxOrNull instead.\",
ReplaceWith(\"this.maxOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince = \"1.5\",
hiddenSince = \"1.6\")\npublic fun FloatArray.max(): Float? {\n    return maxOrNull()\n}\n\n@Deprecated(\"Use
maxOrNull instead.\", ReplaceWith(\"this.maxOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\",
errorSince = \"1.5\", hiddenSince = \"1.6\")\npublic fun DoubleArray.max(): Double? {\n    return
maxOrNull()\n}\n\n@Deprecated(\"Use maxOrNull instead.\",
ReplaceWith(\"this.maxOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince = \"1.5\",
hiddenSince = \"1.6\")\npublic fun CharArray.max(): Char? {\n    return maxOrNull()\n}\n\n@Deprecated(\"Use
maxByOrNull instead.\", ReplaceWith(\"this.maxByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince =
\"1.4\", errorSince = \"1.5\", hiddenSince = \"1.6\")\npublic inline fun <T, R : Comparable<R>> Array<out
T>.maxBy(selector:
(T) -> R): T? {\n    return maxByOrNull(selector)\n}\n\n@Deprecated(\"Use maxByOrNull instead.\",
ReplaceWith(\"this.maxByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince =
\"1.5\", hiddenSince = \"1.6\")\npublic inline fun <R : Comparable<R>> ByteArray.maxBy(selector: (Byte) -> R):
Byte? {\n    return maxByOrNull(selector)\n}\n\n@Deprecated(\"Use maxByOrNull instead.\",
ReplaceWith(\"this.maxByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince =
\"1.5\", hiddenSince = \"1.6\")\npublic inline fun <R : Comparable<R>> ShortArray.maxBy(selector: (Short) -> R):
Short? {\n    return maxByOrNull(selector)\n}\n\n@Deprecated(\"Use maxByOrNull instead.\",
ReplaceWith(\"this.maxByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince =
\"1.5\", hiddenSince = \"1.6\")\npublic inline fun <R : Comparable<R>> IntArray.maxBy(selector: (Int) -> R): Int?
{\n    return maxByOrNull(selector)\n}\n\n@Deprecated(\"Use maxByOrNull
instead.\", ReplaceWith(\"this.maxByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\",
errorSince = \"1.5\", hiddenSince = \"1.6\")\npublic inline fun <R : Comparable<R>> LongArray.maxBy(selector:
(Long) -> R): Long? {\n    return maxByOrNull(selector)\n}\n\n@Deprecated(\"Use maxByOrNull instead.\",
ReplaceWith(\"this.maxByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince =
\"1.5\", hiddenSince = \"1.6\")\npublic inline fun <R : Comparable<R>> FloatArray.maxBy(selector: (Float) -> R):
Float? {\n    return maxByOrNull(selector)\n}\n\n@Deprecated(\"Use maxByOrNull instead.\",
ReplaceWith(\"this.maxByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince =
\"1.5\", hiddenSince = \"1.6\")\npublic inline fun <R : Comparable<R>> DoubleArray.maxBy(selector: (Double) ->
R): Double? {\n    return maxByOrNull(selector)\n}\n\n@Deprecated(\"Use maxByOrNull instead.\",
ReplaceWith(\"this.maxByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince
= \"1.4\", errorSince = \"1.5\", hiddenSince = \"1.6\")\npublic inline fun <R : Comparable<R>>
BooleanArray.maxBy(selector: (Boolean) -> R): Boolean? {\n    return
maxByOrNull(selector)\n}\n\n@Deprecated(\"Use maxByOrNull instead.\",
ReplaceWith(\"this.maxByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince =
\"1.5\", hiddenSince = \"1.6\")\npublic inline fun <R : Comparable<R>> CharArray.maxBy(selector: (Char) -> R):
Char? {\n    return maxByOrNull(selector)\n}\n\n/**\n * Returns the first element yielding the largest value of the

```

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given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n * \n @SinceKotlin("1.4")\n public inline fun <T, R :
Comparable<R>> Array<out T>.maxByOrNull(selector: (T) -> R): T? {\n if (isEmpty()) return null\n var
maxElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxVale =
selector(maxElem)\n
for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxVale < v) {\n maxElem
= e\n maxVale = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first element yielding the
largest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n * \n @SinceKotlin("1.4")\n public inline fun <R :
Comparable<R>> ByteArray.maxByOrNull(selector: (Byte) -> R): Byte? {\n if (isEmpty()) return null\n var
maxElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxVale =
selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxVale < v)
{\n maxElem = e\n maxVale = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first
element yielding the largest value of the given function
or `null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.maxByOrNull\n
* \n @SinceKotlin("1.4")\n public inline fun <R : Comparable<R>> ShortArray.maxByOrNull(selector: (Short) ->
R): Short? {\n if (isEmpty()) return null\n var maxElem = this[0]\n val lastIndex = this.lastIndex\n if
(lastIndex == 0) return maxElem\n var maxVale = selector(maxElem)\n for (i in 1..lastIndex) {\n val e =
this[i]\n val v = selector(e)\n if (maxVale < v) {\n maxElem = e\n maxVale = v\n }\n }\n
return maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or
`null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.maxByOrNull\n
* \n @SinceKotlin("1.4")\n public inline fun <R : Comparable<R>> IntArray.maxByOrNull(selector: (Int) ->
R): Int? {\n if (isEmpty()) return null\n var maxElem = this[0]\n val lastIndex
= this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxVale = selector(maxElem)\n for (i in
1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxVale < v) {\n maxElem = e\n
maxVale = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first element yielding the largest value
of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n * \n @SinceKotlin("1.4")\n public inline fun <R :
Comparable<R>> LongArray.maxByOrNull(selector: (Long) -> R): Long? {\n if (isEmpty()) return null\n var
maxElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxVale =
selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxVale < v)
{\n maxElem = e\n maxVale = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first element yielding the
largest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n * \n @SinceKotlin("1.4")\n public inline fun
<R : Comparable<R>> FloatArray.maxByOrNull(selector: (Float) -> R): Float? {\n if (isEmpty()) return null\n
var maxElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxVale =
selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxVale < v)
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Comparable<R>> DoubleArray.maxByOrNull(selector: (Double)
-> R): Double? {\n if (isEmpty()) return null\n var maxElem = this[0]\n val lastIndex = this.lastIndex\n if
(lastIndex == 0) return maxElem\n var maxVale = selector(maxElem)\n for (i in 1..lastIndex) {\n val e =
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`null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.maxByOrNull\n
* \n @SinceKotlin("1.4")\n public inline fun <R : Comparable<R>> BooleanArray.maxByOrNull(selector:
(Boolean) -> R): Boolean? {\n if (isEmpty()) return null\n var maxElem = this[0]\n val lastIndex =

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this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxValue = selector(maxElem)\n for (i in
1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxValue
< v) {\n maxElem = e\n maxValue = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the
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samples.collections.Collections.Aggregates.maxByOrNull\n *\n@SinceKotlin("1.4")\npublic inline fun <R :
Comparable<R>> CharArray.maxByOrNull(selector: (Char) -> R): Char? {\n if (isEmpty()) return null\n var
maxElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxValue =
selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxValue < v)
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result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.maxOf(selector: (T) ->
Double): Double {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for
(i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline
fun ByteArray.maxOf(selector: (Byte) -> Double): Double {\n if (isEmpty()) throw NoSuchElementException()\n
var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue =
maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector]
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.maxOf(selector: (Short) ->
Double): Double {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for
(i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue,
v)\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector]
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.maxOf(selector: (Int) -> Double):
Double {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in
1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.maxOf(selector: (Long) ->
Double): Double {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for
(i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
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`NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.maxOf(selector:
(Float) -> Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue =
selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n *
applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned
result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.maxOf(selector: (Double) ->
Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for
(i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.maxOf(selector: (Boolean) ->
Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for
(i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.maxOf(selector: (Char) ->
Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for
(i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.maxOf(selector:
(T) -> Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for
(i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.maxOf(selector: (Byte) -> Float):
Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in
1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.maxOf(selector: (Short) ->
Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i
in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return

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maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.maxOf(selector: (Int) -> Float):
Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in
1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.maxOf(selector: (Long) ->
Float):
Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in
1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.maxOf(selector: (Float) ->
Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i
in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return
maxValue\n}\n\n/**\n * Returns the
largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If
any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws
NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.maxOf(selector: (Double) ->
Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i
in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
`NaN`.\n * \n * @throws NoSuchElementException if the array
is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.maxOf(selector: (Boolean) ->
Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i
in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.maxOf(selector: (Char) -> Float):
Float {\n    if
(isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n
val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns
the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n *

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@throws NoSuchElementException if the array is empty.\n
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>> Array<out
T>.maxOf(selector: (T) -> R): R {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue =
selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (maxValue < v) {\n
maxValue = v\n }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
ByteArray.maxOf(selector: (Byte) -> R): R {\n if (isEmpty()) throw NoSuchElementException()\n var
maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (maxValue < v) {\n
maxValue = v\n }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
ShortArray.maxOf(selector:
(Short) -> R): R {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for
(i in 1..lastIndex) {\n val v = selector(this[i])\n if (maxValue < v) {\n maxValue = v\n }\n }\n
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IntArray.maxOf(selector: (Int) -> R): R {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue =
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LongArray.maxOf(selector: (Long) -> R): R {\n if (isEmpty()) throw NoSuchElementException()\n var
maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (maxValue < v) {\n
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fun <R : Comparable<R>> FloatArray.maxOf(selector: (Float) -> R): R {\n if (isEmpty()) throw
NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v =
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DoubleArray.maxOf(selector: (Double) -> R): R {\n if (isEmpty()) throw NoSuchElementException()\n var
maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (maxValue < v) {\n
maxValue = v\n }\n }\n return

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maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n *\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
BooleanArray.maxOf(selector: (Boolean) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var
maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (maxValue < v) {\n
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inline fun <R : Comparable<R>> CharArray.maxOf(selector: (Char) -> R): R {\n    if (isEmpty()) throw
NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v =
selector(this[i])\n        if (maxValue < v) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array
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(T) -> Double): Double? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in
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Double): Double? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.maxOfOrNull(selector: (Short) -
> Double): Double? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex)
{\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array
or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned
result is `NaN`.\n *\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.maxOfOrNull(selector: (Int) ->
Double): Double?
{\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v =
selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the
largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if
there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
`NaN`.\n *\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution

```

```

ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.maxOrNull(selector: (Long) -
> Double): Double? {\n  if (isEmpty()) return null\n  var maxValue = selector(this[0])\n  for (i in 1..lastIndex)
{\n    val v = selector(this[i])\n    maxValue = maxOf(maxValue, v)\n  }\n  return maxValue\n}\n\n/**\n *
Returns the largest value among all values produced by [selector] function\n
* applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by
[selector] function is `NaN`, the returned result is `NaN`.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.maxOrNull(selector: (Float) -
> Double): Double? {\n  if (isEmpty()) return null\n  var maxValue = selector(this[0])\n  for (i in 1..lastIndex)
{\n    val v = selector(this[i])\n    maxValue = maxOf(maxValue, v)\n  }\n  return maxValue\n}\n\n/**\n *
Returns the largest value among all values produced by [selector] function\n
* applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by
[selector] function is `NaN`, the returned result is `NaN`.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun DoubleArray.maxOrNull(selector: (Double) -> Double): Double? {\n  if (isEmpty()) return null\n
var maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    maxValue =
maxOf(maxValue, v)\n  }\n  return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n
* applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by
[selector] function is `NaN`, the returned result is `NaN`.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.maxOrNull(selector:
(Boolean) -> Double): Double? {\n  if (isEmpty()) return null\n  var maxValue = selector(this[0])\n  for (i in
1..lastIndex) {\n    val v = selector(this[i])\n    maxValue = maxOf(maxValue,
v)\n  }\n  return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector]
function\n
* applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by
[selector] function is `NaN`, the returned result is `NaN`.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.maxOrNull(selector: (Char) ->
Double): Double? {\n  if (isEmpty()) return null\n  var maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n
val v = selector(this[i])\n    maxValue = maxOf(maxValue, v)\n  }\n  return maxValue\n}\n\n/**\n * Returns
the largest value among all values produced by [selector] function\n
* applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by
[selector] function is `NaN`, the returned result is `NaN`.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.maxOrNull(selector:
(T) -> Float): Float? {\n  if (isEmpty()) return null\n  var maxValue = selector(this[0])\n  for (i in 1..lastIndex)
{\n    val v = selector(this[i])\n    maxValue = maxOf(maxValue, v)\n  }\n  return maxValue\n}\n\n/**\n *
Returns the largest value among all values produced by [selector] function\n
* applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by
[selector] function is `NaN`, the returned result is `NaN`.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.maxOrNull(selector: (Byte) ->
Float): Float? {\n  if (isEmpty()) return null\n  var maxValue
= selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    maxValue = maxOf(maxValue,
v)\n  }\n  return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector]
function\n
* applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by
[selector] function is `NaN`, the returned result is `NaN`.\n
*/

```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.maxOrNull(selector: (Short) -> Float): Float? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.maxOrNull(selector: (Int) -> Float): Float? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun\nLongArray.maxOrNull(selector: (Long) -> Float): Float? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.maxOrNull(selector: (Float) -> Float): Float? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest
```

```
value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.maxOrNull(selector: (Double) -> Float): Float? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic\ninline fun BooleanArray.maxOrNull(selector: (Boolean) -> Float): Float? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.maxOrNull(selector: (Char) -> Float): Float? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val\n        v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if
```

there are no elements.\n

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>> Array<out\nT>.maxOfOrNull(selector: (T) -> R): R? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for\n    (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (maxValue < v) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic\n    inline fun <R : Comparable<R>> ByteArray.maxOfOrNull(selector: (Byte) -> R): R? {\n        if (isEmpty()) return\n        null\n        var maxValue = selector(this[0])\n        for (i in 1..lastIndex) {\n            val v = selector(this[i])\n            if\n            (maxValue < v) {\n                maxValue = v\n            }\n        }\n        return maxValue\n}\n\n/**\n * Returns the largest value\n * among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no\n * elements.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>\nShortArray.maxOfOrNull(selector: (Short) -> R): R? {\n    if (isEmpty()) return null\n    var maxValue =\n    selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (maxValue < v) {\n           \n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>\nIntArray.maxOfOrNull(selector: (Int) -> R): R? {\n    if (isEmpty()) return null\n    var maxValue =\n    selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (maxValue < v) {\n           \n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced\n * by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic\n    inline fun <R : Comparable<R>> LongArray.maxOfOrNull(selector: (Long) -> R): R? {\n        if (isEmpty()) return\n        null\n        var maxValue = selector(this[0])\n        for (i in 1..lastIndex) {\n            val v = selector(this[i])\n            if\n            (maxValue < v) {\n                maxValue = v\n            }\n        }\n        return maxValue\n}\n\n/**\n * Returns the largest value\n * among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no\n * elements.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>\nFloatArray.maxOfOrNull(selector: (Float) -> R): R? {\n    if (isEmpty()) return null\n    var maxValue =\n    selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (maxValue < v) {\n           \n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among\n * all values produced by [selector] function\n * applied to each element in the array or `null` if there are no\n * elements.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>\nDoubleArray.maxOfOrNull(selector: (Double) -> R): R? {\n    if (isEmpty()) return null\n    var maxValue =\n    selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (maxValue < v) {\n           \n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced\n * by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
```

```

ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
BooleanArray.maxOfOrNull(selector:
    (Boolean) -> R): R? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex)
{\n        val v = selector(this[i])\n        if (maxValue < v) {\n            maxValue = v\n        }\n    }\n    return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each element in the array or `null` if there are no elements.\n
*/\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
CharArray.maxOfOrNull(selector: (Char) -> R): R? {\n    if (isEmpty()) return null\n    var maxValue =
selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (maxValue < v) {\n
            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value according to the provided
[comparator]\n * among all values
produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if
the array is empty.\n
*/\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> Array<out
T>.maxOfWith(comparator: Comparator<in R>, selector: (T) -> R): R {\n    if (isEmpty()) throw
NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v =
selector(this[i])\n        if (comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n    }\n    return
maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values
produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if
the array is empty.\n
*/\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun <R> ByteArray.maxOfWith(comparator: Comparator<in R>, selector: (Byte) -> R): R {\n    if
(isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n
        val v = selector(this[i])\n        if (comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n    }\n
    return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all
values produced by [selector] function applied to each element in the array.\n * \n * @throws
NoSuchElementException if the array is empty.\n
*/\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> ShortArray.maxOfWith(comparator:
Comparator<in R>, selector: (Short) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var
maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if
(comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value according to the provided
[comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n *
@throws NoSuchElementException if the array is empty.\n
*/\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> IntArray.maxOfWith(comparator:
Comparator<in R>, selector: (Int) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var
maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if
(comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value according
to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the
array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*/\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> LongArray.maxOfWith(comparator:

```

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Comparator<in R>, selector: (Long) -> R): R {
    if (isEmpty()) throw NoSuchElementException()
    var maxV = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (comparator.compare(maxV, v) < 0) {
            maxV = v
        }
    }
    return maxV
}

Returns the largest value according to the provided [comparator] among all values produced by [selector] function applied to each element in the array.
@throws NoSuchElementException if the array is empty.

@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <R> FloatArray.maxOfWith(comparator: Comparator<in R>, selector: (Float) -> R): R {
    if (isEmpty()) throw NoSuchElementException()
    var maxV = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (comparator.compare(maxV, v) < 0) {
            maxV = v
        }
    }
    return maxV
}

Returns the largest value according to the provided [comparator] among all values produced by [selector] function applied to each element in the array.
@throws NoSuchElementException if the array is empty.

@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <R> DoubleArray.maxOfWith(comparator: Comparator<in R>, selector: (Double) -> R): R {
    if (isEmpty()) throw NoSuchElementException()
    var maxV = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (comparator.compare(maxV, v) < 0) {
            maxV = v
        }
    }
    return maxV
}

Returns the largest value according to the provided [comparator] among all values produced by [selector] function applied to each element in the array.
@throws NoSuchElementException if the array is empty.

@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <R> BooleanArray.maxOfWith(comparator: Comparator<in R>, selector: (Boolean) -> R): R {
    if (isEmpty()) throw NoSuchElementException()
    var maxV = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (comparator.compare(maxV, v) < 0) {
            maxV = v
        }
    }
    return maxV
}

Returns the largest value according to the provided [comparator] among all values produced by [selector] function applied to each element in the array.
@throws NoSuchElementException if the array is empty.

@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <R> CharArray.maxOfWith(comparator: Comparator<in R>, selector: (Char) -> R): R {
    if (isEmpty()) throw NoSuchElementException()
    var maxV = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (comparator.compare(maxV, v) < 0) {
            maxV = v
        }
    }
    return maxV
}

Returns the largest value according to the provided [comparator] among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.

@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <T, R> Array<out T>.maxOfOrNull(comparator: Comparator<in R>, selector: (T) -> R): R? {
    if (isEmpty()) return null
    var maxV = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (comparator.compare(maxV, v) < 0) {
            maxV = v
        }
    }
    return maxV
}

Returns the largest value according to the provided [comparator] among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.

@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <R> ByteArray.maxOfOrNull(comparator: Comparator<in R>, selector: (Byte) -> R): R? {
    if (isEmpty()) return null
    var maxV = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (comparator.compare(maxV, v) < 0) {
            maxV = v
        }
    }
    return maxV
}

```

Returns the largest value according to the provided [comparator] among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.

```

*\/n@SinceKotlin("1.4")n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)n@OverloadResolution
ByLambdaReturnTypen@kotlin.internal.InlineOnlynpublic inline fun <R>
ShortArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Short) -> R): R? {n if (isEmpty())
return nulln var maxVale = selector(this[0])n for (i in 1..lastIndex) {n val v = selector(this[i])n if
(comparator.compare(maxVale, v) < 0) {n maxVale = vn }n }n return maxVale\n}\n\n/**n *
Returns the largest
value according to the provided [comparator] among all values produced by [selector] function applied to each
element in the array or `null` if there are no elements.\n
*\/n@SinceKotlin("1.4")n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)n@OverloadResolution
ByLambdaReturnTypen@kotlin.internal.InlineOnlynpublic inline fun <R>
IntArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Int) -> R): R? {n if (isEmpty()) return
nulln var maxVale = selector(this[0])n for (i in 1..lastIndex) {n val v = selector(this[i])n if
(comparator.compare(maxVale, v) < 0) {n maxVale = vn }n }n return maxVale\n}\n\n/**n *
Returns the largest value according to the provided [comparator] among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*\/n@SinceKotlin("1.4")n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)n@OverloadResolution
ByLambdaReturnTypen@kotlin.internal.InlineOnlynpublic
inline fun <R> LongArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Long) -> R): R? {n if
(isEmpty()) return nulln var maxVale = selector(this[0])n for (i in 1..lastIndex) {n val v =
selector(this[i])n if (comparator.compare(maxVale, v) < 0) {n maxVale = vn }n }n return
maxVale\n}\n\n/**n * Returns the largest value according to the provided [comparator] among all values
produced by [selector] function applied to each element in the array or `null` if there are no elements.\n
*\/n@SinceKotlin("1.4")n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)n@OverloadResolution
ByLambdaReturnTypen@kotlin.internal.InlineOnlynpublic inline fun <R>
FloatArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Float) -> R): R? {n if (isEmpty())
return nulln var maxVale = selector(this[0])n for (i in 1..lastIndex) {n val
v = selector(this[i])n if (comparator.compare(maxVale, v) < 0) {n maxVale = vn }n }n
return maxVale\n}\n\n/**n * Returns the largest value according to the provided [comparator] among all
values produced by [selector] function applied to each element in the array or `null` if there are no elements.\n
*\/n@SinceKotlin("1.4")n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)n@OverloadResolution
ByLambdaReturnTypen@kotlin.internal.InlineOnlynpublic inline fun <R>
DoubleArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Double) -> R): R? {n if (isEmpty())
return nulln var maxVale = selector(this[0])n for (i in 1..lastIndex) {n val v = selector(this[i])n if
(comparator.compare(maxVale, v) < 0) {n maxVale = vn }n }n return maxVale\n}\n\n/**n *
Returns the largest value according to the provided [comparator] among all values produced by [selector]
function
applied to each element in the array or `null` if there are no elements.\n
*\/n@SinceKotlin("1.4")n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)n@OverloadResolution
ByLambdaReturnTypen@kotlin.internal.InlineOnlynpublic inline fun <R>
BooleanArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Boolean) -> R): R? {n if (isEmpty())
return nulln var maxVale = selector(this[0])n for (i in 1..lastIndex) {n val v = selector(this[i])n if
(comparator.compare(maxVale, v) < 0) {n maxVale = vn }n }n return maxVale\n}\n\n/**n *
Returns the largest value according to the provided [comparator] among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*\/n@SinceKotlin("1.4")n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)n@OverloadResolution
ByLambdaReturnTypen@kotlin.internal.InlineOnlynpublic inline fun <R>

```


CharArray.maxOfWithOrNull(comparator:

```
Comparator<in R>, selector: (Char) -> R): R? {\n  if (isEmpty()) return null\n  var max = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if (comparator.compare(max, v) < 0) {\n      max = v\n    }\n  }\n  return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */\n * If any of elements is `NaN` returns `NaN`.\n */\n * Since Kotlin("1.4")\n */\npublic fun Array<out Double>.maxOfOrNull(): Double? {\n  if (isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    max = maxOf(max, e)\n  }\n  return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */\n * If any of elements is `NaN` returns `NaN`.\n */\n * Since Kotlin("1.4")\n */\npublic fun Array<out Float>.maxOfOrNull(): Float? {\n  if (isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    max = maxOf(max, e)\n  }\n  return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */\n * Since Kotlin("1.4")\n */\npublic fun <T : Comparable<T>> Array<out T>.maxOfOrNull(): T? {\n  if (isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if (max < e) max = e\n  }\n  return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */\n * Since Kotlin("1.4")\n */\npublic fun ByteArray.maxOfOrNull(): Byte? {\n  if (isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if (max < e) max = e\n  }\n  return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */\n * Since Kotlin("1.4")\n */\npublic fun ShortArray.maxOfOrNull(): Short? {\n  if (isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if (max < e) max = e\n  }\n  return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */\n * Since Kotlin("1.4")\n */\npublic fun IntArray.maxOfOrNull(): Int? {\n  if (isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if (max < e) max = e\n  }\n  return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */\n * Since Kotlin("1.4")\n */\npublic fun LongArray.maxOfOrNull(): Long? {\n  if (isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if (max < e) max = e\n  }\n  return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */\n * If any of elements is `NaN` returns `NaN`.\n */\n * Since Kotlin("1.4")\n */\npublic fun FloatArray.maxOfOrNull(): Float? {\n  if (isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    max = maxOf(max, e)\n  }\n  return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */\n * If any of elements is `NaN` returns `NaN`.\n */\n * Since Kotlin("1.4")\n */\npublic fun DoubleArray.maxOfOrNull(): Double? {\n  if (isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    max = maxOf(max, e)\n  }\n  return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */\n * If any of elements is `NaN` returns `NaN`.\n */\n * Since Kotlin("1.4")\n */\npublic fun CharArray.maxOfOrNull(): Char? {\n  if (isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if (max < e) max = e\n  }\n  return max\n}\n\n@Deprecated("Use maxWithOrNull instead.")\nReplaceWith("this.maxWithOrNull(comparator)")\n\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5", hiddenSince = "1.6")\npublic fun <T> Array<out T>.maxWith(comparator: Comparator<in T>): T? {\n  return maxWithOrNull(comparator)\n}\n\n@Deprecated("Use maxWithOrNull instead.")\nReplaceWith("this.maxWithOrNull(comparator)")\n\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5", hiddenSince = "1.6")\npublic fun ByteArray.maxWith(comparator: Comparator<in Byte>): Byte? {\n  return maxWithOrNull(comparator)\n}\n\n@Deprecated("Use maxWithOrNull instead.")\nReplaceWith("this.maxWithOrNull(comparator)")\n\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5", hiddenSince = "1.6")\npublic fun ShortArray.maxWith(comparator: Comparator<in Short>): Short? {\n  return maxWithOrNull(comparator)\n}\n\n@Deprecated("Use maxWithOrNull instead.")\nReplaceWith("this.maxWithOrNull(comparator)")\n\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5", hiddenSince = "1.6")\npublic fun IntArray.maxWith(comparator: Comparator<in Int>): Int? {\n  return maxWithOrNull(comparator)\n}\n\n@Deprecated("Use maxWithOrNull instead.")
```



```

e\n } \n return max\n}\n\n/**\n * Returns the first element having the largest value according to the
provided [comparator] or `null` if there are no elements.\n *\n@SinceKotlin("1.4")\npublic fun
CharArray.maxWithOrNull(comparator: Comparator<in Char>): Char? {\n if (isEmpty()) return null\n var max
= this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(max, e) < 0) max = e\n } \n
return max\n}\n\n@Deprecated("Use minOrNull instead."),
ReplaceWith("this.minOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\n@SinceKotlin("1.1")\npublic fun Array<out Double>.min(): Double? {\n return
minOrNull()\n}\n\n@Deprecated("Use minOrNull instead."),
ReplaceWith("this.minOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\n@SinceKotlin("1.1")\npublic fun Array<out Float>.min(): Float? {\n return
minOrNull()\n}\n\n@Deprecated("Use minOrNull instead."),
ReplaceWith("this.minOrNull()")\n@DeprecatedSinceKotlin(warningSince
= "1.4", errorSince = "1.5", hiddenSince = "1.6")\npublic fun <T : Comparable<T>> Array<out T>.min(): T?
{\n return minOrNull()\n}\n\n@Deprecated("Use minOrNull instead."),
ReplaceWith("this.minOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\npublic fun ByteArray.min(): Byte? {\n return minOrNull()\n}\n\n@Deprecated("Use
minOrNull instead.", ReplaceWith("this.minOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4",
errorSince = "1.5", hiddenSince = "1.6")\npublic fun ShortArray.min(): Short? {\n return
minOrNull()\n}\n\n@Deprecated("Use minOrNull instead."),
ReplaceWith("this.minOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\npublic fun IntArray.min(): Int? {\n return minOrNull()\n}\n\n@Deprecated("Use
minOrNull instead.", ReplaceWith("this.minOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4",
errorSince = "1.5", hiddenSince
= "1.6")\npublic fun LongArray.min(): Long? {\n return minOrNull()\n}\n\n@Deprecated("Use minOrNull
instead.", ReplaceWith("this.minOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince = "1.6")\npublic fun FloatArray.min(): Float? {\n return
minOrNull()\n}\n\n@Deprecated("Use minOrNull instead."),
ReplaceWith("this.minOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\npublic fun DoubleArray.min(): Double? {\n return
minOrNull()\n}\n\n@Deprecated("Use minOrNull instead."),
ReplaceWith("this.minOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\npublic fun CharArray.min(): Char? {\n return minOrNull()\n}\n\n@Deprecated("Use
minByOrNull instead.", ReplaceWith("this.minByOrNull(selector)")\n@DeprecatedSinceKotlin(warningSince =
"1.4", errorSince = "1.5", hiddenSince = "1.6")\npublic inline fun <T,
R : Comparable<R>> Array<out T>.minBy(selector: (T) -> R): T? {\n return
minByOrNull(selector)\n}\n\n@Deprecated("Use minByOrNull instead."),
ReplaceWith("this.minByOrNull(selector)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince = "1.6")\npublic inline fun <R : Comparable<R>> ByteArray.minBy(selector: (Byte) -> R):
Byte? {\n return minByOrNull(selector)\n}\n\n@Deprecated("Use minByOrNull instead."),
ReplaceWith("this.minByOrNull(selector)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince = "1.6")\npublic inline fun <R : Comparable<R>> ShortArray.minBy(selector: (Short) -> R):
Short? {\n return minByOrNull(selector)\n}\n\n@Deprecated("Use minByOrNull instead."),
ReplaceWith("this.minByOrNull(selector)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince = "1.6")\npublic inline fun <R : Comparable<R>> IntArray.minBy(selector: (Int) -> R): Int?
{\n return minByOrNull(selector)\n}\n\n@Deprecated("Use
minByOrNull instead.", ReplaceWith("this.minByOrNull(selector)")\n@DeprecatedSinceKotlin(warningSince =
"1.4", errorSince = "1.5", hiddenSince = "1.6")\npublic inline fun <R : Comparable<R>>
LongArray.minBy(selector: (Long) -> R): Long? {\n return minByOrNull(selector)\n}\n\n@Deprecated("Use

```

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minByOrNull instead.\", ReplaceWith(\"this.minByOrNull(selector)\")\n\n@DeprecatedSinceKotlin(warningSince =
\"1.4\", errorSince = \"1.5\", hiddenSince = \"1.6\")\npublic inline fun <R : Comparable<R>>
FloatArray.minBy(selector: (Float) -> R): Float? {\n    return minByOrNull(selector)\n}\n\n@Deprecated(\"Use
minByOrNull instead.\", ReplaceWith(\"this.minByOrNull(selector)\")\n\n@DeprecatedSinceKotlin(warningSince =
\"1.4\", errorSince = \"1.5\", hiddenSince = \"1.6\")\npublic inline fun <R : Comparable<R>>
DoubleArray.minBy(selector: (Double) -> R): Double? {\n    return
minByOrNull(selector)\n}\n\n@Deprecated(\"Use minByOrNull instead.\",
ReplaceWith(\"this.minByOrNull(selector)\")\n\n@DeprecatedSinceKotlin(warningSince
= \"1.4\", errorSince = \"1.5\", hiddenSince = \"1.6\")\npublic inline fun <R : Comparable<R>>
BooleanArray.minBy(selector: (Boolean) -> R): Boolean? {\n    return
minByOrNull(selector)\n}\n\n@Deprecated(\"Use minByOrNull instead.\",
ReplaceWith(\"this.minByOrNull(selector)\")\n\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince =
\"1.5\", hiddenSince = \"1.6\")\npublic inline fun <R : Comparable<R>> CharArray.minBy(selector: (Char) -> R):
Char? {\n    return minByOrNull(selector)\n}\n\n/**\n * Returns the first element yielding the smallest value of the
given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minByOrNull\n * \n * @SinceKotlin(\"1.4\")\npublic inline fun <T, R :
Comparable<R>> Array<out T>.minByOrNull(selector: (T) -> R): T? {\n    if (isEmpty()) return null\n    var
minElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex
== 0) return minElem\n    var minValue = selector(minElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n
val v = selector(e)\n        if (minValue > v) {\n            minElem = e\n            minValue = v\n        }\n    }\n    return
minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or `null` if there
are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.minByOrNull\n * \n * @SinceKotlin(\"1.4\")\npublic inline fun <R : Comparable<R>> ByteArray.minByOrNull(selector: (Byte) ->
R): Byte? {\n    if (isEmpty()) return null\n    var minElem = this[0]\n    val lastIndex = this.lastIndex\n    if
(lastIndex == 0) return minElem\n    var minValue = selector(minElem)\n    for (i in 1..lastIndex) {\n        val e =
this[i]\n        val v = selector(e)\n        if (minValue > v) {\n            minElem = e\n            minValue = v\n        }\n    }\n    return minElem\n}\n\n/**\n * Returns the first element
yielding the smallest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minByOrNull\n * \n * @SinceKotlin(\"1.4\")\npublic inline fun <R :
Comparable<R>> ShortArray.minByOrNull(selector: (Short) -> R): Short? {\n    if (isEmpty()) return null\n    var
minElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return minElem\n    var minValue =
selector(minElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (minValue > v)
{\n            minElem = e\n            minValue = v\n        }\n    }\n    return minElem\n}\n\n/**\n * Returns the first
element yielding the smallest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minByOrNull\n * \n * @SinceKotlin(\"1.4\")\npublic inline fun <R :
Comparable<R>> IntArray.minByOrNull(selector: (Int) -> R): Int? {\n    if (isEmpty()) return
null\n    var minElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return minElem\n    var
minValue = selector(minElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if
(minValue > v) {\n            minElem = e\n            minValue = v\n        }\n    }\n    return minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minByOrNull\n * \n * @SinceKotlin(\"1.4\")\npublic inline fun
<R : Comparable<R>> LongArray.minByOrNull(selector: (Long) -> R): Long? {\n    if (isEmpty()) return null\n    var
minElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return minElem\n    var minValue =
selector(minElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (minValue > v)
{\n            minElem = e\n            minValue
= v\n        }\n    }\n    return minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the
given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minByOrNull\n * \n * @SinceKotlin(\"1.4\")\npublic inline fun <R :

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Comparable<R>> FloatArray.minByOrNull(selector: (Float) -> R): Float? {\n  if (isEmpty()) return null\n  var
minElem = this[0]\n  val lastIndex = this.lastIndex\n  if (lastIndex == 0) return minElem\n  var minValue =
selector(minElem)\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    val v = selector(e)\n    if (minValue > v)
{\n      minElem = e\n      minValue = v\n    }\n  }\n  return minElem\n}\n\n/**\n * Returns the first
element yielding the smallest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minByOrNull\n */\n\n@SinceKotlin("1.4")\npublic inline fun <R :
Comparable<R>>
DoubleArray.minByOrNull(selector: (Double) -> R): Double? {\n  if (isEmpty()) return null\n  var minElem =
this[0]\n  val lastIndex = this.lastIndex\n  if (lastIndex == 0) return minElem\n  var minValue =
selector(minElem)\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    val v = selector(e)\n    if (minValue > v)
{\n      minElem = e\n      minValue = v\n    }\n  }\n  return minElem\n}\n\n/**\n * Returns the first
element yielding the smallest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minByOrNull\n */\n\n@SinceKotlin("1.4")\npublic inline fun <R :
Comparable<R>> BooleanArray.minByOrNull(selector: (Boolean) -> R): Boolean? {\n  if (isEmpty()) return
null\n  var minElem = this[0]\n  val lastIndex = this.lastIndex\n  if (lastIndex == 0) return minElem\n  var
minValue = selector(minElem)\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    val v = selector(e)\n    if (minValue > v) {\n      minElem = e\n      minValue = v\n    }\n  }\n  return minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or `null` if
there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.minByOrNull\n */\n\n@SinceKotlin("1.4")\npublic inline fun <R : Comparable<R>> CharArray.minByOrNull(selector: (Char) ->
R): Char? {\n  if (isEmpty()) return null\n  var minElem = this[0]\n  val lastIndex = this.lastIndex\n  if
(lastIndex == 0) return minElem\n  var minValue = selector(minElem)\n  for (i in 1..lastIndex) {\n    val e =
this[i]\n    val v = selector(e)\n    if (minValue > v) {\n      minElem = e\n      minValue = v\n    }\n  }\n  return minElem\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n *
applied to each element in the array.\n * \n * If any of values
produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException
if the array is empty.\n */\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.minOf(selector: (T) ->
Double): Double {\n  if (isEmpty()) throw NoSuchElementException()\n  var minValue = selector(this[0])\n  for
(i in 1..lastIndex) {\n    val v = selector(this[i])\n    minValue = minOf(minValue, v)\n  }\n  return
minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n *
applied to each element in the array.\n * \n * If any of values
produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException
if the array is empty.\n */\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun ByteArray.minOf(selector: (Byte) -> Double): Double {\n  if (isEmpty()) throw
NoSuchElementException()\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v =
selector(this[i])\n    minValue = minOf(minValue, v)\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest
value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of
values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws
NoSuchElementException if the array is empty.\n */\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.minOf(selector: (Short) ->
Double): Double {\n  if (isEmpty()) throw NoSuchElementException()\n  var minValue = selector(this[0])\n  for
(i in 1..lastIndex) {\n    val
v = selector(this[i])\n    minValue = minOf(minValue, v)\n  }\n  return minValue\n}\n\n/**\n * Returns the
smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun <T> Array<out T>.minOf(selector: (T) -> Float): Float {\n if (isEmpty()) throw
NoSuchElementException()\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v =
selector(this[i])\n minValue = minOf(minValue, v)\n }\n return minValue\n}\n\n/**\n * Returns the smallest
value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of
values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws
NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.minOf(selector: (Byte) -> Float):
Float {\n if (isEmpty()) throw NoSuchElementException()\n var minValue = selector(this[0])\n for (i in
1..lastIndex) {\n val v = selector(this[i])\n
minValue = minOf(minValue, v)\n }\n return minValue\n}\n\n/**\n * Returns the smallest value among all
values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by
[selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is
empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.minOf(selector: (Short) ->
Float): Float {\n if (isEmpty()) throw NoSuchElementException()\n var minValue = selector(this[0])\n for (i in
1..lastIndex) {\n val v = selector(this[i])\n
minValue = minOf(minValue, v)\n }\n return
minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to
each element in the array.\n * \n * If any of values produced by [selector] function
is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.minOf(selector: (Int) -> Float):
Float {\n if (isEmpty()) throw NoSuchElementException()\n var minValue = selector(this[0])\n for (i in
1..lastIndex) {\n val v = selector(this[i])\n
minValue = minOf(minValue, v)\n }\n return
minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to
each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
`NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun LongArray.minOf(selector: (Long) -> Float): Float {\n if (isEmpty()) throw
NoSuchElementException()\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v =
selector(this[i])\n minValue = minOf(minValue, v)\n }\n return minValue\n}\n\n/**\n * Returns the smallest
value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of
values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws
NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.minOf(selector: (Float) -> Float):
Float {\n if (isEmpty()) throw NoSuchElementException()\n var minValue = selector(this[0])\n for (i in
1..lastIndex) {\n val v = selector(this[i])\n
minValue =
minOf(minValue, v)\n }\n return minValue\n}\n\n/**\n * Returns the smallest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector]
function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.minOf(selector: (Double) ->
Float): Float {\n if (isEmpty()) throw NoSuchElementException()\n var minValue = selector(this[0])\n for (i in
1..lastIndex) {\n val v = selector(this[i])\n
minValue =
minOf(minValue, v)\n }\n return minValue\n}\n\n/**\n * Returns the smallest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector]
function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n

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1..lastIndex) {\n    val v = selector(this[i])\n    minValue = minOf(minValue, v)\n } return
minValue}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to
each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned
result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.minOf(selector: (Boolean) ->
Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in
1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return
minValue}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to
each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
`NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun CharArray.minOf(selector: (Char) -> Float): Float {\n    if (isEmpty()) throw
NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v =
selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue}\n\n/**\n * Returns the smallest
value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * @throws
NoSuchElementException if the array is empty.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>> Array<out
T>.minOf(selector: (T) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue =
selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n
minValue = v\n        }\n    }\n    return minValue}\n\n/**\n * Returns the
smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n *
@throws NoSuchElementException if the array is empty.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
ByteArray.minOf(selector: (Byte) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue
= selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n
minValue = v\n        }\n    }\n    return minValue}\n\n/**\n * Returns the smallest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * @throws NoSuchElementException if the
array is empty.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun <R : Comparable<R>> ShortArray.minOf(selector: (Short) -> R): R {\n    if (isEmpty()) throw
NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v =
selector(this[i])\n        if (minValue > v) {\n            minValue = v\n        }\n    }\n    return minValue}\n\n/**\n * Returns the smallest value among all values produced by [selector]
function\n * applied to each element in the
array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
IntArray.minOf(selector: (Int) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue =
selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n
minValue = v\n        }\n    }\n    return minValue}\n\n/**\n * Returns the smallest value among all values produced by [selector]
function\n * applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is
empty.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution

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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
LongArray.minOf(selector: (Long) -> R): R {\n  if (isEmpty()) throw NoSuchElementException()\n  var
minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if (minValue > v) {\n
    minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values
produced by [selector] function\n * applied to each element in the array.\n * \n * @throws
NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun <R : Comparable<R>> FloatArray.minOf(selector: (Float) -> R): R {\n  if (isEmpty()) throw
NoSuchElementException()\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v =
selector(this[i])\n    if (minValue > v) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the
array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
DoubleArray.minOf(selector: (Double) -> R): R {\n  if (isEmpty()) throw NoSuchElementException()\n  var
minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n
    if (minValue > v) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n * Returns the
smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n *
@throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
BooleanArray.minOf(selector: (Boolean) -> R): R {\n  if (isEmpty()) throw NoSuchElementException()\n  var
minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if (minValue > v) {\n
    minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values
produced by [selector] function\n * applied to each element in the array.\n * \n * @throws
NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun <R : Comparable<R>> CharArray.minOf(selector: (Char) -> R): R {\n  if (isEmpty()) throw
NoSuchElementException()\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v =
selector(this[i])\n    if (minValue > v) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array
or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned
result is `NaN`.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.minOfOrNull(selector:
(T) -> Double): Double? {\n  if (isEmpty()) return
null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    minValue
= minOf(minValue, v)\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values
produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If
any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.minOfOrNull(selector: (Byte) ->
Double): Double? {\n  if (isEmpty()) return null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n
    val v = selector(this[i])\n    minValue = minOf(minValue, v)\n  }\n  return minValue\n}\n\n/**\n * Returns
the smallest value among all values produced by [selector] function\n * applied to each element

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in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.minOfOrNull(selector: (Short) -
> Double): Double? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n
        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns
the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null`
if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
`NaN`.\n

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun IntArray.minOfOrNull(selector: (Int) -> Double): Double? {\n    if (isEmpty()) return null\n    var
minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue =
minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced
by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of
values produced by [selector] function is `NaN`, the returned result is `NaN`.\n

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.minOfOrNull(selector: (Long) -
> Double): Double? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n
        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n *
Returns the smallest value among all values produced by [selector] function\n * applied to each element in the
array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the
returned result is `NaN`.\n

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.minOfOrNull(selector: (Float) ->
Double): Double? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n
        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n *
Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null`
if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
`NaN`.\n

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun DoubleArray.minOfOrNull(selector: (Double) -> Double): Double? {\n    if (isEmpty()) return null\n
var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue =
minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced
by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of
values produced by [selector] function is `NaN`, the returned result is `NaN`.\n

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.minOfOrNull(selector:
(Boolean) -> Double): Double? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n
for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return
minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to
each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function
is `NaN`, the returned result is `NaN`.\n

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.minOfOrNull(selector: (Char) ->
Double): Double? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n
        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n *
Returns

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the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n

* \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.minOrNull(selector:\n(T) -> Float): Float? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex)\n    {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array\n * or `null` if there are no elements.\n * \n * If any of values produced by [selector] function\n * is `NaN`, the returned\n * result is `NaN`.\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.minOrNull(selector:\n(Byte) -> Float): Float? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in\n1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return\nminValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to\n * each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function\n * is `NaN`, the returned\n * result is `NaN`.\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.minOrNull(selector: (Short) -\n> Float): Float? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n    val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the\n * smallest value among\n
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all values produced by [selector] function\n * applied to each element in the array or `null` if there are no\n * elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.minOrNull(selector: (Int) ->\nFloat): Float? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n    val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the\n * smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if\n * there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is\n * `NaN`.\n
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```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic\ninline fun LongArray.minOrNull(selector: (Long) -> Float): Float? {\n    if (isEmpty()) return null\n    var\nminValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue =\nminOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced\n * by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of\n * values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.minOrNull(selector: (Float) ->\nFloat): Float? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n    val v = selector(this[i])\n\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all\n * values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.minOrNull(selector:\n(Double) -> Float): Float? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in
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1..lastIndex) {\n    val v = selector(this[i])\n    minValue = minOf(minValue, v)\n } return
minValue}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to
each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function
is `NaN`, the returned result is `NaN`.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.minOfOrNull(selector:
(Boolean) -> Float): Float? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in
1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    } return
minValue}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to
each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function
is `NaN`, the returned result is `NaN`.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.minOfOrNull(selector: (Char) ->
Float): Float? {\n    if (isEmpty())
return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n
minValue = minOf(minValue, v)\n    } return minValue}\n\n/**\n * Returns the smallest value among all
values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>> Array<out
T>.minOfOrNull(selector: (T) -> R): R? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for
(i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n            minValue = v\n        }
}\n    return minValue}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n *
applied to each element in the array or `null` if there are no elements.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
ByteArray.minOfOrNull(selector: (Byte) -> R): R? {\n    if (isEmpty()) return null\n    var minValue =
selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n
minValue = v\n        } }\n    return minValue}\n\n/**\n * Returns the smallest value among all values produced
by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
ShortArray.minOfOrNull(selector: (Short) -> R): R? {\n    if (isEmpty()) return null\n    var minValue =
selector(this[0])\n    for (i in 1..lastIndex)
{\n        val v = selector(this[i])\n        if (minValue > v) {\n            minValue = v\n        } }\n    return
minValue}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to
each element in the array or `null` if there are no elements.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
IntArray.minOfOrNull(selector: (Int) -> R): R? {\n    if (isEmpty()) return null\n    var minValue =
selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n
minValue = v\n        } }\n    return minValue}\n\n/**\n * Returns the smallest value among all values produced
by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun <R : Comparable<R>> LongArray.minOfOrNull(selector: (Long) -> R): R? {\n    if (isEmpty()) return
null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if
(minValue > v) {\n            minValue = v\n        } }\n    return minValue}\n\n/**\n * Returns the smallest value
among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no

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elements.\n

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution  
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>  
FloatArray.minOfOrNull(selector: (Float) -> R): R? {\n    if (isEmpty()) return null\n    var minValue =  
selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values  
produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution  
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>  
DoubleArray.minOfOrNull(selector: (Double) -> R): R? {\n    if (isEmpty()) return null\n    var minValue =  
selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced  
by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
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```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution  
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic  
inline fun <R : Comparable<R>> BooleanArray.minOfOrNull(selector: (Boolean) -> R): R? {\n    if (isEmpty())  
return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if  
(minValue > v) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value  
among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no  
elements.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution  
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>  
CharArray.minOfOrNull(selector: (Char) -> R): R? {\n    if (isEmpty()) return null\n    var minValue =  
selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n            minValue = v\n        }\n    }\n    return  
minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values  
produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if  
the array is empty.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution  
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> Array<out  
T>.minOfWith(comparator: Comparator<in R>, selector: (T) -> R): R {\n    if (isEmpty()) throw  
NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v =  
selector(this[i])\n        if (comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return  
minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values  
produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if  
the array  
is empty.\n
```

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution  
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> ByteArray.minOfWith(comparator:  
Comparator<in R>, selector: (Byte) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var  
minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if  
(comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]  
function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution  
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> ShortArray.minOfWith(comparator:  
Comparator<in
```

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R>, selector: (Short) -> R): R { \n  if (isEmpty()) throw NoSuchElementException()\n  var minValue =
selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if (comparator.compare(minValue,
v) > 0) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value
according to the provided [comparator]\n * among all values produced by [selector] function applied to each
element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> IntArray.minOfWith(comparator:
Comparator<in R>, selector: (Int) -> R): R { \n  if (isEmpty()) throw NoSuchElementException()\n  var minValue
= selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if (comparator.compare(minValue,
v) > 0) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value according
to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the
array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> LongArray.minOfWith(comparator:
Comparator<in R>, selector: (Long) -> R): R { \n  if (isEmpty()) throw NoSuchElementException()\n  var
minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n *
Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the
array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> FloatArray.minOfWith(comparator:
Comparator<in R>, selector: (Float) -> R): R { \n  if (isEmpty()) throw NoSuchElementException()\n  var
minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n *
Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun <R> DoubleArray.minOfWith(comparator: Comparator<in R>, selector: (Double) -> R): R { \n  if
(isEmpty()) throw NoSuchElementException()\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n
val v = selector(this[i])\n    if (comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n
return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all
values produced by [selector] function applied to each element in the array.\n * \n * @throws
NoSuchElementException if the array is empty.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> BooleanArray.minOfWith(comparator:
Comparator<in R>, selector: (Boolean) -> R): R { \n  if (isEmpty()) throw NoSuchElementException()\n  var
minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n
val v = selector(this[i])\n    if (comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n
return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all
values produced by [selector] function applied to each element in the array.\n * \n * @throws
NoSuchElementException if the array is empty.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> CharArray.minOfWith(comparator:
Comparator<in R>, selector: (Char) -> R): R { \n  if (isEmpty()) throw NoSuchElementException()\n  var
minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if

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(comparator.compare(minValue, v) > 0) {\n        minValue = v\n    }\n }\n return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> Array<out T>.minOfWithOrNull(comparator: Comparator<in R>, selector: (T) -> R): R? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> ByteArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Byte) -> R): R? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> ShortArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Short) -> R): R? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> IntArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Int) -> R): R? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> LongArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Long) -> R): R? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> FloatArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Float) -> R): R? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution

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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
DoubleArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Double) -> R): R? {\n  if (isEmpty())
return null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*/\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
BooleanArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Boolean) -> R): R? {\n  if (isEmpty())
return null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*/\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun <R> CharArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Char) -> R): R? {\n  if
(isEmpty()) return null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v =
selector(this[i])\n    if (comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return
minValue\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n * \n * If any of elements is
`NaN` returns `NaN`.\n */\n\n@SinceKotlin("1.4")\npublic fun Array<out Double>.minOrNull(): Double? {\n  if
(isEmpty()) return null\n  var min = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    min = minOf(min,
e)\n  }\n  return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n * \n * If any
of elements is `NaN` returns `NaN`.\n */\n\n@SinceKotlin("1.4")\npublic fun Array<out
Float>.minOrNull(): Float? {\n  if (isEmpty()) return null\n  var min = this[0]\n  for (i in 1..lastIndex) {\n
val e = this[i]\n    min = minOf(min, e)\n  }\n  return min\n}\n\n/**\n * Returns the smallest element or `null` if
there are no elements.\n */\n\n@SinceKotlin("1.4")\npublic fun <T : Comparable<T>> Array<out T>.minOrNull():
T? {\n  if (isEmpty()) return null\n  var min = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if (min
> e) min = e\n  }\n  return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n
*/\n\n@SinceKotlin("1.4")\npublic fun ByteArray.minOrNull(): Byte? {\n  if (isEmpty()) return null\n  var min =
this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if (min > e) min = e\n  }\n  return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n */\n\n@SinceKotlin("1.4")\npublic fun
ShortArray.minOrNull(): Short? {\n  if (isEmpty()) return null\n  var min = this[0]\n  for (i in 1..lastIndex) {\n
val e = this[i]\n    if (min > e) min = e\n  }\n  return min\n}\n\n/**\n * Returns the smallest element or `null` if
there are no elements.\n */\n\n@SinceKotlin("1.4")\npublic fun IntArray.minOrNull(): Int? {\n  if (isEmpty()) return null\n  var min =
this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if (min > e) min = e\n  }\n  return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n */\n\n@SinceKotlin("1.4")\npublic fun
LongArray.minOrNull(): Long? {\n  if (isEmpty()) return null\n  var min = this[0]\n  for (i in 1..lastIndex) {\n
val e = this[i]\n    if (min > e) min = e\n  }\n  return min\n}\n\n/**\n * Returns the smallest element or `null` if
there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n */\n\n@SinceKotlin("1.4")\npublic fun
FloatArray.minOrNull(): Float? {\n  if
(isEmpty()) return null\n  var min = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    min =
minOf(min, e)\n  }\n  return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n */\n\n@SinceKotlin("1.4")\npublic fun DoubleArray.minOrNull():
Double? {\n  if (isEmpty()) return null\n  var min = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n
min = minOf(min, e)\n  }\n  return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no
elements.\n */\n\n@SinceKotlin("1.4")\npublic fun CharArray.minOrNull(): Char? {\n  if (isEmpty()) return null\n
var min = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if (min > e) min = e\n  }\n  return

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min\n}\n\n@Deprecated(\\"Use minWithOrNull instead.\",
ReplaceWith(\\"this.minWithOrNull(comparator)\")\n\n@DeprecatedSinceKotlin(warningSince = \\"1.4\\", errorSince
= \\"1.5\\",
    hiddenSince = \\"1.6\\")\npublic fun <T> Array<out T>.minWith(comparator: Comparator<in T>): T? {\n    return
minWithOrNull(comparator)\n}\n\n@Deprecated(\\"Use minWithOrNull instead.\",
ReplaceWith(\\"this.minWithOrNull(comparator)\")\n\n@DeprecatedSinceKotlin(warningSince = \\"1.4\\", errorSince
= \\"1.5\\", hiddenSince = \\"1.6\\")\npublic fun ByteArray.minWith(comparator: Comparator<in Byte>): Byte? {\n
return minWithOrNull(comparator)\n}\n\n@Deprecated(\\"Use minWithOrNull instead.\",
ReplaceWith(\\"this.minWithOrNull(comparator)\")\n\n@DeprecatedSinceKotlin(warningSince = \\"1.4\\", errorSince
= \\"1.5\\", hiddenSince = \\"1.6\\")\npublic fun ShortArray.minWith(comparator: Comparator<in Short>): Short? {\n
return minWithOrNull(comparator)\n}\n\n@Deprecated(\\"Use minWithOrNull instead.\",
ReplaceWith(\\"this.minWithOrNull(comparator)\")\n\n@DeprecatedSinceKotlin(warningSince = \\"1.4\\", errorSince
= \\"1.5\\", hiddenSince = \\"1.6\\")\npublic fun IntArray.minWith(comparator: Comparator<in Int>):
Int? {\n    return minWithOrNull(comparator)\n}\n\n@Deprecated(\\"Use minWithOrNull instead.\",
ReplaceWith(\\"this.minWithOrNull(comparator)\")\n\n@DeprecatedSinceKotlin(warningSince = \\"1.4\\", errorSince
= \\"1.5\\", hiddenSince = \\"1.6\\")\npublic fun LongArray.minWith(comparator: Comparator<in Long>): Long? {\n
return minWithOrNull(comparator)\n}\n\n@Deprecated(\\"Use minWithOrNull instead.\",
ReplaceWith(\\"this.minWithOrNull(comparator)\")\n\n@DeprecatedSinceKotlin(warningSince = \\"1.4\\", errorSince
= \\"1.5\\", hiddenSince = \\"1.6\\")\npublic fun FloatArray.minWith(comparator: Comparator<in Float>): Float? {\n
return minWithOrNull(comparator)\n}\n\n@Deprecated(\\"Use minWithOrNull instead.\",
ReplaceWith(\\"this.minWithOrNull(comparator)\")\n\n@DeprecatedSinceKotlin(warningSince = \\"1.4\\", errorSince
= \\"1.5\\", hiddenSince = \\"1.6\\")\npublic fun DoubleArray.minWith(comparator: Comparator<in Double>): Double?
{\n    return minWithOrNull(comparator)\n}\n\n@Deprecated(\\"Use minWithOrNull
instead.\", ReplaceWith(\\"this.minWithOrNull(comparator)\")\n\n@DeprecatedSinceKotlin(warningSince = \\"1.4\\",
errorSince = \\"1.5\\", hiddenSince = \\"1.6\\")\npublic fun BooleanArray.minWith(comparator: Comparator<in
Boolean>): Boolean? {\n    return minWithOrNull(comparator)\n}\n\n@Deprecated(\\"Use minWithOrNull
instead.\", ReplaceWith(\\"this.minWithOrNull(comparator)\")\n\n@DeprecatedSinceKotlin(warningSince = \\"1.4\\",
errorSince = \\"1.5\\", hiddenSince = \\"1.6\\")\npublic fun CharArray.minWith(comparator: Comparator<in Char>):
Char? {\n    return minWithOrNull(comparator)\n}\n\n/**\n * Returns the first element having the smallest value
according to the provided [comparator] or `null` if there are no elements.\n *^\n@SinceKotlin(\\"1.4\\")\npublic fun
<T> Array<out T>.minWithOrNull(comparator: Comparator<in T>): T? {\n    if (isEmpty()) return null\n    var min
= this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator]
or `null` if there are no elements.\n *^\n@SinceKotlin(\\"1.4\\")\npublic fun ByteArray.minWithOrNull(comparator:
Comparator<in Byte>): Byte? {\n    if (isEmpty()) return null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n
val e = this[i]\n        if (comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns the first
element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n
*^\n@SinceKotlin(\\"1.4\\")\npublic fun ShortArray.minWithOrNull(comparator: Comparator<in Short>): Short? {\n
if (isEmpty()) return null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if
(comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns the first element having the
smallest value according to the provided [comparator] or `null` if
there are no elements.\n *^\n@SinceKotlin(\\"1.4\\")\npublic fun IntArray.minWithOrNull(comparator:
Comparator<in Int>): Int? {\n    if (isEmpty()) return null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n
val e = this[i]\n        if (comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns the first
element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n
*^\n@SinceKotlin(\\"1.4\\")\npublic fun LongArray.minWithOrNull(comparator: Comparator<in Long>): Long? {\n
if (isEmpty()) return null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if
(comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns the first element having the

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smallest value according to the provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\npublic fun FloatArray.minWithOrNull(comparator: Comparator<in Float>): Float? {\n
    if (isEmpty()) return null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if
(comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns the first element having the
smallest value according to the provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\npublic fun DoubleArray.minWithOrNull(comparator: Comparator<in Double>):
Double? {\n    if (isEmpty()) return null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if
(comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns the first element having the
smallest value according to the provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\npublic fun BooleanArray.minWithOrNull(comparator: Comparator<in Boolean>):
Boolean? {\n    if (isEmpty()) return null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n
    if (comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns the first element having the
smallest value according to the provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\npublic fun CharArray.minWithOrNull(comparator: Comparator<in Char>): Char? {\n
    if (isEmpty()) return null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if
(comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns `true` if the array has no
elements.\n * \n * @sample samples.collections.Collections.Aggregates.none\n *\npublic fun <T> Array<out
T>.none(): Boolean {\n    return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n *
@sample samples.collections.Collections.Aggregates.none\n *\npublic fun ByteArray.none(): Boolean {\n    return
isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.none\n
*\npublic fun ShortArray.none(): Boolean {\n    return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no
elements.\n * \n * @sample samples.collections.Collections.Aggregates.none\n *\npublic fun IntArray.none():
Boolean {\n    return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.none\n *\npublic fun LongArray.none(): Boolean {\n    return
isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.none\n *\npublic fun FloatArray.none(): Boolean {\n    return
isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.none\n *\npublic fun DoubleArray.none(): Boolean {\n    return
isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.none\n *\npublic fun BooleanArray.none():
Boolean {\n    return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.none\n *\npublic fun CharArray.none(): Boolean {\n    return
isEmpty()\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n *\npublic inline fun <T> Array<out
T>.none(predicate: (T) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return false\n    return
true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n *\npublic inline fun ByteArray.none(predicate:
(Byte) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return false\n    return
true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n
*\npublic inline fun ShortArray.none(predicate: (Short) -> Boolean): Boolean {\n    for (element in this) if
(predicate(element)) return false\n    return true\n}\n\n/**\n * Returns `true` if no elements match the given
[predicate].\n * \n * @sample samples.collections.Collections.Aggregates.noneWithPredicate\n *\npublic inline fun
IntArray.none(predicate: (Int) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return false\n
return true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n *\npublic inline fun LongArray.none(predicate:
(Long) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return false\n    return

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true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n *^\npublic inline fun FloatArray.none(predicate:
(Float)
-> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return false\n  return true\n}\n\n/**\n *
Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n *^\npublic inline fun DoubleArray.none(predicate:
(Double) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return
false\n  return
true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n *^\npublic inline fun
BooleanArray.none(predicate: (Boolean) -> Boolean): Boolean {\n  for (element in this) if (predicate(element))
return false\n  return true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n *^\npublic inline fun CharArray.none(predicate:
(Char) -> Boolean): Boolean {\n  for (element in this)
if (predicate(element)) return false\n  return true\n}\n\n/**\n * Performs the given [action] on each element and
returns the array itself afterwards.\n *^\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <T>
Array<out T>.onEach(action: (T) -> Unit): Array<out T> {\n  return apply { for (element in this) action(element)
}\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself afterwards.\n
*^\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.onEach(action: (Byte) ->
Unit): ByteArray {\n  return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given
[action] on each element and returns the array itself afterwards.\n
*^\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.onEach(action: (Short) ->
Unit): ShortArray {\n  return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given
[action] on each element and returns
the array itself afterwards.\n *^\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun
IntArray.onEach(action: (Int) -> Unit): IntArray {\n  return apply { for (element in this) action(element)
}\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself afterwards.\n
*^\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.onEach(action: (Long) ->
Unit): LongArray {\n  return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given
[action] on each element and returns the array itself afterwards.\n
*^\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.onEach(action: (Float) ->
Unit): FloatArray {\n  return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given
[action] on each element and returns the array itself afterwards.\n
*^\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.onEach(action:
(Double) -> Unit): DoubleArray {\n  return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs
the given [action] on each element and returns the array itself afterwards.\n
*^\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.onEach(action: (Boolean)
-> Unit): BooleanArray {\n  return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given
[action] on each element and returns the array itself afterwards.\n
*^\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.onEach(action: (Char) ->
Unit): CharArray {\n  return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given
[action] on each element, providing sequential index with the element,\n * and returns the array itself afterwards.\n *
@param [action] function that takes the index of an element and the element itself\n * and performs the action on
the element.\n *^\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic
inline fun <T> Array<out T>.onEachIndexed(action: (index: Int, T) -> Unit): Array<out T> {\n  return apply {
forEachIndexed(action) }\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index
with the element,\n * and returns the array itself afterwards.\n * @param [action] function that takes the index of an
element and the element itself\n * and performs the action on the element.\n
*^\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.onEachIndexed(action:

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1..lastIndex) {\n    accumulator = operation(accumulator, this[index])\n } \n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Throws an exception if this array is empty. If the array can be empty\n * in\n * an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n * \n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n */\n\npublic inline fun\nShortArray.reduce(operation: (acc: Short, Short) -> Short): Short {\n    if (isEmpty())\n        throw\n        UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator = this[0]\n    for (index in\n        1..lastIndex) {\n        accumulator = operation(accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Throws an exception if this array is empty. If the array can be empty\n * in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n * \n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n */\n\npublic inline fun\nIntArray.reduce(operation: (acc: Int, Int) -> Int): Int {\n    if (isEmpty())\n        throw\n        UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator = this[0]\n    for (index in\n        1..lastIndex) {\n        accumulator = operation(accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Throws an exception if this array is empty. If the array can be empty\n * in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n * \n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n */\n\npublic inline fun\nLongArray.reduce(operation: (acc: Long, Long) -> Long): Long {\n    if (isEmpty())\n        throw\n        UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator = this[0]\n    for (index in\n        1..lastIndex) {\n        accumulator = operation(accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Throws an exception if this array is empty. If the array can be empty\n * in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n * \n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n */\n\npublic inline fun\nFloatArray.reduce(operation: (acc: Float, Float) -> Float): Float {\n    if (isEmpty())\n        throw\n        UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator = this[0]\n    for (index in\n        1..lastIndex) {\n        accumulator = operation(accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Throws an exception if this array is empty. If the array can be empty\n * in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n * \n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n */\n\npublic inline fun\nDoubleArray.reduce(operation: (acc: Double, Double) -> Double): Double {\n    if (isEmpty())\n        throw\n        UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator = this[0]\n    for (index in\n        1..lastIndex) {\n        accumulator = operation(accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Throws an exception if this array is empty. If the array can be empty\n * in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n * \n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n */\n\npublic inline fun\nBooleanArray.reduce(operation: (acc: Boolean, Boolean) -> Boolean): Boolean {\n    if (isEmpty())\n        throw

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* Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * \n * Throws an exception if this array is empty. If the array can be empty in an expected way,\n * please use [reduceIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value and the element itself,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n *\npublic inline fun LongArray.reduceIndexed(operation: (index: Int, acc: Long, Long) -> Long): Long {\n if (isEmpty())\n throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n

* Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * \n * Throws an exception if this array is empty. If the array can be empty in an expected way,\n * please use [reduceIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value and the element itself,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n *\npublic inline fun FloatArray.reduceIndexed(operation: (index: Int, acc: Float, Float) -> Float): Float {\n if (isEmpty())\n throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n

Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * \n * Throws an exception if this array is empty. If the array can be empty in an expected way,\n * please use [reduceIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value and the element itself,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n *\npublic inline fun DoubleArray.reduceIndexed(operation: (index: Int, acc: Double, Double) -> Double): Double {\n if (isEmpty())\n throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n

* Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * \n * Throws an exception if this array is empty. If the array can be empty in an expected way,\n * please use [reduceIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value and the element itself,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n *\npublic inline fun BooleanArray.reduceIndexed(operation: (index: Int, acc: Boolean, Boolean) -> Boolean): Boolean {\n if (isEmpty())\n throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n

* Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * \n * Throws an exception if this array is empty. If the array can be empty in an expected way,\n * please use [reduceIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value and the element itself,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n *\npublic inline fun CharArray.reduceIndexed(operation: (index: Int, acc: Char, Char) -> Char): Char {\n if (isEmpty())\n throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in

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1..lastIndex) {\n    accumulator = operation(index, accumulator, this[index])\n } \n return
accumulator\n}\n\n/**\n
* Accumulates value starting with the first element and applying [operation] from left to right\n * to current
accumulator value and each element with its index in the original array.\n * \n * Returns `null` if the array is
empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value and the
element itself,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceOrNull\n * \n * @SinceKotlin("1.4")\npublic inline fun <S, T : S>
Array<out T>.reduceIndexedOrNull(operation: (index: Int, acc: S, T) -> S): S? {\n if (isEmpty())\n return
null\n var accumulator: S = this[0]\n for (index in 1..lastIndex) {\n    accumulator = operation(index,
accumulator, this[index])\n } \n return accumulator\n}\n\n/**\n * Accumulates value starting with the first
element and applying [operation] from left to right\n * to current accumulator value and each element with its index
in the
original array.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes the
index of an element, current accumulator value and the element itself,\n * and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n
*\n * @SinceKotlin("1.4")\npublic inline fun ByteArray.reduceIndexedOrNull(operation: (index: Int, acc: Byte,
Byte) -> Byte): Byte? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in
1..lastIndex) {\n    accumulator = operation(index, accumulator, this[index])\n } \n return
accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to
right\n * to current accumulator value and each element with its index in the original array.\n * \n * Returns `null` if
the array is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator
value and the element
itself,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceOrNull\n * \n * @SinceKotlin("1.4")\npublic inline fun
ShortArray.reduceIndexedOrNull(operation: (index: Int, acc: Short, Short) -> Short): Short? {\n if (isEmpty())\n
return null\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n    accumulator = operation(index,
accumulator, this[index])\n } \n return accumulator\n}\n\n/**\n * Accumulates value starting with the first
element and applying [operation] from left to right\n * to current accumulator value and each element with its index
in the original array.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes the
index of an element, current accumulator value and the element itself,\n * and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n
*\n * @SinceKotlin("1.4")\npublic
inline fun IntArray.reduceIndexedOrNull(operation: (index: Int, acc: Int, Int) -> Int): Int? {\n if (isEmpty())\n
return null\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n    accumulator = operation(index,
accumulator, this[index])\n } \n return accumulator\n}\n\n/**\n * Accumulates value starting with the first
element and applying [operation] from left to right\n * to current accumulator value and each element with its index
in the original array.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes the
index of an element, current accumulator value and the element itself,\n * and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n
*\n * @SinceKotlin("1.4")\npublic inline fun LongArray.reduceIndexedOrNull(operation: (index: Int, acc: Long,
Long) -> Long): Long? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for
(index in 1..lastIndex) {\n    accumulator = operation(index, accumulator, this[index])\n } \n return
accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to
right\n * to current accumulator value and each element with its index in the original array.\n * \n * Returns `null` if
the array is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator
value and the element itself,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceOrNull\n * \n * @SinceKotlin("1.4")\npublic inline fun
FloatArray.reduceIndexedOrNull(operation: (index: Int, acc: Float, Float) -> Float): Float? {\n if (isEmpty())\n

```



```

return null\n    var accumulator = this[0]\n    for (index in 1..lastIndex) {\n        accumulator = operation(index,
accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with
the first element and applying [operation] from left to right\n * to current accumulator value and each element with
its index in the original array.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that
takes the index of an element, current accumulator value and the element itself,\n * and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n
*/\n\n@SinceKotlin("1.4")\npublic inline fun DoubleArray.reduceIndexedOrNull(operation: (index: Int, acc:
Double, Double) -> Double): Double? {\n    if (isEmpty())\n        return null\n    var accumulator = this[0]\n    for
(index in 1..lastIndex) {\n        accumulator = operation(index, accumulator, this[index])\n    }\n    return
accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to
right\n * to current accumulator value and each element with its index in the original array.\n * \n * Returns
`null` if the array is empty.\n * \n * @param [operation] function that takes the index of an element, current
accumulator value and the element itself,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceOrNull\n
*/\n\n@SinceKotlin("1.4")\npublic inline fun
BooleanArray.reduceIndexedOrNull(operation: (index: Int, acc: Boolean, Boolean) -> Boolean): Boolean? {\n    if
(isEmpty())\n        return null\n    var accumulator = this[0]\n    for (index in 1..lastIndex) {\n        accumulator =
operation(index, accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting
with the first element and applying [operation] from left to right\n * to current accumulator value and each element
with its index in the original array.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value and the element itself,\n *
* and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceOrNull\n
*/\n\n@SinceKotlin("1.4")\npublic inline fun
CharArray.reduceIndexedOrNull(operation: (index: Int, acc: Char, Char) -> Char): Char? {\n    if (isEmpty())\n
return null\n    var accumulator = this[0]\n    for (index in 1..lastIndex) {\n        accumulator = operation(index,
accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the first
element and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n *
Returns `null` if the array is empty.\n * \n * @param [operation] function that takes current accumulator value and
an element,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceOrNull\n
*/\n\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <S, T : S>
Array<out T>.reduceOrNull(operation:
(acc: S, T) -> S): S? {\n    if (isEmpty())\n        return null\n    var accumulator: S = this[0]\n    for (index in
1..lastIndex) {\n        accumulator = operation(accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n
* Accumulates value starting with the first element and applying [operation] from left to right\n * to current
accumulator value and each element.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation]
function that takes current accumulator value and an element,\n * and calculates the next accumulator value.\n * \n
* @sample samples.collections.Collections.Aggregates.reduceOrNull\n
*/\n\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun
ByteArray.reduceOrNull(operation: (acc: Byte, Byte) -> Byte): Byte? {\n    if (isEmpty())\n        return null\n    var
accumulator = this[0]\n    for (index in 1..lastIndex) {\n        accumulator = operation(accumulator, this[index])\n
    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from
left to right\n * to current accumulator value and each element.\n * \n * Returns `null` if the array is empty.\n * \n
* @param [operation] function that takes current accumulator value and an element,\n * and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n
*/\n\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun
ShortArray.reduceOrNull(operation: (acc: Short, Short) -> Short): Short? {\n    if (isEmpty())\n        return null\n
var accumulator = this[0]\n    for (index in 1..lastIndex) {\n        accumulator = operation(accumulator, this[index])\n
    }\n

```

```

    }
    return accumulator
}

/**
 * Accumulates value starting with the first element and applying [operation]
from left to right
 * to current accumulator value and each element.
 * Returns `null` if the array
is empty.
 * @param [operation] function that takes current accumulator value and an element,
 * and
calculates the next accumulator value.
 * @sample samples.collections.Collections.Aggregates.reduceOrNull
*/
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
public inline fun
IntArray.reduceOrNull(operation: (acc: Int, Int) -> Int): Int? {
    if (isEmpty())
        return null
    var
accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(accumulator, this[index])
    }
    return accumulator
}

/**
 * Accumulates value starting with the first element and applying [operation]
from left to right
 * to current accumulator value and each element.
 * Returns `null` if the array is empty.
 * @param [operation] function that takes current accumulator value and an element,
 * and
calculates the next
accumulator value.
 * @sample samples.collections.Collections.Aggregates.reduceOrNull
*/
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
public
inline fun LongArray.reduceOrNull(operation: (acc: Long, Long) -> Long): Long? {
    if (isEmpty())
        return
null
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(accumulator,
this[index])
    }
    return accumulator
}

/**
 * Accumulates value starting with the first element and
applying [operation] from left to right
 * to current accumulator value and each element.
 * Returns `null` if
the array is empty.
 * @param [operation] function that takes current accumulator value and an element,
 * and
calculates the next accumulator value.
 * @sample
samples.collections.Collections.Aggregates.reduceOrNull
*/
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
public inline fun
FloatArray.reduceOrNull(operation: (acc: Float, Float) -> Float): Float? {
    if (isEmpty())
        return null
    var
accumulator
= this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(accumulator, this[index])
    }
    return
accumulator
}

/**
 * Accumulates value starting with the first element and applying [operation] from left to
right
 * to current accumulator value and each element.
 * Returns `null` if the array is empty.
 * @param [operation] function that takes current accumulator value and an element,
 * and
calculates the next
accumulator value.
 * @sample samples.collections.Collections.Aggregates.reduceOrNull
*/
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
public inline fun
DoubleArray.reduceOrNull(operation: (acc: Double, Double) -> Double): Double? {
    if (isEmpty())
        return
null
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(accumulator,
this[index])
    }
    return accumulator
}

/**
 * Accumulates value starting with the first element and
applying
[operation] from left to right
 * to current accumulator value and each element.
 * Returns `null` if the array
is empty.
 * @param [operation] function that takes current accumulator value and an element,
 * and
calculates the next accumulator value.
 * @sample samples.collections.Collections.Aggregates.reduceOrNull
*/
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
public inline fun
BooleanArray.reduceOrNull(operation: (acc: Boolean, Boolean) -> Boolean): Boolean? {
    if (isEmpty())
        return null
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator =
operation(accumulator, this[index])
    }
    return accumulator
}

/**
 * Accumulates value starting with the
first element and applying [operation] from left to right
 * to current accumulator value and each element.
 * Returns `null` if the array is empty.
 * @param [operation] function that takes current accumulator value and
an element,
 * and
calculates the next accumulator value.
 * @sample
samples.collections.Collections.Aggregates.reduceOrNull
*/
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
public inline fun
CharArray.reduceOrNull(operation: (acc: Char, Char) -> Char): Char? {
    if (isEmpty())
        return null
    var
accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(accumulator, this[index])
    }
    return accumulator
}

/**
 * Accumulates value starting with the last element and applying [operation]
from right to left
 * to each element and current accumulator value.
 * Throws an exception if this array is

```

empty. If the array can be empty in an expected way, please use `reduceRightOrNull` instead. It returns `null` when its receiver is empty.

@param `[operation]` function that takes an element and current accumulator value, and calculates the next accumulator value.

@sample

```

samples.collections.Collections.Aggregates.reduceRight
*/
public inline fun <S, T : S> Array<out T>.reduceRight(operation: (T, acc: S) -> S): S {
    var index = lastIndex
    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator: S = get(index--)
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return accumulator
}

```

Accumulates value starting with the last element and applying `[operation]` from right to left to each element and current accumulator value.

Throws an exception if this array is empty. If the array can be empty in an expected way, please use `reduceRightOrNull` instead. It returns `null` when its receiver is empty.

@param `[operation]` function that takes an element and current accumulator value, and calculates the next accumulator value.

@sample

```

samples.collections.Collections.Aggregates.reduceRight
*/
public inline fun
ByteArray.reduceRight(operation: (Byte, acc: Byte) -> Byte): Byte {
    var index = lastIndex
    if (index < 0)
        throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return accumulator
}

```

Accumulates value starting with the last element and applying `[operation]` from right to left to each element and current accumulator value.

Throws an exception if this array is empty. If the array can be empty in an expected way, please use `reduceRightOrNull` instead. It returns `null` when its receiver is empty.

@param `[operation]` function that takes an element and current accumulator value, and calculates the next accumulator value.

@sample

```

samples.collections.Collections.Aggregates.reduceRight
*/
public inline fun ShortArray.reduceRight(operation:
(Short, acc: Short) -> Short): Short {
    var
index = lastIndex
    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return accumulator
}

```

Accumulates value starting with the last element and applying `[operation]` from right to left to each element and current accumulator value.

Throws an exception if this array is empty. If the array can be empty in an expected way, please use `reduceRightOrNull` instead. It returns `null` when its receiver is empty.

@param `[operation]` function that takes an element and current accumulator value, and calculates the next accumulator value.

@sample

```

samples.collections.Collections.Aggregates.reduceRight
*/
public inline fun IntArray.reduceRight(operation:
(Int, acc: Int) -> Int): Int {
    var index = lastIndex
    if (index < 0) throw
UnsupportedOperationException("Empty array
can't be reduced.")
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator =
operation(get(index--), accumulator)
    }
    return accumulator
}

```

Accumulates value starting with the last element and applying `[operation]` from right to left to each element and current accumulator value.

Throws an exception if this array is empty. If the array can be empty in an expected way, please use `reduceRightOrNull` instead. It returns `null` when its receiver is empty.

@param `[operation]` function that takes an element and current accumulator value, and calculates the next accumulator value.

@sample

```

samples.collections.Collections.Aggregates.reduceRight
*/
public inline fun LongArray.reduceRight(operation:
(Long, acc: Long) -> Long): Long {
    var index = lastIndex
    if (index < 0) throw
UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = get(index--)
    while (index >=
0) {
        accumulator = operation(get(index--), accumulator)
    }
    return accumulator
}

```

Accumulates value starting with the last element and applying `[operation]` from right to left to each element and current accumulator value.

Throws an exception if this array is empty. If the array can be empty in an expected way, please use `reduceRightOrNull` instead. It returns `null` when its receiver is empty.

@param `[operation]` function that takes an element and current accumulator value, and calculates the next

```

accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRight\n * \n\npublic inline
fun FloatArray.reduceRight(operation: (Float, acc: Float) -> Float): Float {\n  var index = lastIndex\n  if (index <
0) throw UnsupportedOperationException("Empty array can't be reduced.")\n  var accumulator = get(index--)\n
while (index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n
return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from
right to left\n * to each element and current accumulator value.\n * \n * Throws an exception if this array is empty.
If the array can be empty in an expected way,\n * please use [reduceRightOrNull] instead. It returns `null` when its
receiver is empty.\n * \n * @param [operation] function that takes an element and current accumulator value,\n *
and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n * \n\npublic inline fun DoubleArray.reduceRight(operation:
(Double, acc: Double) -> Double): Double {\n  var index = lastIndex\n  if (index < 0) throw
UnsupportedOperationException("Empty array can't be reduced.")\n  var accumulator = get(index--)\n  while
(index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n  return accumulator\n}\n\n/**\n *
Accumulates value starting with the
last element and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n *
Throws an exception if this array is empty. If the array can be empty in an expected way,\n * please use
[reduceRightOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that
takes an element and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n * \n\npublic inline fun
BooleanArray.reduceRight(operation: (Boolean, acc: Boolean) -> Boolean): Boolean {\n  var index = lastIndex\n
if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n  var accumulator =
get(index--)\n  while (index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to
left\n * to each
element and current accumulator value.\n * \n * Throws an exception if this array is empty. If the array can be
empty in an expected way,\n * please use [reduceRightOrNull] instead. It returns `null` when its receiver is empty.\n
* \n * @param [operation] function that takes an element and current accumulator value,\n * and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRight\n * \n\npublic inline
fun CharArray.reduceRight(operation: (Char, acc: Char) -> Char): Char {\n  var index = lastIndex\n  if (index < 0)
throw UnsupportedOperationException("Empty array can't be reduced.")\n  var accumulator = get(index--)\n
while (index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to
left\n * to each element with its index in the original array and current accumulator value.\n
* \n * Throws an exception if this array is empty. If the array can be empty in an expected way,\n * please use
[reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation]
function that takes the index of an element, the element itself and current accumulator value,\n * and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRight\n * \n\npublic
inline fun <S, T : S> Array<out T>.reduceRightIndexed(operation: (index: Int, T, acc: S) -> S): S {\n  var index =
lastIndex\n  if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n  var
accumulator: S = get(index--)\n  while (index >= 0) {\n    accumulator = operation(index, get(index),
accumulator)\n    --index\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with the last
element and applying [operation] from right to left\n * to each element with its index in the original
array and current accumulator value.\n * \n * Throws an exception if this array is empty. If the array can be empty
in an expected way,\n * please use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is
empty.\n * \n * @param [operation] function that takes the index of an element, the element itself and current
accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n * \n\npublic inline fun
ByteArray.reduceRightIndexed(operation: (index: Int, Byte, acc: Byte) -> Byte): Byte {\n  var index = lastIndex\n

```

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if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n  var accumulator =
get(index--)\n  while (index >= 0) {\n    accumulator = operation(index, get(index), accumulator)\n    --index\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation]
from right to left\n * to each
element with its index in the original array and current accumulator value.\n * \n * Throws an exception if this array
is empty. If the array can be empty in an expected way,\n * please use [reduceRightIndexedOrNull] instead. It
returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes the index of an element,
the element itself and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n */\npublic inline fun
ShortArray.reduceRightIndexed(operation: (index: Int, Short, acc: Short) -> Short): Short {\n  var index =
lastIndex\n  if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n  var
accumulator = get(index--)\n  while (index >= 0) {\n    accumulator = operation(index, get(index),
accumulator)\n    --index\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with the last
element and applying
[operation] from right to left\n * to each element with its index in the original array and current accumulator
value.\n * \n * Throws an exception if this array is empty. If the array can be empty in an expected way,\n * please
use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation]
function that takes the index of an element, the element itself and current accumulator value,\n * and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRight\n */\npublic
inline fun IntArray.reduceRightIndexed(operation: (index: Int, Int, acc: Int) -> Int): Int {\n  var index =
lastIndex\n  if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n  var
accumulator =
get(index--)\n  while (index >= 0) {\n    accumulator = operation(index, get(index), accumulator)\n    --index\n
  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with
the last element and applying [operation] from right to left\n * to each element with its index in the original array
and current accumulator value.\n * \n * Throws an exception if this array is empty. If the array can be empty in an
expected way,\n * please use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n
* @param [operation] function that takes the index of an element, the element itself and current accumulator
value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n */\npublic inline fun
LongArray.reduceRightIndexed(operation: (index: Int, Long, acc: Long) -> Long): Long {\n  var index =
lastIndex\n  if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n  var
accumulator = get(index--)\n  while (index >= 0) {\n    accumulator = operation(index, get(index),
accumulator)\n    --index\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with the last element
and applying [operation] from right to left\n * to each element
with its index in the original array and current accumulator value.\n * \n * Throws an exception if this array is
empty. If the array can be empty in an expected way,\n * please use [reduceRightIndexedOrNull] instead. It returns
`null` when its receiver is empty.\n * \n * @param [operation] function that takes the index of an element, the
element itself and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n */\npublic inline fun
FloatArray.reduceRightIndexed(operation: (index: Int, Float, acc: Float) -> Float): Float {\n  var index =
lastIndex\n  if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n  var
accumulator = get(index--)\n  while (index >= 0) {\n    accumulator = operation(index, get(index),
accumulator)\n    --index\n
  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation]
from right to left\n * to each element with its index in the original array and current accumulator value.\n * \n *
Throws an exception if this array is empty. If the array can be empty in an expected way,\n * please use
[reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation]
function that takes the index of an element, the element itself and current accumulator value,\n * and calculates the

```

```

next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRight\n * \n\npublic
inline fun DoubleArray.reduceRightIndexed(operation: (index: Int, Double, acc: Double) -> Double): Double {\n
var index = lastIndex\n if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n
var accumulator = get(index--)\n while (index >= 0) {\n accumulator = operation(index,
get(index), accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with
the last element and applying [operation] from right to left\n * to each element with its index in the original array
and current accumulator value.\n * \n * Throws an exception if this array is empty. If the array can be empty in an
expected way,\n * please use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n *
@param [operation] function that takes the index of an element, the element itself and current accumulator
value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n * \n\npublic inline fun
BooleanArray.reduceRightIndexed(operation: (index: Int, Boolean, acc: Boolean) -> Boolean): Boolean {\n var
index = lastIndex\n if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n
var accumulator = get(index--)\n
while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to
left\n * to each element with its index in the original array and current accumulator value.\n * \n * Throws an
exception if this array is empty. If the array can be empty in an expected way,\n * please use
[reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation]
function that takes the index of an element, the element itself and current accumulator value,\n * and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRight\n * \n\npublic
inline fun CharArray.reduceRightIndexed(operation: (index: Int, Char, acc: Char) -> Char): Char {\n var index =
lastIndex\n if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n
var accumulator = get(index--)\n while (index >= 0) {\n accumulator = operation(index, get(index),
accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the last
element and applying [operation] from right to left\n * to each element with its index in the original array and
current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that
takes the index of an element, the element itself and current accumulator value,\n * and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n\n@SinceKotlin("1.4")\n\npublic inline fun <S, T : S> Array<out T>.reduceRightIndexedOrNull(operation:
(index: Int, T, acc: S) -> S): S? {\n var index = lastIndex\n if (index < 0) return null\n var accumulator: S =
get(index--)\n while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n
--index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying
[operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n
*\n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes the index of an element,
the element itself and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n *\n\n@SinceKotlin("1.4")\n\npublic inline fun
ByteArray.reduceRightIndexedOrNull(operation: (index: Int, Byte, acc: Byte) -> Byte): Byte? {\n var index =
lastIndex\n if (index < 0) return null\n var accumulator = get(index--)\n while (index >= 0) {\n
accumulator = operation(index, get(index), accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n *
Accumulates value starting with the last element and applying [operation] from right
to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns `null`
if the array is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself and
current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n *\n\n@SinceKotlin("1.4")\n\npublic inline fun
ShortArray.reduceRightIndexedOrNull(operation: (index: Int, Short, acc: Short) -> Short): Short? {\n var index =
lastIndex\n if (index < 0) return null\n var accumulator = get(index--)\n while (index >= 0) {\n
accumulator = operation(index, get(index), accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n *

```

Accumulates value starting with the last element and applying [operation] from right to left to each element with its index in the original array and current accumulator value. Returns `null` if the array is empty. @param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value. @sample

```

samples.collections.Collections.Aggregates.reduceRightOrNull
^
@SinceKotlin("1.4")
public inline fun
IntArray.reduceRightIndexedOrNull(operation: (index: Int, Int, acc: Int) -> Int): Int? {
    var index = lastIndex
    if (index < 0) return null
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator =
        operation(index, get(index), accumulator)
        --index
    }
    return accumulator
}

```

Accumulates value starting with the last element and applying [operation] from right to left to each element with its index in the original array and current accumulator value. Returns `null` if the array is empty. @param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value. @sample

```

samples.collections.Collections.Aggregates.reduceRightOrNull
^
@SinceKotlin("1.4")
public inline fun
LongArray.reduceRightIndexedOrNull(operation: (index: Int, Long, acc: Long) -> Long): Long? {
    var index =
    lastIndex
    if (index < 0) return null
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(index, get(index), accumulator)
        --index
    }
    return accumulator
}

```

Accumulates value starting with the last element and applying [operation] from right to left to each element with its index in the original array and current accumulator value. Returns `null` if the array is empty. @param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value. @sample

```

samples.collections.Collections.Aggregates.reduceRightOrNull
^
@SinceKotlin("1.4")
public
inline fun FloatArray.reduceRightIndexedOrNull(operation: (index: Int, Float, acc: Float) -> Float): Float? {
    var
    index = lastIndex
    if (index < 0) return null
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(index, get(index), accumulator)
        --index
    }
    return accumulator
}

```

Accumulates value starting with the last element and applying [operation] from right to left to each element with its index in the original array and current accumulator value. Returns `null` if the array is empty. @param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value. @sample

```

samples.collections.Collections.Aggregates.reduceRightOrNull
^
@SinceKotlin("1.4")
public inline fun
DoubleArray.reduceRightIndexedOrNull(operation: (index: Int, Double, acc: Double) -> Double):
Double? {
    var index = lastIndex
    if (index < 0) return null
    var accumulator = get(index--)
    while
    (index >= 0) {
        accumulator = operation(index, get(index), accumulator)
        --index
    }
    return
    accumulator
}

```

Accumulates value starting with the last element and applying [operation] from right to left to each element with its index in the original array and current accumulator value. Returns `null` if the array is empty. @param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value. @sample

```

samples.collections.Collections.Aggregates.reduceRightOrNull
^
@SinceKotlin("1.4")
public inline fun
BooleanArray.reduceRightIndexedOrNull(operation: (index: Int, Boolean, acc: Boolean) -> Boolean): Boolean? {
    var
    index = lastIndex
    if (index < 0) return null
    var accumulator = get(index--)
    while (index
    >= 0) {
        accumulator = operation(index, get(index), accumulator)
        --index
    }
    return
    accumulator
}

```

Accumulates value starting with the last element and applying [operation] from right to left to each element with its index in the original array and current accumulator value. Returns `null` if the array is empty. @param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value. @sample

```

samples.collections.Collections.Aggregates.reduceRightOrNull
^
@SinceKotlin("1.4")
public inline fun
CharArray.reduceRightIndexedOrNull(operation: (index: Int, Char, acc: Char) -> Char): Char? {
    var index =
    lastIndex
    if (index < 0) return null
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(index, get(index), accumulator)
        --index
    }
    return accumulator
}

```

```

* Accumulates value starting with the last element and applying [operation] from right to left\n * to each element
and current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function
that takes an element and current accumulator value,\n * and calculates the next accumulator value.\n * \n *
@sample samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n public inline fun <S, T : S>
Array<out T>.reduceRightOrNull(operation: (T, acc: S) -> S): S? {\n   var index = lastIndex\n   if (index < 0)
return null\n   var accumulator: S = get(index--)\n   while (index >= 0) {\n     accumulator = operation(get(index--),
accumulator)\n   }\n   return accumulator\n }\n\n/**\n * Accumulates value starting with the last element and
applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns `null` if
the array is empty.\n
* \n * @param [operation] function that takes an element and current accumulator value,\n * and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n public inline fun
ByteArray.reduceRightOrNull(operation: (Byte, acc: Byte) -> Byte): Byte? {\n   var index = lastIndex\n   if (index
< 0) return null\n   var accumulator = get(index--)\n   while (index >= 0) {\n     accumulator =
operation(get(index--), accumulator)\n   }\n   return accumulator\n }\n\n/**\n * Accumulates value starting with the
last element and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n *
Returns `null` if the array is empty.\n * \n * @param [operation] function that takes an element and current
accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n public inline fun
ShortArray.reduceRightOrNull(operation: (Short, acc: Short) -> Short): Short? {\n   var index = lastIndex\n   if
(index < 0) return null\n   var accumulator = get(index--)\n   while (index >= 0) {\n     accumulator =
operation(get(index--), accumulator)\n   }\n   return accumulator\n }\n\n/**\n * Accumulates value starting with the
last element and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n *
Returns `null` if the array is empty.\n * \n * @param [operation] function that takes an element and current
accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n public inline fun
IntArray.reduceRightOrNull(operation: (Int, acc: Int) -> Int): Int? {\n   var
index = lastIndex\n   if (index < 0) return null\n   var accumulator = get(index--)\n   while (index >= 0) {\n
accumulator = operation(get(index--), accumulator)\n   }\n   return accumulator\n }\n\n/**\n * Accumulates value
starting with the last element and applying [operation] from right to left\n * to each element and current accumulator
value.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes an element and
current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n public inline fun
LongArray.reduceRightOrNull(operation: (Long, acc: Long) -> Long): Long? {\n   var index = lastIndex\n   if
(index < 0) return null\n   var accumulator = get(index--)\n   while (index >= 0) {\n     accumulator =
operation(get(index--), accumulator)\n   }\n   return accumulator\n }\n\n/**\n * Accumulates value starting with the
last element and applying [operation] from right to left\n * to each element
and current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function
that takes an element and current accumulator value,\n * and calculates the next accumulator value.\n * \n *
@sample samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n public inline fun
FloatArray.reduceRightOrNull(operation: (Float, acc: Float) -> Float): Float? {\n   var index = lastIndex\n   if
(index < 0) return null\n   var accumulator = get(index--)\n   while (index >= 0) {\n     accumulator =
operation(get(index--), accumulator)\n   }\n   return accumulator\n }\n\n/**\n * Accumulates value starting with the

```


last element and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes an element and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRightOrNull\n

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun DoubleArray.reduceRightOrNull(operation: (Double, acc: Double) -> Double): Double? {\n    var index = lastIndex\n    if (index < 0) return null\n    var accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(get(index--), accumulator)\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes an element and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRightOrNull\n
```

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun BooleanArray.reduceRightOrNull(operation: (Boolean, acc: Boolean) -> Boolean): Boolean? {\n    var index = lastIndex\n    if (index < 0) return null\n    var accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(get(index--), accumulator)\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes an element and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRightOrNull\n
```

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun CharArray.reduceRightOrNull(operation: (Char, acc: Char) -> Char): Char? {\n    var index = lastIndex\n    if (index < 0) return null\n    var accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(get(index--), accumulator)\n    }\n    return accumulator\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
```

```
*\n@SinceKotlin("1.4")\npublic inline fun <T, R> Array<out T>.runningFold(initial: R, operation: (acc: R, T) -> R): List<R> {\n    if (isEmpty()) return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\n    for (element in this) {\n        accumulator = operation(accumulator, element)\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
```

```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R> ByteArray.runningFold(initial: R, operation: (acc: R, Byte) -> R): List<R> {\n    if (isEmpty()) return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\n    for (element in this) {\n        accumulator = operation(accumulator, element)\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next
```

```

accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R> ShortArray.runningFold(initial: R,
operation: (acc: R, Short) -> R): List<R> {\n  if (isEmpty()) return listOf(initial)\n  val
  result = ArrayList<R>(size + 1).apply { add(initial) }\n  var accumulator = initial\n  for (element in this) {\n
accumulator = operation(accumulator, element)\n    result.add(accumulator)\n  }\n  return result\n}\n\n/**\n *
Returns a list containing successive accumulation values generated by applying [operation] from left to right\n *
to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to
[operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n *
@param [operation] function that takes current accumulator value and an element, and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R> IntArray.runningFold(initial: R,
operation: (acc: R, Int) -> R): List<R> {\n  if (isEmpty()) return listOf(initial)\n
  val result = ArrayList<R>(size + 1).apply { add(initial) }\n  var accumulator = initial\n  for (element in this) {\n
accumulator = operation(accumulator, element)\n    result.add(accumulator)\n  }\n  return result\n}\n\n/**\n *
Returns a list containing successive accumulation values generated by applying [operation] from left to right\n *
to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to
[operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n *
@param [operation] function that takes current accumulator value and an element, and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R> LongArray.runningFold(initial: R,
operation: (acc: R, Long) -> R): List<R> {\n  if (isEmpty()) return listOf(initial)\n
  val result = ArrayList<R>(size + 1).apply { add(initial) }\n  var accumulator = initial\n  for (element in this) {\n
accumulator = operation(accumulator, element)\n    result.add(accumulator)\n  }\n  return result\n}\n\n/**\n *
Returns a list containing successive accumulation values generated by applying [operation] from left to right\n *
to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to
[operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n *
@param [operation] function that takes current accumulator value and an element, and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R> FloatArray.runningFold(initial: R,
operation: (acc: R, Float) -> R): List<R> {\n  if (isEmpty()) return listOf(initial)\n
  val result = ArrayList<R>(size + 1).apply { add(initial) }\n  var accumulator = initial\n  for (element in this) {\n
accumulator = operation(accumulator, element)\n    result.add(accumulator)\n  }\n  return result\n}\n\n/**\n *
Returns a list containing successive accumulation values generated by applying [operation] from left to right\n *
to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to
[operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n *
@param [operation] function that takes current accumulator value and an element, and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R> DoubleArray.runningFold(initial: R,
operation: (acc: R, Double) -> R): List<R> {\n  if (isEmpty()) return listOf(initial)\n
  val result = ArrayList<R>(size + 1).apply { add(initial) }\n  var accumulator = initial\n  for (element in this) {\n
accumulator = operation(accumulator, element)\n    result.add(accumulator)\n  }\n  return result\n}\n\n/**\n *
Returns a list containing successive accumulation values generated by applying [operation] from left to right\n *
to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to
[operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n *
@param [operation] function that takes current accumulator value and an element, and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R> BooleanArray.runningFold(initial:
R, operation: (acc: R, Boolean) -> R): List<R> {\n  if (isEmpty())

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return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\nfor (element in this) {\n    accumulator = operation(accumulator, element)\n    result.add(accumulator)\n}\nreturn result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying\n [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the\n previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an\n element, and calculates the next accumulator value.\n * \n * @sample\n samples.collections.Collections.Aggregates.runningFold\n\n*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R> CharArray.runningFold(initial: R,\noperation: (acc: R, Char) -> R): List<R> {\n    if (isEmpty())\n        return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\nfor (element in this) {\n    accumulator = operation(accumulator, element)\n    result.add(accumulator)\n}\nreturn result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying\n [operation] from left to right\n * to each element, its index in the original array and current accumulator value that\n starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the\n index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator\n value.\n * \n * @sample\n samples.collections.Collections.Aggregates.runningFold\n\n*\n@SinceKotlin("1.4")\npublic inline fun <T, R> Array<out T>.runningFoldIndexed(initial: R,\noperation: (index: Int, acc: R, T) -> R): List<R> {\n    if (isEmpty()) return listOf(initial)\n    val result =\n        ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\nfor (index in indices) {\n    accumulator = operation(index, accumulator, this[index])\n    result.add(accumulator)\n}\nreturn\n    result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from\n left to right\n * to each element, its index in the original array and current accumulator value that starts with [initial]\n value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would\n affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element,\n current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample\n samples.collections.Collections.Aggregates.runningFold\n\n*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic\n    inline fun <R> ByteArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Byte) -> R): List<R> {\n        if (isEmpty()) return listOf(initial)\n        val result = ArrayList<R>(size + 1).apply { add(initial) }\n        var accumulator\n            = initial\nfor (index in indices) {\n    accumulator = operation(index, accumulator, this[index])\n    result.add(accumulator)\n}\nreturn result\n}\n\n/**\n * Returns a list containing successive accumulation\n values generated by applying [operation] from left to right\n * to each element, its index in the original array and\n current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function\n should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]\n function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the\n next accumulator\n value.\n * \n * @sample\n samples.collections.Collections.Aggregates.runningFold\n\n*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nShortArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Short) -> R): List<R> {\n    if (isEmpty())\n        return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\nfor (index in indices) {\n    accumulator = operation(index, accumulator, this[index])\n    result.add(accumulator)\n}\nreturn result\n}\n\n/**\n * Returns a list containing successive accumulation\n values generated by applying [operation] from left to right\n * to each element, its index in the original array and\n current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function\n should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]\n function that takes the

```

index of an element, current accumulator value and the element itself, and calculates the next accumulator value.

```

@sample samples.collections.Collections.Aggregates.runningFold
*/n@SinceKotlin("1.4")n@kotlin.internal.InlineOnlynpublic inline fun <R>
IntArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Int) -> R): List<R> {n if (isEmpty()) return
listOf(initial)n val result = ArrayList<R>(size + 1).apply { add(initial) }n var accumulator = initialn for
(index in indices) {n accumulator = operation(index, accumulator, this[index])n result.add(accumulator)n
}n return resultn}n/n/**n * Returns a list containing successive accumulation values generated by applying
[operation] from left to rightn * to each element, its index in the original array and current accumulator value that
starts with [initial] value.n * n * Note that `acc` value passed to [operation] function should not be mutated;n *
otherwise
it would affect the previous value in resulting list.n * n * @param [operation] function that takes the index of an
element, current accumulator value and the element itself, and calculates the next accumulator value.n * n *
@sample samples.collections.Collections.Aggregates.runningFold
*/n@SinceKotlin("1.4")n@kotlin.internal.InlineOnlynpublic inline fun <R>
LongArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Long) -> R): List<R> {n if (isEmpty())
return listOf(initial)n val result = ArrayList<R>(size + 1).apply { add(initial) }n var accumulator = initialn
for (index in indices) {n accumulator = operation(index, accumulator, this[index])n
result.add(accumulator)n }n return resultn}n/n/**n * Returns a list containing successive accumulation
values generated by applying [operation] from left to rightn * to each element, its index in the original array and
current accumulator value that starts with [initial] value.n
* n * Note that `acc` value passed to [operation] function should not be mutated;n * otherwise it would affect the
previous value in resulting list.n * n * @param [operation] function that takes the index of an element, current
accumulator value and the element itself, and calculates the next accumulator value.n * n * @sample
samples.collections.Collections.Aggregates.runningFold
*/n@SinceKotlin("1.4")n@kotlin.internal.InlineOnlynpublic inline fun <R>
FloatArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Float) -> R): List<R> {n if (isEmpty())
return listOf(initial)n val result = ArrayList<R>(size + 1).apply { add(initial) }n var accumulator = initialn
for (index in indices) {n accumulator = operation(index, accumulator, this[index])n
result.add(accumulator)n }n return resultn}n/n/**n * Returns a list containing successive accumulation
values generated by applying [operation] from left to rightn *
to each element, its index in the original array and current accumulator value that starts with [initial] value.n * n *
Note that `acc` value passed to [operation] function should not be mutated;n * otherwise it would affect the
previous value in resulting list.n * n * @param [operation] function that takes the index of an element, current
accumulator value and the element itself, and calculates the next accumulator value.n * n * @sample
samples.collections.Collections.Aggregates.runningFold
*/n@SinceKotlin("1.4")n@kotlin.internal.InlineOnlynpublic inline fun <R>
DoubleArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Double) -> R): List<R> {n if
(isEmpty()) return listOf(initial)n val result = ArrayList<R>(size + 1).apply { add(initial) }n var accumulator =
initialn for (index in indices) {n accumulator = operation(index, accumulator, this[index])n
result.add(accumulator)n }n return resultn}n/n/**n * Returns
a list containing successive accumulation values generated by applying [operation] from left to rightn * to each
element, its index in the original array and current accumulator value that starts with [initial] value.n * n * Note
that `acc` value passed to [operation] function should not be mutated;n * otherwise it would affect the previous
value in resulting list.n * n * @param [operation] function that takes the index of an element, current accumulator
value and the element itself, and calculates the next accumulator value.n * n * @sample
samples.collections.Collections.Aggregates.runningFold
*/n@SinceKotlin("1.4")n@kotlin.internal.InlineOnlynpublic inline fun <R>
BooleanArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Boolean) -> R): List<R> {n if

```

```

(isEmpty()) return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator =
initial\n    for (index in indices) {\n        accumulator = operation(index,
accumulator, this[index])\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list
containing successive accumulation values generated by applying [operation] from left to right\n * to each element,
its index in the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc`
value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in
resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n *
and the element itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R>
CharArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Char) -> R): List<R> {\n    if (isEmpty())
return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial)
}\n    var accumulator = initial\n    for (index in indices) {\n        accumulator = operation(index, accumulator,
this[index])\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive
accumulation values generated by applying [operation] from left to right\n * to each element and current
accumulator value that starts with the first element of this array.\n * \n * Note that `acc` value passed to [operation]
function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param
[operation] function that takes current accumulator value and the element, and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <S, T : S>
Array<out T>.runningReduce(operation: (acc: S, T) -> S): List<S> {\n    if (isEmpty()) return emptyList()\n    var
accumulator: S = this[0]\n    val result = ArrayList<S>(size).apply { add(accumulator) }\n    for (index in 1 until
size) {\n        accumulator = operation(accumulator, this[index])\n        result.add(accumulator)\n    }\n    return
result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from
left to right\n * to each element and current accumulator value that starts with the first element of this array.\n * \n *
@param [operation] function that takes current accumulator value and an element, and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.runningReduce(operation:
(acc: Byte, Byte) -> Byte): List<Byte> {\n    if (isEmpty()) return emptyList()\n    var accumulator = this[0]\n    val
result = ArrayList<Byte>(size).apply { add(accumulator) }\n    for (index in 1 until size) {\n
        accumulator = operation(accumulator, this[index])\n        result.add(accumulator)\n    }\n    return
result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from
left to right\n * to each element and current accumulator value that starts with the first element of this array.\n * \n *
@param [operation] function that takes current accumulator value and an element, and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.runningReduce(operation:
(acc: Short, Short) -> Short): List<Short> {\n    if (isEmpty()) return emptyList()\n    var accumulator = this[0]\n
val result = ArrayList<Short>(size).apply { add(accumulator) }\n    for (index in 1 until size) {\n        accumulator =
operation(accumulator, this[index])\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n *
to each element and current accumulator value that starts with the first element of this array.\n * \n * @param
[operation] function that takes current accumulator value and an element, and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.runningReduce(operation: (acc:
Int, Int) -> Int): List<Int> {\n    if (isEmpty()) return emptyList()\n    var accumulator = this[0]\n    val result =
ArrayList<Int>(size).apply { add(accumulator) }\n    for (index in 1 until size) {\n        accumulator =
operation(accumulator, this[index])\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list
containing successive accumulation values generated by applying [operation] from left to right\n * to each

```

element and current accumulator value that starts with the first element of this array.

`@param [operation]` function that takes current accumulator value and an element, and calculates the next accumulator value.

`@sample samples.collections.Collections.Aggregates.runningReduce`

```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.runningReduce(operation:
(acc: Long, Long) -> Long): List<Long> {\n    if (isEmpty()) return emptyList()\n    var accumulator = this[0]\n    val result = ArrayList<Long>(size).apply { add(accumulator) }\n    for (index in 1 until size) {\n        accumulator =
operation(accumulator, this[index])\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list
containing successive accumulation values generated by applying [operation] from left to right\n * to each element
and current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function
that
takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.runningReduce(operation:
(acc: Float, Float) -> Float): List<Float> {\n    if (isEmpty()) return emptyList()\n    var accumulator = this[0]\n    val
result = ArrayList<Float>(size).apply { add(accumulator) }\n    for (index in 1 until size) {\n        accumulator =
operation(accumulator, this[index])\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list
containing successive accumulation values generated by applying [operation] from left to right\n * to each element
and current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function
that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.runningReduce(operation:
(acc: Double, Double) -> Double): List<Double> {\n    if (isEmpty()) return emptyList()\n    var accumulator =
this[0]\n    val result = ArrayList<Double>(size).apply { add(accumulator) }\n    for (index in 1 until size) {\n
accumulator = operation(accumulator, this[index])\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with the first element of this array.\n * \n * @param
[operation] function that takes current accumulator value and an element, and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline
fun BooleanArray.runningReduce(operation: (acc: Boolean, Boolean) -> Boolean): List<Boolean> {\n    if
(isEmpty()) return emptyList()\n    var accumulator = this[0]\n    val result = ArrayList<Boolean>(size).apply {
add(accumulator) }\n    for (index in 1 until size) {\n        accumulator = operation(accumulator, this[index])\n
result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element and current accumulator value that
starts with the first element of this array.\n * \n * @param [operation] function that takes current accumulator value
and an element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.runningReduce(operation:
(acc: Char, Char) -> Char): List<Char> {\n    if (isEmpty()) return
emptyList()\n    var accumulator = this[0]\n    val result = ArrayList<Char>(size).apply { add(accumulator) }\n    for
(index in 1 until size) {\n        accumulator = operation(accumulator, this[index])\n        result.add(accumulator)\n
}\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying
[operation] from left to right\n * to each element, its index in the original array and current accumulator value that
starts with the first element of this array.\n * \n * Note that `acc` value passed to [operation] function should not be
mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that
takes the index of an element, current accumulator value\n * and the element itself, and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\npublic inline fun <S, T : S> Array<out T>.runningReduceIndexed(operation:
```

```

(index: Int, acc: S, T) -> S): List<S> {\n  if (isEmpty()) return emptyList()\n  var accumulator: S = this[0]\n  val result = ArrayList<S>(size).apply { add(accumulator) }\n  for (index in 1 until size) {\n    accumulator = operation(index, accumulator, this[index])\n    result.add(accumulator)\n  }\n  return result}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n */\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun  

ByteArray.runningReduceIndexed(operation: (index: Int, acc: Byte, Byte) -> Byte): List<Byte> {\n  if (isEmpty()) return emptyList()\n  var accumulator = this[0]\n  val result = ArrayList<Byte>(size).apply { add(accumulator) }\n  for (index in 1 until size) {\n    accumulator = operation(index, accumulator, this[index])\n    result.add(accumulator)\n  }\n  return result}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n */\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun  

ShortArray.runningReduceIndexed(operation: (index: Int, acc: Short, Short) -> Short): List<Short> {\n  if (isEmpty()) return emptyList()\n  var accumulator = this[0]\n  val result = ArrayList<Short>(size).apply { add(accumulator) }\n  for (index in 1 until size) {\n    accumulator = operation(index, accumulator, this[index])\n    result.add(accumulator)\n  }\n  return result}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n */\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun  

IntArray.runningReduceIndexed(operation: (index: Int, acc: Int, Int) -> Int): List<Int> {\n  if (isEmpty()) return emptyList()\n  var accumulator = this[0]\n  val result = ArrayList<Int>(size).apply { add(accumulator) }\n  for (index in 1 until size) {\n    accumulator = operation(index, accumulator, this[index])\n    result.add(accumulator)\n  }\n  return result}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n */\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun  

LongArray.runningReduceIndexed(operation: (index: Int, acc: Long, Long) -> Long): List<Long> {\n  if (isEmpty()) return emptyList()\n  var accumulator = this[0]\n  val result = ArrayList<Long>(size).apply { add(accumulator) }\n  for (index in 1 until size) {\n    accumulator = operation(index, accumulator, this[index])\n    result.add(accumulator)\n  }\n  return result}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n */\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun

```

```

FloatArray.runningReduceIndexed(operation: (index: Int, acc: Float, Float) -> Float): List<Float> {
    if (isEmpty()) return emptyList()
    var accumulator = this[0]
    val result = ArrayList<Float>(size).apply { add(accumulator) }
    for (index in 1 until size) {
        accumulator = operation(index, accumulator, this[index])
        result.add(accumulator)
    }
    return result
}

Returns a list containing successive accumulation values generated by applying [operation] from left to right to each element, its index in the original array and current accumulator value that starts with the first element of this array.

@param [operation] function that takes the index of an element, current accumulator value and the element itself, and calculates the next accumulator value.

@sample
samples.collections.Collections.Aggregates.runningReduce

*/
@SinceKotlin("1.4")
@kotlin.internal.InlineOnly
public inline fun
DoubleArray.runningReduceIndexed(operation: (index: Int, acc: Double, Double) -> Double): List<Double> {
    if (isEmpty()) return emptyList()
    var accumulator = this[0]
    val result = ArrayList<Double>(size).apply { add(accumulator) }
    for (index in 1 until size) {
        accumulator = operation(index, accumulator, this[index])
        result.add(accumulator)
    }
    return result
}

Returns a list containing successive accumulation values generated by applying [operation] from left to right to each element, its index in the original array and current accumulator value that starts with the first element of this array.

@param [operation] function that takes the index of an element, current accumulator value and the element itself, and calculates the next accumulator value.

@sample
samples.collections.Collections.Aggregates.runningReduce

*/
@SinceKotlin("1.4")
@kotlin.internal.InlineOnly
public inline fun
BooleanArray.runningReduceIndexed(operation: (index: Int, acc: Boolean, Boolean) -> Boolean): List<Boolean> {
    if (isEmpty()) return emptyList()
    var accumulator = this[0]
    val result = ArrayList<Boolean>(size).apply { add(accumulator) }
    for (index in 1 until size) {
        accumulator = operation(index, accumulator, this[index])
        result.add(accumulator)
    }
    return result
}

Returns a list containing successive accumulation values generated by applying [operation] from left to right to each element, its index in the original array and current accumulator value that starts with the first element of this array.

@param [operation] function that takes the index of an element, current accumulator value and the element itself, and calculates the next accumulator value.

@sample
samples.collections.Collections.Aggregates.runningReduce

*/
@SinceKotlin("1.4")
@kotlin.internal.InlineOnly
public inline fun
CharArray.runningReduceIndexed(operation: (index: Int, acc: Char, Char) -> Char): List<Char> {
    if (isEmpty()) return emptyList()
    var accumulator = this[0]
    val result = ArrayList<Char>(size).apply { add(accumulator) }
    for (index in 1 until size) {
        accumulator = operation(index, accumulator, this[index])
        result.add(accumulator)
    }
    return result
}

Returns a list containing successive accumulation values generated by applying [operation] from left to right to each element and current accumulator value that starts with [initial] value.

Note that `acc` value passed to [operation] function should not be mutated; otherwise it would affect the previous value in resulting list.

@param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.

@sample
samples.collections.Collections.Aggregates.scan

*/
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
public inline fun <T, R>
Array<out T>.scan(initial: R, operation: (acc: R, T) -> R): List<R> {
    return runningFold(initial, operation)
}

Returns a list containing successive accumulation values generated by applying [operation] from left to right to each element and current accumulator value that starts with [initial] value.

Note that `acc` value passed to [operation] function should not be mutated; otherwise it would affect the previous value in resulting list.

@param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.

@sample
samples.collections.Collections.Aggregates.scan

*/
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
@kotlin.internal.InlineOnly
public inline fun

```



```

c inline fun <R> ByteArray.scan(initial: R, operation: (acc: R, Byte) -> R): List<R> {
    return runningFold(initial, operation)
}

/**
 * Returns a list containing successive accumulation values generated by applying [operation]
 * from left to right to each element and current accumulator value that starts with [initial]
 * value.
 * Note that `acc` value passed to [operation] function should not be mutated;
 * otherwise it would affect the previous value in resulting list.
 * @param [operation] function that takes current accumulator value and an element,
 * and calculates the next accumulator value.
 * @sample samples.collections.Collections.Aggregates.scan
 */
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
@kotlin.internal.InlineOnly
public inline fun <R> ShortArray.scan(initial: R, operation: (acc: R, Short) -> R): List<R> {
    return runningFold(initial, operation)
}

/**
 * Returns a list containing successive accumulation values generated by applying [operation]
 * from left to right to each element and current accumulator value that starts with [initial]
 * value.
 * Note that `acc` value passed to [operation] function should not be mutated;
 * otherwise it would affect the previous value in resulting list.
 * @param [operation] function that takes current accumulator value and an element,
 * and calculates the next accumulator value.
 * @sample samples.collections.Collections.Aggregates.scan
 */
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
@kotlin.internal.InlineOnly
public inline fun <R> IntArray.scan(initial: R, operation: (acc: R, Int) -> R): List<R> {
    return runningFold(initial, operation)
}

/**
 * Returns a list containing successive accumulation values generated by applying [operation]
 * from left to right to each element and current accumulator value that starts with [initial]
 * value.
 * Note that `acc` value passed to [operation] function should not be mutated;
 * otherwise it would affect the previous value in resulting list.
 * @param [operation] function that takes current accumulator value and an element,
 * and calculates the next accumulator value.
 * @sample samples.collections.Collections.Aggregates.scan
 */
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
@kotlin.internal.InlineOnly
public inline fun <R> LongArray.scan(initial: R, operation: (acc: R, Long) -> R): List<R> {
    return runningFold(initial, operation)
}

/**
 * Returns a list containing successive accumulation values generated by applying [operation]
 * from left to right to each element and current accumulator value that starts with [initial]
 * value.
 * Note that `acc` value passed to [operation] function should not be mutated;
 * otherwise it would affect the previous value in resulting list.
 * @param [operation] function that takes current accumulator value and an element,
 * and calculates the next accumulator value.
 * @sample samples.collections.Collections.Aggregates.scan
 */
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
@kotlin.internal.InlineOnly
public inline fun <R> FloatArray.scan(initial: R, operation: (acc: R, Float) -> R): List<R> {
    return runningFold(initial, operation)
}

/**
 * Returns a list containing successive accumulation values generated by applying [operation]
 * from left to right to each element and current accumulator value that starts with [initial]
 * value.
 * Note that `acc` value passed to [operation] function should not be mutated;
 * otherwise it would affect the previous value in resulting list.
 * @param [operation] function that takes current accumulator value and an element,
 * and calculates the next accumulator value.
 * @sample samples.collections.Collections.Aggregates.scan
 */
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
@kotlin.internal.InlineOnly
public inline fun <R> DoubleArray.scan(initial: R, operation: (acc: R, Double) -> R): List<R> {
    return runningFold(initial, operation)
}

/**
 * Returns a list containing successive accumulation values generated by applying [operation]
 * from left to right to each element and current accumulator value that starts with [initial]
 * value.
 * Note that `acc` value passed to [operation] function should not be mutated;
 * otherwise it would affect the previous value in resulting list.
 * @param [operation] function that takes current accumulator value and an element,
 * and calculates the next accumulator value.
 * @sample samples.collections.Collections.Aggregates.scan
 */
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
@kotlin.internal.InlineOnly
public inline fun <R> BooleanArray.scan(initial: R, operation: (acc: R, Boolean) -> R): List<R> {
    return

```

runningFold(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates

the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <R> CharArray.scan(initial: R, operation: (acc: R, Char) -> R): List<R> {\n    return runningFold(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
```

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic
```

```
inline fun <T, R> Array<out T>.scanIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): List<R> {\n    return runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
```

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <R> ByteArray.scanIndexed(initial:
```

```
R, operation: (index: Int, acc: R, Byte) -> R): List<R> {\n    return runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
```

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <R> ShortArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Short) -> R): List<R> {\n    return runningFoldIndexed(initial, operation)\n}\n\n/**\n
```

```
* Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
```

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <R> IntArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Int) -> R): List<R> {\n    return runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation]
```

```
from left to right\n * to each element, its index in the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
```

```

@sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <R> LongArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Long) -> R): List<R> {\n    return\n    runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values\n * generated by applying [operation] from left to right\n * to each element, its index in the original array and current\n * accumulator\n * value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be\n * mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that\n * takes the index of an element, current accumulator value\n * and the element itself, and calculates the next\n * accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <R> FloatArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Float) -> R): List<R> {\n    return\n    runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values\n * generated by applying [operation] from left to right\n * to each element, its index in the original array and current\n * accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function\n * should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param\n * [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and\n * calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <R> DoubleArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Double) -> R): List<R> {\n    return\n    runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values\n * generated by applying [operation] from left to right\n * to each element, its index in the original array and current\n * accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should\n * not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n *\n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element\n * itself, and calculates the next accumulator value.\n * \n * @sample\n * samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <R> BooleanArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Boolean) -> R): List<R> {\n    return\n    runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values\n * generated by applying [operation] from left to right\n * to each element, its index in the original array and current\n * accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should\n * not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * \n * @param [operation]\n * function that takes the index of an element, current accumulator value\n * and the element\n * itself, and calculates the next accumulator value.\n * \n * @sample\n * samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <R> CharArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Char) -> R): List<R> {\n    return\n    runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns the sum of all values produced by [selector] function\n * applied to each element in the array.\n * \n * @Deprecated("Use sumOf instead.")\n * ReplaceWith("this.sumOf(selector)")\n * @DeprecatedSinceKotlin(warningSince = "1.5")\n * public inline fun <T>\n * Array<out T>.sumBy(selector: (T) -> Int): Int {\n *     var sum: Int = 0\n *     for (element in this) {\n *         sum +=\n *         selector(element)\n *     }\n *     return sum\n * }\n\n/**\n * Returns the sum of all values produced by [selector] function\n * applied to each element in the array.\n * \n * @Deprecated("Use sumOf instead.")\n * ReplaceWith("this.sumOf(selector)")\n * @DeprecatedSinceKotlin(warningSince\n * = "1.5")\n * public inline fun ByteArray.sumBy(selector: (Byte) -> Int): Int {\n *     var sum: Int = 0\n *     for (element in\n *     this) {\n *         sum += selector(element)\n *     }\n *     return sum\n * }\n\n/**\n * Returns the sum of all values produced by\n * [selector] function applied to each element in the array.\n * \n * @Deprecated("Use sumOf instead.")

```

```

ReplaceWith("\this.sumOf(selector)\n"))\n@DeprecatedSinceKotlin(warningSince = `1.5`)\npublic inline fun
ShortArray.sumBy(selector: (Short) -> Int): Int {\n  var sum: Int = 0\n  for (element in this) {\n    sum +=
selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.\n",
ReplaceWith("\this.sumOf(selector)\n"))\n@DeprecatedSinceKotlin(warningSince = `1.5`)\npublic inline fun
IntArray.sumBy(selector: (Int) -> Int): Int {\n  var sum: Int = 0\n  for
(element in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values
produced by [selector] function applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.\n",
ReplaceWith("\this.sumOf(selector)\n"))\n@DeprecatedSinceKotlin(warningSince = `1.5`)\npublic inline fun
LongArray.sumBy(selector: (Long) -> Int): Int {\n  var sum: Int = 0\n  for (element in this) {\n    sum +=
selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.\n",
ReplaceWith("\this.sumOf(selector)\n"))\n@DeprecatedSinceKotlin(warningSince = `1.5`)\npublic inline fun
FloatArray.sumBy(selector: (Float) -> Int): Int {\n  var sum: Int = 0\n  for (element in this) {\n    sum +=
selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied
to each element in the array.\n */\n@Deprecated("Use sumOf instead.\n",
ReplaceWith("\this.sumOf(selector)\n"))\n@DeprecatedSinceKotlin(warningSince = `1.5`)\npublic inline fun
DoubleArray.sumBy(selector: (Double) -> Int): Int {\n  var sum: Int = 0\n  for (element in this) {\n    sum +=
selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.\n",
ReplaceWith("\this.sumOf(selector)\n"))\n@DeprecatedSinceKotlin(warningSince = `1.5`)\npublic inline fun
BooleanArray.sumBy(selector: (Boolean) -> Int): Int {\n  var sum: Int = 0\n  for (element in this) {\n    sum +=
selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.\n",
ReplaceWith("\this.sumOf(selector)\n"))\n@DeprecatedSinceKotlin(warningSince = `1.5`)\npublic
inline fun CharArray.sumBy(selector: (Char) -> Int): Int {\n  var sum: Int = 0\n  for (element in this) {\n    sum
+= selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.\n",
ReplaceWith("\this.sumOf(selector)\n"))\n@DeprecatedSinceKotlin(warningSince = `1.5`)\npublic inline fun <T>
Array<out T>.sumByDouble(selector: (T) -> Double): Double {\n  var sum: Double = 0.0\n  for (element in this)
{\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.\n",
ReplaceWith("\this.sumOf(selector)\n"))\n@DeprecatedSinceKotlin(warningSince = `1.5`)\npublic inline fun
ByteArray.sumByDouble(selector: (Byte) -> Double): Double {\n  var sum: Double = 0.0\n  for (element in this)
{\n
sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.\n",
ReplaceWith("\this.sumOf(selector)\n"))\n@DeprecatedSinceKotlin(warningSince = `1.5`)\npublic inline fun
ShortArray.sumByDouble(selector: (Short) -> Double): Double {\n  var sum: Double = 0.0\n  for (element in this)
{\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.\n",
ReplaceWith("\this.sumOf(selector)\n"))\n@DeprecatedSinceKotlin(warningSince = `1.5`)\npublic inline fun
IntArray.sumByDouble(selector: (Int) -> Double): Double {\n  var sum: Double = 0.0\n  for (element in this) {\n
sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function
applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.\n",
ReplaceWith("\this.sumOf(selector)\n"))\n@DeprecatedSinceKotlin(warningSince = `1.5`)\npublic inline fun

```

```

LongArray.sumByDouble(selector: (Long) -> Double): Double {
    var sum: Double = 0.0
    for (element in this)
    {
        sum += selector(element)
    }
    return sum
}
/**
 * Returns the sum of all values produced by
 [selector] function applied to each element in the array.
 */
@Deprecated("Use sumOf instead.",
ReplaceWith("this.sumOf(selector)"))
@DeprecatedSinceKotlin(warningSince = "1.5")
public inline fun
FloatArray.sumByDouble(selector: (Float) -> Double): Double {
    var sum: Double = 0.0
    for (element in this)
    {
        sum += selector(element)
    }
    return sum
}
/**
 * Returns the sum of all values produced by
 [selector] function applied to each element in the array.
 */
@Deprecated("Use sumOf instead.",
ReplaceWith("this.sumOf(selector)"))
@DeprecatedSinceKotlin(warningSince
= "1.5")
public inline fun DoubleArray.sumByDouble(selector: (Double) -> Double): Double {
    var sum:
Double = 0.0
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
/**
 * Returns
the sum of all values produced by [selector] function applied to each element in the array.
 */
@Deprecated("Use sumOf instead.", ReplaceWith("this.sumOf(selector)"))
@DeprecatedSinceKotlin(warningSince =
"1.5")
public inline fun BooleanArray.sumByDouble(selector: (Boolean) -> Double): Double {
    var sum:
Double = 0.0
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
/**
 * Returns
the sum of all values produced by [selector] function applied to each element in the array.
 */
@Deprecated("Use sumOf instead.", ReplaceWith("this.sumOf(selector)"))
@DeprecatedSinceKotlin(warningSince =
"1.5")
public inline fun CharArray.sumByDouble(selector: (Char) -> Double): Double {
    var sum: Double = 0.0
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
/**
 * Returns the sum of all values produced by [selector] function applied to each element in the array.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.jvm.JvmName("sumOfDouble")
@kotlin.internal.InlineOnly
public inline fun
<T> Array<out T>.sumOf(selector: (T) -> Double): Double {
    var sum: Double = 0.toDouble()
    for (element
in this) {
        sum += selector(element)
    }
    return sum
}
/**
 * Returns the sum of all values produced
by [selector] function applied to each element in the array.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.jvm.JvmName("sumOfDouble")
@kotlin.internal.InlineOnly
public inline fun
ByteArray.sumOf(selector: (Byte) -> Double): Double
{
    var sum: Double = 0.toDouble()
    for (element in this) {
        sum += selector(element)
    }
    return
sum
}
/**
 * Returns the sum of all values produced by [selector] function applied to each element in the
array.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.jvm.JvmName("sumOfDouble")
@kotlin.internal.InlineOnly
public inline fun
ShortArray.sumOf(selector: (Short) -> Double): Double {
    var sum: Double = 0.toDouble()
    for (element in
this) {
        sum += selector(element)
    }
    return sum
}
/**
 * Returns the sum of all values produced by
[selector] function applied to each element in the array.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.jvm.JvmName("sumOfDouble")
@kotlin.internal.InlineOnly
public inline fun
IntArray.sumOf(selector: (Int) -> Double):
Double {
    var sum: Double = 0.toDouble()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
/**
 * Returns the sum of all values produced by [selector] function applied to each element in
the array.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.jvm.JvmName("sumOfDouble")
@kotlin.internal.InlineOnly
public inline fun
LongArray.sumOf(selector: (Long) -> Double): Double {
    var sum: Double = 0.toDouble()
    for (element in
this) {
        sum += selector(element)
    }
    return sum
}
/**
 * Returns the sum of all values produced by
[selector] function applied to each element in the array.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.jvm.JvmName("sumOfDouble")
@kotlin.internal.InlineOnly
public inline fun

```

```

FloatArray.sumOf(selector: (Float)
-> Double): Double {\n  var sum: Double = 0.toDouble()\n  for (element in this) {\n    sum +=
selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfDouble")\n@kotlin.internal.InlineOnly\npublic inline fun
DoubleArray.sumOf(selector: (Double) -> Double): Double {\n  var sum: Double = 0.toDouble()\n  for (element
in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced
by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfDouble")\n@kotlin.internal.InlineOnly\npublic inline fun
BooleanArray.sumOf(selector:
(Boolean) -> Double): Double {\n  var sum: Double = 0.toDouble()\n  for (element in this) {\n    sum +=
selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfDouble")\n@kotlin.internal.InlineOnly\npublic inline fun
CharArray.sumOf(selector: (Char) -> Double): Double {\n  var sum: Double = 0.toDouble()\n  for (element in
this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfInt")\n@kotlin.internal.InlineOnly\npublic inline fun <T>
Array<out T>.sumOf(selector: (T) -> Int): Int {\n  var sum: Int = 0.toInt()\n  for (element in this) {\n    sum +=
selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfInt")\n@kotlin.internal.InlineOnly\npublic inline fun
ByteArray.sumOf(selector: (Byte) -> Int): Int {\n  var sum: Int = 0.toInt()\n  for (element in this) {\n    sum +=
selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfInt")\n@kotlin.internal.InlineOnly\npublic inline fun
ShortArray.sumOf(selector:
(Short) -> Int): Int {\n  var sum: Int = 0.toInt()\n  for (element in this) {\n    sum += selector(element)\n  }\n}
return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in
the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfInt")\n@kotlin.internal.InlineOnly\npublic inline fun
IntArray.sumOf(selector: (Int) -> Int): Int {\n  var sum: Int = 0.toInt()\n  for (element in this) {\n    sum +=
selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfInt")\n@kotlin.internal.InlineOnly\npublic inline fun
LongArray.sumOf(selector: (Long) -> Int):
Int {\n  var sum: Int = 0.toInt()\n  for (element in this) {\n    sum += selector(element)\n  }\n  return
sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the
array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution

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ByLambdaReturnType\n@kotlin.jvm.JvmName(\sumOfInt)\n@kotlin.internal.InlineOnly\npublic inline fun
FloatArray.sumOf(selector: (Float) -> Int): Int {\n    var sum: Int = 0.toInt()\n    for (element in this) {\n        sum +=
selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName(\sumOfInt)\n@kotlin.internal.InlineOnly\npublic inline fun
DoubleArray.sumOf(selector: (Double) -> Int): Int {\n
    var sum: Int = 0.toInt()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**
Returns the sum of all values produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName(\sumOfInt)\n@kotlin.internal.InlineOnly\npublic inline fun
BooleanArray.sumOf(selector: (Boolean) -> Int): Int {\n    var sum: Int = 0.toInt()\n    for (element in this) {\n
sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName(\sumOfInt)\n@kotlin.internal.InlineOnly\npublic inline fun
CharArray.sumOf(selector: (Char) -> Int): Int {\n    var sum: Int
= 0.toInt()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the
sum of all values produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName(\sumOfLong)\n@kotlin.internal.InlineOnly\npublic inline fun
<T> Array<out T>.sumOf(selector: (T) -> Long): Long {\n    var sum: Long = 0.toLong()\n    for (element in this)
{\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName(\sumOfLong)\n@kotlin.internal.InlineOnly\npublic inline fun
ByteArray.sumOf(selector: (Byte) -> Long): Long {\n    var sum: Long = 0.toLong()\n
    for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all
values produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName(\sumOfLong)\n@kotlin.internal.InlineOnly\npublic inline fun
ShortArray.sumOf(selector: (Short) -> Long): Long {\n    var sum: Long = 0.toLong()\n    for (element in this) {\n
sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName(\sumOfLong)\n@kotlin.internal.InlineOnly\npublic inline fun
IntArray.sumOf(selector: (Int) -> Long): Long {\n    var sum: Long = 0.toLong()\n
    for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all
values produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName(\sumOfLong)\n@kotlin.internal.InlineOnly\npublic inline fun
LongArray.sumOf(selector: (Long) -> Long): Long {\n    var sum: Long = 0.toLong()\n    for (element in this) {\n
sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName(\sumOfLong)\n@kotlin.internal.InlineOnly\npublic inline fun
FloatArray.sumOf(selector: (Float) -> Long): Long {\n    var sum: Long = 0.toLong()\n    for (element

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in this) {\n    sum += selector(element)\n } \n return sum\n}\n\n/**\n * Returns the sum of all values produced
by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfLong")\n@kotlin.internal.InlineOnly\npublic inline fun
DoubleArray.sumOf(selector: (Double) -> Long): Long {\n    var sum: Long = 0.toLong()\n    for (element in this)
{\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfLong")\n@kotlin.internal.InlineOnly\npublic inline fun
BooleanArray.sumOf(selector: (Boolean) -> Long): Long {\n    var sum: Long = 0.toLong()\n    for (element
in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced
by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfLong")\n@kotlin.internal.InlineOnly\npublic inline fun
CharArray.sumOf(selector: (Char) -> Long): Long {\n    var sum: Long = 0.toLong()\n    for (element in this) {\n
sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.sumOf(selector: (T) -> UInt): UInt
{\n    var sum: UInt = 0.toUInt()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return
sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the
array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.sumOf(selector: (Byte) -> UInt): UInt {\n    var
sum: UInt = 0.toUInt()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n *
Returns the sum of all values produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic
inline fun ShortArray.sumOf(selector: (Short) -> UInt): UInt {\n    var sum: UInt = 0.toUInt()\n    for (element in
this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.sumOf(selector: (Int) -> UInt): UInt {\n    var
sum: UInt = 0.toUInt()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n *
Returns the sum of all values produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic
inline fun LongArray.sumOf(selector: (Long) -> UInt): UInt {\n    var sum: UInt = 0.toUInt()\n    for (element in
this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.sumOf(selector: (Float) -> UInt): UInt {\n    var

```



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sum: UInt = 0.toUInt()\n  for (element in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType\ns::class)\n@kotlin.internal.InlineOnly\npublic\n  inline fun DoubleArray.sumOf(selector: (Double) -> UInt): UInt {\n    var sum: UInt = 0.toUInt()\n    for (element\nin this) {\n      sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced\nby [selector] function applied to each element in the array.\n */\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType\ns::class)\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.sumOf(selector: (Boolean) -> UInt): UInt\n{\n  var sum: UInt = 0.toUInt()\n  for (element in this) {\n    sum += selector(element)\n  }\n  return\nsum\n}\n\n/**\n * Returns the sum of all values\nproduced by [selector] function applied to each element in the array.\n */\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType\ns::class)\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.sumOf(selector: (Char) -> UInt): UInt {\n  var\nsum: UInt = 0.toUInt()\n  for (element in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedTy\npes::class)\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.sumOf(selector: (T) -> ULong):\nULong {\n  var sum: ULong = 0.toULong()\n  for (element in this)\n  {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by\n[selector] function applied to each element in the array.\n */\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedTy\npes::class)\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.sumOf(selector: (Byte) -> ULong): ULong\n{\n  var sum: ULong = 0.toULong()\n  for (element in this) {\n    sum += selector(element)\n  }\n  return\nsum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the\narray.\n */\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedTy\npes::class)\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.sumOf(selector:\n(Short) -> ULong): ULong {\n  var sum: ULong = 0.toULong()\n  for (element in this) {\n    sum +=\nselector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function\napplied to each element in the array.\n */\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedTy\npes::class)\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.sumOf(selector: (Int) -> ULong): ULong {\n  var\nsum: ULong = 0.toULong()\n  for (element in this) {\n    sum += selector(element)\n  }\n  return\nsum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the\narray.\n */\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedTy\npes::class)\n@kotlin.internal.InlineOnly\npublic\n  inline fun LongArray.sumOf(selector: (Long) -> ULong): ULong {\n    var sum: ULong = 0.toULong()\n    for\n(element in this) {\n      sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values

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produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.sumOf(selector: (Float) -> ULong): ULong
{\n    var sum: ULong = 0.toULong()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return
sum}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the
array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic
inline fun DoubleArray.sumOf(selector: (Double) -> ULong): ULong {\n    var sum: ULong = 0.toULong()\n    for
(element in this) {\n        sum += selector(element)\n    }\n    return sum}\n\n/**\n * Returns the sum of all values
produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.sumOf(selector: (Boolean) -> ULong):
ULong {\n    var sum: ULong = 0.toULong()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return sum}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.sumOf(selector: (Char) -> ULong): ULong
{\n    var sum: ULong = 0.toULong()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return
sum}\n\n/**\n * Returns an original collection containing all the non-`null` elements, throwing an
[IllegalArgumentException] if there are any `null` elements.\n *\npublic fun <T : Any>
Array<T?>.requireNotNulls(): Array<T> {\n    for (element in this) {\n        if (element == null) {\n            throw
IllegalArgumentException("null element found in $this.")\n        }\n    }\n    @Suppress("UNCHECKED_CAST")\n    return this as Array<T>}\n\n/**\n * Splits the original array into pair
of lists,\n *\n    where *first* list contains elements for which [predicate] yielded `true`,\n *\n    while *second* list contains elements
for which [predicate] yielded `false`.\n *\n    @sample
samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n *\npublic inline fun <T> Array<out
T>.partition(predicate: (T) -> Boolean): Pair<List<T>, List<T>> {\n    val first = ArrayList<T>()\n    val second =
ArrayList<T>()\n    for (element in this) {\n        if (predicate(element)) {\n            first.add(element)\n        } else {\n            second.add(element)\n        }\n    }\n    return Pair(first, second)\n\n/**\n * Splits the original array into pair
of lists,\n *\n    where *first* list contains elements for which [predicate] yielded `true`,\n *\n    while *second* list contains
elements for which [predicate] yielded `false`.\n *\n    @sample
samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n *\npublic inline fun
ByteArray.partition(predicate: (Byte) -> Boolean): Pair<List<Byte>,
List<Byte>> {\n    val first = ArrayList<Byte>()\n    val second = ArrayList<Byte>()\n    for (element in this) {\n
if (predicate(element)) {\n        first.add(element)\n    } else {\n        second.add(element)\n    }\n    }\n    return Pair(first, second)\n\n/**\n * Splits the original array into pair of lists,\n *\n    where *first* list contains
elements for which [predicate] yielded `true`,\n *\n    while *second* list contains elements for which [predicate]
yielded `false`.\n *\n    @sample
samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n *\npublic inline fun
ShortArray.partition(predicate: (Short) -> Boolean): Pair<List<Short>, List<Short>> {\n    val
first = ArrayList<Short>()\n    val second = ArrayList<Short>()\n    for (element in this) {\n        if
(predicate(element)) {\n            first.add(element)\n        } else {\n            second.add(element)\n        }\n    }\n    return Pair(first, second)\n\n/**\n * Splits the

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original array into pair of lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n *
while *second* list contains elements for which [predicate] yielded `false`.\n * \n * @sample
samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n */\npublic inline fun
IntArray.partition(predicate: (Int) -> Boolean): Pair<List<Int>, List<Int>> {\n    val first = ArrayList<Int>()\n    val
second = ArrayList<Int>()\n    for (element in this) {\n        if (predicate(element)) {\n            first.add(element)\n
        } else {\n            second.add(element)\n        }\n    }\n    return Pair(first, second)\n}\n\n/**\n * Splits the original
array into pair of lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n * while
*second* list contains elements for which [predicate] yielded `false`.\n * \n * @sample
samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n */\npublic inline fun
LongArray.partition(predicate:
(Long) -> Boolean): Pair<List<Long>, List<Long>> {\n    val first = ArrayList<Long>()\n    val second =
ArrayList<Long>()\n    for (element in this) {\n        if (predicate(element)) {\n            first.add(element)\n
        } else {\n            second.add(element)\n        }\n    }\n    return Pair(first, second)\n}\n\n/**\n * Splits the original array into
pair of lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n * while *second* list
contains elements for which [predicate] yielded `false`.\n * \n * @sample
samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n */\npublic inline fun
FloatArray.partition(predicate: (Float) -> Boolean): Pair<List<Float>, List<Float>> {\n    val first =
ArrayList<Float>()\n    val second = ArrayList<Float>()\n    for (element in this) {\n        if (predicate(element)) {\n
            first.add(element)\n        } else {\n            second.add(element)\n        }\n    }\n    return
Pair(first, second)\n}\n\n/**\n * Splits the original array into pair of lists,\n * where *first* list contains elements
for which [predicate] yielded `true`,\n * while *second* list contains elements for which [predicate] yielded
`false`.\n * \n * @sample samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n */\npublic inline
fun DoubleArray.partition(predicate: (Double) -> Boolean): Pair<List<Double>, List<Double>> {\n    val first =
ArrayList<Double>()\n    val second = ArrayList<Double>()\n    for (element in this) {\n        if (predicate(element))
{\n            first.add(element)\n        } else {\n            second.add(element)\n        }\n    }\n    return Pair(first,
second)\n}\n\n/**\n * Splits the original array into pair of lists,\n * where *first* list contains elements for which
[predicate] yielded `true`,\n * while *second* list contains elements for which [predicate] yielded `false`.\n * \n *
@sample samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n
*/\npublic inline fun BooleanArray.partition(predicate: (Boolean) -> Boolean): Pair<List<Boolean>,
List<Boolean>> {\n    val first = ArrayList<Boolean>()\n    val second = ArrayList<Boolean>()\n    for (element in
this) {\n        if (predicate(element)) {\n            first.add(element)\n        } else {\n            second.add(element)\n
        }\n    }\n    return Pair(first, second)\n}\n\n/**\n * Splits the original array into pair of lists,\n * where *first* list
contains elements for which [predicate] yielded `true`,\n * while *second* list contains elements for which
[predicate] yielded `false`.\n * \n * @sample
samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n */\npublic inline fun
CharArray.partition(predicate: (Char) -> Boolean): Pair<List<Char>, List<Char>> {\n    val first =
ArrayList<Char>()\n    val second = ArrayList<Char>()\n    for (element in this) {\n        if (predicate(element)) {\n
            first.add(element)\n        } else {\n            second.add(element)\n        }\n    }\n    return Pair(first, second)\n}\n\n/**\n * Returns a list of
pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has
length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic
infix fun <T, R> Array<out T>.zip(other: Array<out R>): List<Pair<T, R>> {\n    return zip(other) { t1, t2 -> t1 to
t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same
index.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R> ByteArray.zip(other: Array<out R>):
List<Pair<Byte, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the
elements of `this` array and the [other] array with the same index.\n * The returned

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list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*\npublic infix fun <R> ShortArray.zip(other: Array<out R>): List<Pair<Short, R>> {\n  return zip(other) { t1, t2
-> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the
same index.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n
*\npublic infix fun <R> IntArray.zip(other: Array<out R>):
List<Pair<Int, R>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the
elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*\npublic infix fun <R>
LongArray.zip(other: Array<out R>): List<Pair<Long, R>> {\n  return zip(other) { t1, t2 ->
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*\npublic inline fun <T, R, V> Array<out
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val arraySize = size \n  val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize)) \n  var i =
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return list \n } \n /n /** \n * Returns a list of values built from the elements of `this` array and the [other] collection with
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ByteArray.zip(other: ByteArray): List<Pair<Byte, Byte>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n *
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*/\npublic infix fun LongArray.zip(other: LongArray): List<Pair<Long, Long>> {\n  return zip(other) { t1, t2 -> t1
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FloatArray): List<Pair<Float, Float>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of
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CharArray.zip(other:
CharArray, transform: (a: Char, b: Char) -> V): List<V> {\n    val size = minOf(size, other.size)\n    val list =
ArrayList<V>(size)\n    for (i in 0 until size) {\n        list.add(transform(this[i], other[i]))\n    }\n    return
list\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given [prefix]
and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of [limit],
in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which defaults
to `"...`").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n */\npublic fun <T, A :
Appendable> Array<out T>.joinTo(buffer: A, separator: CharSequence = ``, ``, prefix: CharSequence = ``, postfix:
CharSequence = ``, limit: Int = -1, truncated: CharSequence = `"...`", transform: ((T) -> CharSequence)? = null): A
{\n    buffer.append(prefix)\n    var count = 0\n    for
(element in this) {\n        if (++count > 1) buffer.append(separator)\n        if (limit < 0 || count <= limit) {\n
buffer.appendElement(element, transform)\n        } else break\n    }\n    if (limit >= 0 && count > limit)
buffer.append(truncated)\n    buffer.append(postfix)\n    return buffer\n}\n\n/**\n * Appends the string from all the
elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection
could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will
be appended, followed by the [truncated] string (which defaults to `"...`").\n * \n * @sample
samples.collections.Collections.Transformations.joinTo\n */\npublic fun <A : Appendable>
ByteArray.joinTo(buffer: A, separator: CharSequence = ``, ``, prefix: CharSequence = ``, postfix: CharSequence =
``, limit: Int = -1, truncated: CharSequence = `"...`", transform: ((Byte) -> CharSequence)? = null): A {\n
    buffer.append(prefix)\n    var count = 0\n    for (element in this) {\n        if (++count > 1)
buffer.append(separator)\n        if (limit < 0 || count <= limit) {\n            if (transform != null)\n
buffer.append(transform(element))\n        else\n            buffer.append(element.toString())\n        } else break\n
}\n    if (limit >= 0 && count > limit) buffer.append(truncated)\n    buffer.append(postfix)\n    return
buffer\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given
[prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of
[limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which
defaults to `"...`").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n */\npublic fun <A :
Appendable> ShortArray.joinTo(buffer: A, separator: CharSequence = ``, ``, prefix:
CharSequence = ``, postfix: CharSequence = ``, limit: Int = -1, truncated: CharSequence = `"...`", transform:
((Short) -> CharSequence)? = null): A {\n    buffer.append(prefix)\n    var count = 0\n    for (element in this) {\n
if (++count > 1) buffer.append(separator)\n        if (limit < 0 || count <= limit) {\n            if (transform !=
null)\n            buffer.append(transform(element))\n        else\n            buffer.append(element.toString())\n        }
else break\n    }\n    if (limit >= 0 && count > limit) buffer.append(truncated)\n    buffer.append(postfix)\n    return
buffer\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given
[prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of
[limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which
defaults to `"...`").\n * \n * @sample
samples.collections.Collections.Transformations.joinTo\n */\npublic fun <A : Appendable> IntArray.joinTo(buffer:
A, separator: CharSequence = ``, ``, prefix: CharSequence = ``, postfix: CharSequence = ``, limit: Int = -1,

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appended, followed by the [truncated] string (which defaults to \"...\").\n * \n * @sample
samples.collections.Collections.Transformations.joinToString\n *\npublic fun FloatArray.joinToString(separator:
CharSequence = \" \", \" \", prefix: CharSequence
= \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((Float) ->
CharSequence)? = null): String {\n    return joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated,
transform).toString()\n}\n\n/**\n * Creates a string from all the elements separated using [separator] and using the
given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value
of [limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string
(which defaults to \"...\").\n * \n * @sample samples.collections.Collections.Transformations.joinToString\n
*\npublic fun DoubleArray.joinToString(separator: CharSequence = \" \", \" \", prefix: CharSequence = \"\", postfix:
CharSequence = \"\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((Double) -> CharSequence)? =
null): String {\n    return joinTo(StringBuilder(), separator, prefix, postfix,
limit, truncated, transform).toString()\n}\n\n/**\n * Creates a string from all the elements separated using
[separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can
specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed
by the [truncated] string (which defaults to \"...\").\n * \n * @sample
samples.collections.Collections.Transformations.joinToString\n *\npublic fun
BooleanArray.joinToString(separator: CharSequence = \" \", \" \", prefix: CharSequence = \"\", postfix: CharSequence =
\"\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((Boolean) -> CharSequence)? = null): String {\n
return joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates
a string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n
* If the collection could
be huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be
appended, followed by the [truncated] string (which defaults to \"...\").\n * \n * @sample
samples.collections.Collections.Transformations.joinToString\n *\npublic fun CharArray.joinToString(separator:
CharSequence = \" \", \" \", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated:
CharSequence = \"...\", transform: ((Char) -> CharSequence)? = null): String {\n    return joinTo(StringBuilder(),
separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates an [Iterable] instance that
wraps the original array returning its elements when being iterated.\n *\npublic fun <T> Array<out T>.asIterable():
Iterable<T> {\n    if (isEmpty()) return emptyList()\n    return Iterable { this.iterator() }\n}\n\n/**\n * Creates an
[Iterable] instance that wraps the original array returning its elements when being iterated.\n *\npublic
fun ByteArray.asIterable(): Iterable<Byte> {\n    if (isEmpty()) return emptyList()\n    return Iterable { this.iterator()
}\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its elements when being
iterated.\n *\npublic fun ShortArray.asIterable(): Iterable<Short> {\n    if (isEmpty()) return emptyList()\n    return
Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its
elements when being iterated.\n *\npublic fun IntArray.asIterable(): Iterable<Int> {\n    if (isEmpty()) return
emptyList()\n    return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original
array returning its elements when being iterated.\n *\npublic fun LongArray.asIterable(): Iterable<Long> {\n    if
(isEmpty()) return emptyList()\n    return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that
wraps the original array returning its elements
when being iterated.\n *\npublic fun FloatArray.asIterable(): Iterable<Float> {\n    if (isEmpty()) return
emptyList()\n    return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original
array returning its elements when being iterated.\n *\npublic fun DoubleArray.asIterable(): Iterable<Double> {\n
if (isEmpty()) return emptyList()\n    return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance
that wraps the original array returning its elements when being iterated.\n *\npublic fun BooleanArray.asIterable():
Iterable<Boolean> {\n    if (isEmpty()) return emptyList()\n    return Iterable { this.iterator() }\n}\n\n/**\n * Creates
an [Iterable] instance that wraps the original array returning its elements when being iterated.\n *\npublic fun
CharArray.asIterable(): Iterable<Char> {\n    if (isEmpty()) return emptyList()\n    return Iterable { this.iterator()
}

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}\n}\n\n/**\n * Creates a [Sequence] instance that wraps the
original array returning its elements when being iterated.\n * \n * @sample
samples.collections.Sequences.Building.sequenceFromArray\n */\npublic fun <T> Array<out T>.asSequence():
Sequence<T> {\n    if (isEmpty()) return emptySequence()\n    return Sequence { this.iterator() }\n}\n}\n\n/**\n *
Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n *
@sample samples.collections.Sequences.Building.sequenceFromArray\n */\npublic fun ByteArray.asSequence():
Sequence<Byte> {\n    if (isEmpty()) return emptySequence()\n    return Sequence { this.iterator() }\n}\n}\n\n/**\n *
Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n *
@sample samples.collections.Sequences.Building.sequenceFromArray\n */\npublic fun ShortArray.asSequence():
Sequence<Short> {\n    if (isEmpty()) return emptySequence()\n    return Sequence { this.iterator() }\n}\n}\n\n/**\n *
Creates a [Sequence] instance that wraps
the original array returning its elements when being iterated.\n * \n * @sample
samples.collections.Sequences.Building.sequenceFromArray\n */\npublic fun IntArray.asSequence():
Sequence<Int> {\n    if (isEmpty()) return emptySequence()\n    return Sequence { this.iterator() }\n}\n}\n\n/**\n *
Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n *
@sample samples.collections.Sequences.Building.sequenceFromArray\n */\npublic fun LongArray.asSequence():
Sequence<Long> {\n    if (isEmpty()) return emptySequence()\n    return Sequence { this.iterator() }\n}\n}\n\n/**\n *
Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n *
@sample samples.collections.Sequences.Building.sequenceFromArray\n */\npublic fun FloatArray.asSequence():
Sequence<Float> {\n    if (isEmpty()) return emptySequence()\n    return Sequence { this.iterator() }\n}\n}\n\n/**\n *
Creates a [Sequence] instance that
wraps the original array returning its elements when being iterated.\n * \n * @sample
samples.collections.Sequences.Building.sequenceFromArray\n */\npublic fun DoubleArray.asSequence():
Sequence<Double> {\n    if (isEmpty()) return emptySequence()\n    return Sequence { this.iterator() }\n}\n}\n\n/**\n *
Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n *
@sample samples.collections.Sequences.Building.sequenceFromArray\n */\npublic fun
BooleanArray.asSequence(): Sequence<Boolean> {\n    if (isEmpty()) return emptySequence()\n    return Sequence
{ this.iterator() }\n}\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original array returning its elements
when being iterated.\n * \n * @sample samples.collections.Sequences.Building.sequenceFromArray\n */\npublic
fun CharArray.asSequence(): Sequence<Char> {\n    if (isEmpty()) return emptySequence()\n    return Sequence {
this.iterator() }\n}\n}\n\n/**\n * Returns an average value
of elements in the array.\n */\n@kotlin.jvm.JvmName("averageOfByte")\npublic fun Array<out Byte>.average():
Double {\n    var sum: Double = 0.0\n    var count: Int = 0\n    for (element in this) {\n        sum += element\n
++count\n    }\n    return if (count == 0) Double.NaN else sum / count\n}\n}\n\n/**\n * Returns an average value of
elements in the array.\n */\n@kotlin.jvm.JvmName("averageOfShort")\npublic fun Array<out Short>.average():
Double {\n    var sum: Double = 0.0\n    var count: Int = 0\n    for (element in this) {\n        sum += element\n
++count\n    }\n    return if (count == 0) Double.NaN else sum / count\n}\n}\n\n/**\n * Returns an average value of
elements in the array.\n */\n@kotlin.jvm.JvmName("averageOfInt")\npublic fun Array<out Int>.average(): Double
{\n    var sum: Double = 0.0\n    var count: Int = 0\n    for (element in this) {\n        sum += element\n        ++count\n
    }\n    return if (count == 0) Double.NaN else sum / count\n}\n}\n\n/**\n * Returns an average value of elements in the array.\n */\n@kotlin.jvm.JvmName("averageOfLong")\npublic fun
Array<out Long>.average(): Double {\n    var sum: Double = 0.0\n    var count: Int = 0\n    for (element in this) {\n
sum += element\n        ++count\n    }\n    return if (count == 0) Double.NaN else sum / count\n}\n}\n\n/**\n *
Returns an average value of elements in the array.\n */\n@kotlin.jvm.JvmName("averageOfFloat")\npublic fun
Array<out Float>.average(): Double {\n    var sum: Double = 0.0\n    var count: Int = 0\n    for (element in this) {\n
sum += element\n        ++count\n    }\n    return if (count == 0) Double.NaN else sum / count\n}\n}\n\n/**\n *
Returns an average value of elements in the array.\n */\n@kotlin.jvm.JvmName("averageOfDouble")\npublic fun
Array<out Double>.average(): Double {\n    var sum: Double = 0.0\n    var count: Int = 0\n    for (element in this)

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{\n    sum += element\n    ++count\n } \n    return if (count == 0) Double.NaN
else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n */\npublic fun
ByteArray.average(): Double {\n    var sum: Double = 0.0\n    var count: Int = 0\n    for (element in this) {\n
sum += element\n        ++count\n    }\n    return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns
an average value of elements in the array.\n */\npublic fun ShortArray.average(): Double {\n    var sum: Double =
0.0\n    var count: Int = 0\n    for (element in this) {\n        sum += element\n        ++count\n    }\n    return if (count
== 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n */\npublic
fun IntArray.average(): Double {\n    var sum: Double = 0.0\n    var count: Int = 0\n    for (element in this) {\n
sum += element\n        ++count\n    }\n    return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns
an average value of elements in the array.\n */\npublic fun LongArray.average():
Double {\n    var sum: Double = 0.0\n    var count: Int = 0\n    for (element in this) {\n        sum += element\n
++count\n    }\n    return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of
elements in the array.\n */\npublic fun FloatArray.average(): Double {\n    var sum: Double = 0.0\n    var count: Int
= 0\n    for (element in this) {\n        sum += element\n        ++count\n    }\n    return if (count == 0) Double.NaN
else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n */\npublic fun
DoubleArray.average(): Double {\n    var sum: Double = 0.0\n    var count: Int = 0\n    for (element in this) {\n
sum += element\n        ++count\n    }\n    return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns
the sum of all elements in the array.\n */\n@kotlin.jvm.JvmName("sumOfByte")\npublic fun Array<out
Byte>.sum(): Int {\n    var sum: Int = 0\n    for (element in this) {\n
sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n
*/\n@kotlin.jvm.JvmName("sumOfShort")\npublic fun Array<out Short>.sum(): Int {\n    var sum: Int = 0\n    for
(element in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the
array.\n */\n@kotlin.jvm.JvmName("sumOfInt")\npublic fun Array<out Int>.sum(): Int {\n    var sum: Int = 0\n
for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in
the array.\n */\n@kotlin.jvm.JvmName("sumOfLong")\npublic fun Array<out Long>.sum(): Long {\n    var sum:
Long = 0L\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of
all elements in the array.\n */\n@kotlin.jvm.JvmName("sumOfFloat")\npublic fun Array<out Float>.sum(): Float
{\n    var sum: Float = 0.0f\n    for (element in this) {\n        sum += element\n    }\n
return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n
*/\n@kotlin.jvm.JvmName("sumOfDouble")\npublic fun Array<out Double>.sum(): Double {\n    var sum:
Double = 0.0\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of
all elements in the array.\n */\npublic fun ByteArray.sum(): Int {\n    var sum: Int = 0\n    for (element in this) {\n
sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\npublic fun
ShortArray.sum(): Int {\n    var sum: Int = 0\n    for (element in this) {\n        sum += element\n    }\n    return
sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\npublic fun IntArray.sum(): Int {\n    var sum:
Int = 0\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all
elements in the array.\n */\npublic fun LongArray.sum(): Long {\n    var sum: Long = 0L\n    for (element
in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n
*/\npublic fun FloatArray.sum(): Float {\n    var sum: Float = 0.0f\n    for (element in this) {\n        sum +=
element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\npublic fun
DoubleArray.sum(): Double {\n    var sum: Double = 0.0\n    for (element in this) {\n        sum += element\n    }\n
return sum\n}\n\n"/**\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n
*/\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("RangesKt")\n\npackage
kotlin.ranges\n\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.random.*\n\n/**\n * Returns a
random

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element from this range.\n * \n * @throws IllegalArgumentException if this range is empty.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun IntRange.random(): Int {\n    return
random(Random)\n}\n\n/**\n * Returns a random element from this range.\n * \n * @throws
IllegalArgumentException if this range is empty.\n * \n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic
inline fun LongRange.random(): Long {\n    return random(Random)\n}\n\n/**\n * Returns a random element from
this range.\n * \n * @throws IllegalArgumentException if this range is empty.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun CharRange.random(): Char {\n    return
random(Random)\n}\n\n/**\n * Returns a random element from this range using the specified source of
randomness.\n * \n * @throws IllegalArgumentException if this range is empty.\n
*\n@SinceKotlin("1.3")\npublic fun IntRange.random(random: Random): Int {\n    try {\n        return
random.nextInt(this)\n    } catch(e: IllegalArgumentException) {\n        throw NoSuchElementException(e.message)\n    }\n}\n\n/**\n * Returns a random element from this range using the specified source of randomness.\n * \n * @throws
IllegalArgumentException if this range is empty.\n * \n@SinceKotlin("1.3")\npublic fun
LongRange.random(random: Random): Long {\n    try {\n        return random.nextLong(this)\n    } catch(e:
IllegalArgumentException) {\n        throw NoSuchElementException(e.message)\n    }\n}\n\n/**\n * Returns a
random element from this range using the specified source of randomness.\n * \n * @throws
IllegalArgumentException if this range is empty.\n * \n@SinceKotlin("1.3")\npublic fun
CharRange.random(random: Random): Char {\n    try {\n        return random.nextInt(first.code, last.code +
1).toChar()\n    } catch(e: IllegalArgumentException) {\n        throw NoSuchElementException(e.message)\n    }\n}\n\n/**\n * Returns a random element from this range, or `null` if
this range is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun IntRange.randomOrNull(): Int? {\n    return randomOrNull(Random)\n}\n\n/**\n * Returns a random
element from this range, or `null` if this range is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun LongRange.randomOrNull(): Long? {\n    return randomOrNull(Random)\n}\n\n/**\n * Returns a
random element from this range, or `null` if this range is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun CharRange.randomOrNull(): Char? {\n    return randomOrNull(Random)\n}\n\n/**\n * Returns a
random element from this range using the specified source of randomness, or `null` if this range is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
IntRange.randomOrNull(random:
Random): Int? {\n    if (isEmpty())\n        return null\n    return random.nextInt(this)\n}\n\n/**\n * Returns a random
element from this range using the specified source of randomness, or `null` if this range is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
LongRange.randomOrNull(random: Random): Long? {\n    if (isEmpty())\n        return null\n    return
random.nextLong(this)\n}\n\n/**\n * Returns a random element from this range using the specified source of
randomness, or `null` if this range is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
CharRange.randomOrNull(random: Random): Char? {\n    if (isEmpty())\n        return null\n    return
random.nextInt(first.code, last.code + 1).toChar()\n}\n\n/**\n * Returns `true` if this range contains the specified
[element].\n * \n * Always returns `false` if the [element] is `null`.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic
inline operator fun IntRange.contains(element: Int?): Boolean {\n    return element != null &&
contains(element)\n}\n\n/**\n * Returns `true` if this range contains the specified [element].\n * \n * Always returns
`false` if the [element] is `null`.\n * \n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline operator
fun LongRange.contains(element: Long?): Boolean {\n    return element != null && contains(element)\n}\n\n/**\n *

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Returns `true` if this range contains the specified [element].
 Always returns `false` if the [element] is `null`.

`CharRange.contains(element: Char?): Boolean` {
 return element != null && contains(element)}
 Checks if the specified [value] belongs to this range.

`ClosedRange<Int>.contains(value: Byte): Boolean` {
 return contains(value.toInt())}
 Checks if the specified [value] belongs to this range.

`ClosedRange<Long>.contains(value: Byte): Boolean` {
 return contains(value.toLong())}
 Checks if the specified [value] belongs to this range.

`ClosedRange<Short>.contains(value: Byte): Boolean` {
 return contains(value.toShort())}
 Checks if the specified [value] belongs to this range.

This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.

`ClosedRange<Double>.contains(value: Byte): Boolean` {
 return contains(value.toDouble())}
 Checks if the specified [value] belongs to this range.

This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.

`ClosedRange<Float>.contains(value: Byte): Boolean` {
 return contains(value.toFloat())}
 Checks if the specified [value] belongs to this range.

This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.

`ClosedRange<Int>.contains(value: Double): Boolean` {
 return value.toIntExactOrNull().let { if (it != null) contains(it) else false } }
 Checks if the specified [value] belongs to this range.

This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.

`ClosedRange<Long>.contains(value: Double): Boolean` {
 return value.toLongExactOrNull().let { if (it != null) contains(it) else false } }
 Checks if the specified [value] belongs to this range.

This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.

`ClosedRange<Byte>.contains(value: Double): Boolean` {
 return value.toByteExactOrNull().let { if (it != null) contains(it) else false } }
 Checks if the specified [value] belongs to this range.

This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.

`ClosedRange<Byte>.contains(value: Double): Boolean` {
 return value.toByteExactOrNull().let { if (it != null) contains(it) else false } }
 Checks if the specified [value] belongs to this range.

This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.

`ClosedRange<Short>.contains(value: Double): Boolean` {
 return value.toShortExactOrNull().let { if (it != null) contains(it) else false } }
 Checks if the specified [value] belongs to this range.

This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.

`ClosedRange<Float>.contains(value: Double): Boolean` {
 return contains(value.toFloat())}
 Checks if the specified [value] belongs to this range.

This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.

`ClosedRange<Int>.contains(value: Float): Boolean` {
 return value.toIntExactOrNull().let { if (it != null) contains(it) else false } }
 Checks if the specified [value] belongs to this range.


```

*^@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics
and is going to be removed.")@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince
= "1.5")@kotlin.jvm.JvmName("longRangeContains")\npublic operator fun
ClosedRange<Long>.contains(value: Float): Boolean {\n  return value.toLongExactOrNull().let { if (it != null)
contains(it) else false }\n}\n\n**\n * Checks if the specified [value] belongs to this range.\n
*^@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics
and is going to be removed.")@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince
= "1.5")@kotlin.jvm.JvmName("byteRangeContains")\npublic
operator fun ClosedRange<Byte>.contains(value: Float): Boolean {\n  return value.toByteExactOrNull().let { if (it
!= null) contains(it) else false }\n}\n\n**\n * Checks if the specified [value] belongs to this range.\n
*^@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics
and is going to be removed.")@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince
= "1.5")@kotlin.jvm.JvmName("shortRangeContains")\npublic operator fun
ClosedRange<Short>.contains(value: Float): Boolean {\n  return value.toShortExactOrNull().let { if (it != null)
contains(it) else false }\n}\n\n**\n * Checks if the specified [value] belongs to this range.\n
*^@kotlin.jvm.JvmName("doubleRangeContains")\npublic operator fun ClosedRange<Double>.contains(value:
Float): Boolean {\n  return contains(value.toDouble())\n}\n\n**\n * Checks if the specified [value] belongs to this
range.\n
*^@kotlin.jvm.JvmName("longRangeContains")\npublic operator fun ClosedRange<Long>.contains(value: Int):
Boolean {\n  return contains(value.toLong())\n}\n\n**\n * Checks if the specified [value] belongs to this range.\n
*^@kotlin.jvm.JvmName("byteRangeContains")\npublic operator fun ClosedRange<Byte>.contains(value: Int):
Boolean {\n  return value.toByteExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n**\n * Checks if
the specified [value] belongs to this range.\n
*^@kotlin.jvm.JvmName("shortRangeContains")\npublic operator
fun ClosedRange<Short>.contains(value: Int): Boolean {\n  return value.toShortExactOrNull().let { if (it != null)
contains(it) else false }\n}\n\n**\n * Checks if the specified [value] belongs to this range.\n
*^@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics
and is going to be removed.")@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince
= "1.5")@kotlin.jvm.JvmName("doubleRangeContains")\npublic operator fun
ClosedRange<Double>.contains(value: Int): Boolean {\n  return contains(value.toDouble())\n}\n\n**\n * Checks
if the specified [value] belongs to this range.\n
*^@Deprecated("This `contains` operation mixing integer and
floating point arguments has ambiguous semantics and is going to be
removed.")@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince =
"1.5")@kotlin.jvm.JvmName("floatRangeContains")\npublic operator fun ClosedRange<Float>.contains(value:
Int): Boolean {\n  return contains(value.toFloat())\n}\n\n**\n * Checks if the specified [value] belongs to this
range.\n
*^@kotlin.jvm.JvmName("intRangeContains")\npublic operator fun ClosedRange<Int>.contains(value:
Long): Boolean {\n  return value.toIntExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n**\n *
Checks if the specified [value] belongs to this range.\n
*^@kotlin.jvm.JvmName("byteRangeContains")\npublic
operator fun ClosedRange<Byte>.contains(value: Long): Boolean {\n  return value.toByteExactOrNull().let { if (it
!= null) contains(it) else false }\n}\n\n**\n * Checks if the specified [value] belongs to this range.\n
*^@kotlin.jvm.JvmName("shortRangeContains")\npublic operator fun ClosedRange<Short>.contains(value:
Long): Boolean {\n  return value.toShortExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n**\n *
Checks if the specified [value] belongs to this range.\n
*^@Deprecated("This `contains` operation mixing integer
and floating point arguments has ambiguous semantics and is going to be
removed.")@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince =
"1.5")@kotlin.jvm.JvmName("doubleRangeContains")\npublic operator fun
ClosedRange<Double>.contains(value: Long): Boolean {\n  return contains(value.toDouble())\n}\n\n**\n *
Checks if the specified [value] belongs to this range.\n

```

```

*^/n@Deprecated("\nThis `contains` operation mixing integer and floating point arguments has ambiguous semantics
and is going to be removed.\n")\n@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince
= "1.5")\n@kotlin.jvm.JvmName("floatRangeContains")\npublic operator fun
ClosedRange<Float>.contains(value: Long): Boolean {\n    return contains(value.toFloat())\n}\n\n/**\n * Checks if
the specified [value] belongs to this range.\n *^/n@kotlin.jvm.JvmName("intRangeContains")\npublic operator fun
ClosedRange<Int>.contains(value: Short): Boolean {\n    return contains(value.toInt())\n}\n\n/**\n * Checks if the
specified [value] belongs to this range.\n *^/n@kotlin.jvm.JvmName("longRangeContains")\npublic operator fun
ClosedRange<Long>.contains(value: Short): Boolean {\n    return contains(value.toLong())\n}\n\n/**\n * Checks if
the specified [value] belongs to this range.\n *^/n@kotlin.jvm.JvmName("byteRangeContains")\npublic operator
fun ClosedRange<Byte>.contains(value:
Short): Boolean {\n    return value.toByteExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n/**\n *
Checks if the specified [value] belongs to this range.\n *^/n@Deprecated("\nThis `contains` operation mixing integer
and floating point arguments has ambiguous semantics and is going to be
removed.\n")\n@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince =
"1.5")\n@kotlin.jvm.JvmName("doubleRangeContains")\npublic operator fun
ClosedRange<Double>.contains(value: Short): Boolean {\n    return contains(value.toDouble())\n}\n\n/**\n *
Checks if the specified [value] belongs to this range.\n *^/n@Deprecated("\nThis `contains` operation mixing integer
and floating point arguments has ambiguous semantics and is going to be
removed.\n")\n@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince =
"1.5")\n@kotlin.jvm.JvmName("floatRangeContains")\npublic operator fun ClosedRange<Float>.contains(value:
Short): Boolean {\n    return contains(value.toFloat())\n}\n\n/**\n * Returns a progression from this value down to
the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n *
If the [to] value is greater than `this` value the returned progression is empty.\n *^/npublic infix fun Int.downTo(to: Byte):
IntProgression {\n    return IntProgression.fromClosedRange(this, to.toInt(), -1)\n}\n\n/**\n * Returns a progression
from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal
to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n *^/npublic infix
fun Long.downTo(to: Byte): LongProgression {\n    return LongProgression.fromClosedRange(this, to.toLong(), -
1L)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n *
The [to] value should be less than or equal to `this`
value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n *^/npublic infix fun
Byte.downTo(to: Byte): IntProgression {\n    return IntProgression.fromClosedRange(this.toInt(), to.toInt(), -
1)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n * The
[to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned
progression is empty.\n *^/npublic infix fun Short.downTo(to: Byte): IntProgression {\n    return
IntProgression.fromClosedRange(this.toInt(), to.toInt(), -1)\n}\n\n/**\n * Returns a progression from this value
down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n
* If the [to] value is greater than `this` value the returned progression is empty.\n *^/npublic infix fun
Char.downTo(to: Char): CharProgression {\n    return CharProgression.fromClosedRange(this, to,
-1)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n *
The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the
returned progression is empty.\n *^/npublic infix fun Int.downTo(to: Int): IntProgression {\n    return
IntProgression.fromClosedRange(this, to, -1)\n}\n\n/**\n * Returns a progression from this value down to the
specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to]
value is greater than `this` value the returned progression is empty.\n *^/npublic infix fun Long.downTo(to: Int):
LongProgression {\n    return LongProgression.fromClosedRange(this, to.toLong(), -1L)\n}\n\n/**\n * Returns a
progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less
than or equal to `this` value.\n * If the [to] value is greater than `this` value the

```

returned progression is empty.

```

public infix fun Byte.downTo(to: Int): IntProgression {
    return IntProgression.fromClosedRange(this.toInt(), to, -1)
}

```

* Returns a progression from this value down to the specified [to] value with the step -1. * The [to] value should be less than or equal to `this` value. * If the [to] value is greater than `this` value the returned progression is empty.

```

public infix fun Short.downTo(to: Int): IntProgression {
    return IntProgression.fromClosedRange(this.toInt(), to, -1)
}

```

* Returns a progression from this value down to the specified [to] value with the step -1. * The [to] value should be less than or equal to `this` value. * If the [to] value is greater than `this` value the returned progression is empty.

```

public infix fun Int.downTo(to: Long): LongProgression {
    return LongProgression.fromClosedRange(this.toLong(), to, -1L)
}

```

* Returns a progression from this value down to the specified [to] value with the step -1. * The [to] value should be less than or equal to `this` value. * If the [to] value is greater than `this` value the returned progression is empty.

```

public infix fun Long.downTo(to: Long): LongProgression {
    return LongProgression.fromClosedRange(this, to, -1L)
}

```

* Returns a progression from this value down to the specified [to] value with the step -1. * The [to] value should be less than or equal to `this` value. * If the [to] value is greater than `this` value the returned progression is empty.

```

public infix fun Byte.downTo(to: Long): LongProgression {
    return LongProgression.fromClosedRange(this.toLong(), to, -1L)
}

```

* Returns a progression from this value down to the specified [to] value with the step -1. * The [to] value should be less than or equal to `this` value. * If the [to] value is greater than `this` value the returned progression is empty.

```

public infix fun Short.downTo(to: Long): LongProgression {
    return LongProgression.fromClosedRange(this.toLong(), to, -1L)
}

```

* Returns a progression from this value down to the specified [to] value with the step -1. * The [to] value should be less than or equal to `this` value. * If the [to] value is greater than `this` value the returned progression is empty.

```

public infix fun Int.downTo(to: Short): IntProgression {
    return IntProgression.fromClosedRange(this, to.toInt(), -1)
}

```

* Returns a progression from this value down to the specified [to] value with the step -1. * The [to] value should be less than or equal to `this` value. * If the [to] value is greater than `this` value the returned progression is empty.

```

public infix fun Long.downTo(to: Short): LongProgression {
    return LongProgression.fromClosedRange(this, to.toLong(), -1L)
}

```

* Returns a progression from this value down to the specified [to] value with the step -1. * The [to] value should be less than or equal to `this` value. * If the [to] value is greater than `this` value the returned progression is empty.

```

public infix fun Byte.downTo(to: Short): IntProgression {
    return IntProgression.fromClosedRange(this.toInt(), to.toInt(), -1)
}

```

* Returns a progression from this value down to the specified [to] value with the step -1. * The [to] value should be less than or equal to `this` value. * If the [to] value is greater than `this` value the returned progression is empty.

```

public infix fun Short.downTo(to: Short): IntProgression {
    return IntProgression.fromClosedRange(this.toInt(), to.toInt(), -1)
}

```

* Returns a progression that goes over the same range in the opposite direction with the same step.

```

public fun IntProgression.reversed(): IntProgression {
    return IntProgression.fromClosedRange(last, first, -step)
}

```

* Returns a progression that goes over the same range in the opposite direction with the same step.

```

public fun LongProgression.reversed(): LongProgression {
    return LongProgression.fromClosedRange(last, first, -step)
}

```

* Returns a progression that goes over the same range in the opposite direction with the same step.

```

public fun CharProgression.reversed(): CharProgression {
    return CharProgression.fromClosedRange(last, first, -step)
}

```

* Returns a progression that goes over the same range with the given step.

```

public infix fun IntProgression.step(step: Int): IntProgression {
    checkStepIsPositive(step > 0, step)
    return IntProgression.fromClosedRange(first, last, if (this.step > 0) step else -step)
}

```

* Returns a progression that goes over the same range with the given step.

```

public infix fun LongProgression.step(step: Long): LongProgression {
    checkStepIsPositive(step > 0, step)
    return LongProgression.fromClosedRange(first, last, if (this.step > 0) step else -step)
}

```

* Returns a progression that goes over the same range with the given step.

```

public infix fun CharProgression.step(step: Int): CharProgression {
    checkStepIsPositive(step > 0, step)
    return CharProgression.fromClosedRange(first,

```

```

last, if (this.step > 0) step else -step)\n}\n\ninternal fun Int.toByteArrayOrNull(): Byte? {\n    return if (this in
Byte.MIN_VALUE.toInt()..Byte.MAX_VALUE.toInt()) this.toByteArray() else null\n}\n\ninternal fun
Long.toByteArrayOrNull(): Byte? {\n    return if (this in
Byte.MIN_VALUE.toLong()..Byte.MAX_VALUE.toLong()) this.toByteArray() else null\n}\n\ninternal fun
Short.toByteArrayOrNull(): Byte? {\n    return if (this in
Byte.MIN_VALUE.toShort()..Byte.MAX_VALUE.toShort()) this.toByteArray() else null\n}\n\ninternal fun
Double.toByteArrayOrNull(): Byte? {\n    return if (this in
Byte.MIN_VALUE.toDouble()..Byte.MAX_VALUE.toDouble()) this.toInt().toByte() else null\n}\n\ninternal fun
Float.toByteArrayOrNull(): Byte? {\n    return if (this in
Byte.MIN_VALUE.toFloat()..Byte.MAX_VALUE.toFloat())
    this.toInt().toByte() else null\n}\n\ninternal fun Long.toIntExactOrNull(): Int? {\n    return if (this in
Int.MIN_VALUE.toLong()..Int.MAX_VALUE.toLong()) this.toInt() else null\n}\n\ninternal fun
Double.toIntExactOrNull(): Int? {\n    return if (this in
Int.MIN_VALUE.toDouble()..Int.MAX_VALUE.toDouble()) this.toInt() else null\n}\n\ninternal fun
Float.toIntExactOrNull(): Int? {\n    return if (this in Int.MIN_VALUE.toFloat()..Int.MAX_VALUE.toFloat())
this.toInt() else null\n}\n\ninternal fun Double.toLongExactOrNull(): Long? {\n    return if (this in
Long.MIN_VALUE.toDouble()..Long.MAX_VALUE.toDouble()) this.toLong() else null\n}\n\ninternal fun
Float.toLongExactOrNull(): Long? {\n    return if (this in
Long.MIN_VALUE.toFloat()..Long.MAX_VALUE.toFloat()) this.toLong() else null\n}\n\ninternal fun
Int.toShortExactOrNull(): Short? {\n    return if (this in Short.MIN_VALUE.toInt()..Short.MAX_VALUE.toInt())
this.toShort() else null\n}\n\ninternal fun Long.toShortExactOrNull():
Short? {\n    return if (this in Short.MIN_VALUE.toLong()..Short.MAX_VALUE.toLong()) this.toShort() else
null\n}\n\ninternal fun Double.toShortExactOrNull(): Short? {\n    return if (this in
Short.MIN_VALUE.toDouble()..Short.MAX_VALUE.toDouble()) this.toInt().toShort() else null\n}\n\ninternal fun
Float.toShortExactOrNull(): Short? {\n    return if (this in
Short.MIN_VALUE.toFloat()..Short.MAX_VALUE.toFloat()) this.toInt().toShort() else null\n}\n\n/**\n * Returns
a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to
`this` value, then the returned range is empty.\n */\npublic infix fun Int.until(to: Byte): IntRange {\n    return this ..
(to.toInt() - 1).toInt()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n *
\n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun
Long.until(to: Byte): LongRange {\n    return this .. (to.toLong() - 1).toLong()\n}\n\n/**\n * Returns a range from this value up to but excluding the
specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n
*/\npublic infix fun Byte.until(to: Byte): IntRange {\n    return this.toInt() .. (to.toInt() - 1).toInt()\n}\n\n/**\n *
Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or
equal to `this` value, then the returned range is empty.\n */\npublic infix fun Short.until(to: Byte): IntRange {\n
return this.toInt() .. (to.toInt() - 1).toInt()\n}\n\n/**\n * Returns a range from this value up to but excluding the
specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n
*/\npublic infix fun Char.until(to: Char): CharRange {\n    if (to <= '\u0000') return CharRange.EMPTY\n    return
this .. (to - 1).toChar()\n}\n\n/**\n * Returns
a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to
`this` value, then the returned range is empty.\n */\npublic infix fun Int.until(to: Int): IntRange {\n    if (to <=
Int.MIN_VALUE) return IntRange.EMPTY\n    return this .. (to - 1).toInt()\n}\n\n/**\n * Returns a range from this
value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value,
then the returned range is empty.\n */\npublic infix fun Long.until(to: Int): LongRange {\n    return this .. (to.toLong() -
1).toLong()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If
the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Byte.until(to:
Int): IntRange {\n    if (to <= Int.MIN_VALUE) return IntRange.EMPTY\n    return this.toInt() .. (to -

```

1).toInt()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Short.until(to: Int): IntRange {\n if (to <= Int.MIN_VALUE) return IntRange.EMPTY\n return this.toInt() .. (to - 1).toInt()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Int.until(to: Long): LongRange {\n if (to <= Long.MIN_VALUE) return LongRange.EMPTY\n return this.toInt() .. (to - 1).toInt()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Long.until(to: Long): LongRange {\n if (to <= Long.MIN_VALUE) return LongRange.EMPTY\n return this .. (to - 1).toLong()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Byte.until(to: Long): LongRange {\n if (to <= Long.MIN_VALUE) return LongRange.EMPTY\n return this.toLong() .. (to - 1).toLong()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Short.until(to: Long): LongRange {\n if (to <= Long.MIN_VALUE) return LongRange.EMPTY\n return this.toLong() .. (to - 1).toLong()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Int.until(to: Short): IntRange {\n return this .. (to.toInt() - 1).toInt()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Long.until(to: Short): LongRange {\n return this .. (to.toLong() - 1).toLong()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Byte.until(to: Short): IntRange {\n return this.toInt() .. (to.toInt() - 1).toInt()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Short.until(to: Short): IntRange {\n return this.toInt() .. (to.toInt() - 1).toInt()\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtLeastComparable\n */\npublic fun <T : Comparable<T>> T.coerceAtLeast(minimumValue: T): T {\n return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtLeast\n */\npublic fun Byte.coerceAtLeast(minimumValue: Byte): Byte {\n return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtLeast\n */\npublic fun Short.coerceAtLeast(minimumValue: Short): Short {\n return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtLeast\n */\npublic fun Int.coerceAtLeast(minimumValue: Int): Int {\n return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtLeast\n */\npublic fun Long.coerceAtLeast(minimumValue: Long): Long {\n return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue]

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or the [minimumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtLeast\n
*/\npublic fun Float.coerceAtLeast(minimumValue: Float): Float {\n    return if (this < minimumValue)\n
minimumValue else this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtLeast\n */\npublic fun\n
Double.coerceAtLeast(minimumValue: Double): Double {\n    return if (this < minimumValue) minimumValue else\n
this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this\n
value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample\n
samples.comparisons.ComparableOps.coerceAtMostComparable\n */\npublic fun <T : Comparable<T>>\n
T.coerceAtMost(maximumValue: T): T {\n    return if (this > maximumValue)\n
maximumValue else this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this\n
value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample\n
samples.comparisons.ComparableOps.coerceAtMost\n */\npublic fun\n
Byte.coerceAtMost(maximumValue: Byte): Byte {\n    return if (this > maximumValue) maximumValue else\n
this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this\n
value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample\n
samples.comparisons.ComparableOps.coerceAtMost\n */\npublic fun Short.coerceAtMost(maximumValue: Short):\n
Short {\n    return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this value is not\n
greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the\n
[maximumValue] or the [maximumValue] otherwise.\n * \n * @sample\n
samples.comparisons.ComparableOps.coerceAtMost\n */\npublic fun\n
Int.coerceAtMost(maximumValue: Int): Int {\n    return if (this > maximumValue) maximumValue else\n
this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this\n
value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample\n
samples.comparisons.ComparableOps.coerceAtMost\n */\npublic fun Long.coerceAtMost(maximumValue: Long):\n
Long {\n    return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this value is not\n
greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the\n
[maximumValue] or the [maximumValue] otherwise.\n * \n * @sample\n
samples.comparisons.ComparableOps.coerceAtMost\n */\npublic fun Float.coerceAtMost(maximumValue: Float):\n
Float {\n    return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this value is\n
not greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the\n
[maximumValue] or the [maximumValue] otherwise.\n * \n * @sample\n
samples.comparisons.ComparableOps.coerceAtMost\n */\npublic fun Double.coerceAtMost(maximumValue:\n
Double): Double {\n    return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this\n
value lies in the specified range [minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range,\n
or [minimumValue] if this value is less than [minimumValue], or [maximumValue] if this value is greater than\n
[maximumValue].\n * \n * @sample\n
samples.comparisons.ComparableOps.coerceInComparable\n */\npublic fun\n
<T : Comparable<T>> T.coerceIn(minimumValue: T?, maximumValue: T?): T {\n    if (minimumValue !== null\n
&& maximumValue !== null) {\n        if (minimumValue > maximumValue) throw\n
IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than\n
minimum $minimumValue.")\n        if (this < minimumValue) return minimumValue\n        if (this > maximumValue) return maximumValue\n
}\n    else {\n        if (minimumValue !== null && this < minimumValue) return minimumValue\n        if\n
(maximumValue !== null && this > maximumValue) return maximumValue\n    }\n    return this\n}\n\n/**\n * Ensures that this value lies in the specified range [minimumValue]..[maximumValue].\n * \n * @return this value if\n
it's in the range, or [minimumValue] if this value is less than [minimumValue], or [maximumValue] if this value is\n
greater than [maximumValue].\n * \n * @sample\n
samples.comparisons.ComparableOps.coerceIn\n */\npublic fun\n
Byte.coerceIn(minimumValue: Byte, maximumValue: Byte): Byte {\n    if (minimumValue > maximumValue)

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throw IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n if (this < minimumValue) return minimumValue\n if (this > maximumValue)
return maximumValue\n
return this\n}\n\n/**\n * Ensures that this value lies in the specified range [minimumValue]..[maximumValue].\n
* \n * @return this value if it's in the range, or [minimumValue] if this value is less than [minimumValue], or
[maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceIn\n *\npublic fun Short.coerceIn(minimumValue: Short,
maximumValue: Short): Short {\n if (minimumValue > maximumValue) throw
IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n if (this < minimumValue) return minimumValue\n if (this > maximumValue)
return maximumValue\n return this\n}\n\n/**\n * Ensures that this value lies in the specified range
[minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value
is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n
* \n * @sample samples.comparisons.ComparableOps.coerceIn\n *\npublic fun Int.coerceIn(minimumValue: Int,
maximumValue: Int): Int {\n if (minimumValue > maximumValue) throw IllegalArgumentException("Cannot
coerce value to an empty range: maximum $maximumValue is less than minimum $minimumValue.")\n if (this <
minimumValue) return minimumValue\n if (this > maximumValue) return maximumValue\n return
this\n}\n\n/**\n * Ensures that this value lies in the specified range [minimumValue]..[maximumValue].\n * \n *
@return this value if it's in the range, or [minimumValue] if this value is less than [minimumValue], or
[maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceIn\n *\npublic fun Long.coerceIn(minimumValue: Long,
maximumValue: Long): Long {\n if (minimumValue > maximumValue) throw
IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n
if (this < minimumValue) return minimumValue\n if (this > maximumValue) return maximumValue\n return
this\n}\n\n/**\n * Ensures that this value lies in the specified range [minimumValue]..[maximumValue].\n * \n *
@return this value if it's in the range, or [minimumValue] if this value is less than [minimumValue], or
[maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceIn\n *\npublic fun Float.coerceIn(minimumValue: Float,
maximumValue: Float): Float {\n if (minimumValue > maximumValue) throw
IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n if (this < minimumValue) return minimumValue\n if (this > maximumValue)
return maximumValue\n return this\n}\n\n/**\n * Ensures that this value lies in the specified range
[minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this
value is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n *
@sample samples.comparisons.ComparableOps.coerceIn\n *\npublic fun Double.coerceIn(minimumValue:
Double, maximumValue: Double): Double {\n if (minimumValue > maximumValue) throw
IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n if (this < minimumValue) return minimumValue\n if (this > maximumValue)
return maximumValue\n return this\n}\n\n/**\n * Ensures that this value lies in the specified [range].\n * \n *
@return this value if it's in the [range], or `range.start` if this value is less than `range.start`, or `range.endInclusive`
if this value is greater than `range.endInclusive`.\n * \n * @sample
samples.comparisons.ComparableOps.coerceInFloatingPointRange\n *\n@SinceKotlin("1.1")\npublic fun <T :
Comparable<T>> T.coerceIn(range: ClosedFloatingPointRange<T>): T {\n if (range.isEmpty())
throw IllegalArgumentException("Cannot coerce value to an empty range: $range.")\n return when {\n //
this < start equiv to this <= start && !(this >= start)\n range.lessThanOrEqualTo(this, range.start) &&
!range.lessThanOrEqualTo(range.start, this) -> range.start\n // this > end equiv to this >= end && !(this <= end)\n
range.lessThanOrEqualTo(range.endInclusive, this) && !range.lessThanOrEqualTo(this, range.endInclusive) ->

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range.endInclusive\n    else -> this\n    }\n}\n\n/**\n * Ensures that this value lies in the specified [range].\n * \n * @return this value if it's in the [range], or `range.start` if this value is less than `range.start`, or `range.endInclusive` if this value is greater than `range.endInclusive`.\n * \n * @sample
samples.comparisons.ComparableOps.coerceInComparable\n *\npublic fun <T : Comparable<T>>
T.coerceIn(range: ClosedRange<T>): T {\n    if (range is ClosedFloatingPointRange) {\n        return
this.coerceIn<T>(range)\n    }\n    if (range.isEmpty()) throw IllegalArgumentException("Cannot coerce value to an empty range: $range.")\n    return when {\n        this < range.start -> range.start\n        this > range.endInclusive -> range.endInclusive\n    }\n}\n}\n\n/**\n * Ensures that this value lies in the specified [range].\n * \n * @return this value if it's in the [range], or `range.start` if this value is less than `range.start`, or `range.endInclusive` if this value is greater than `range.endInclusive`.\n * \n * @sample
samples.comparisons.ComparableOps.coerceIn\n *\npublic fun
Int.coerceIn(range: ClosedRange<Int>): Int {\n    if (range is ClosedFloatingPointRange) {\n        return
this.coerceIn<Int>(range)\n    }\n    if (range.isEmpty()) throw IllegalArgumentException("Cannot coerce value to an empty range: $range.")\n    return when {\n        this < range.start -> range.start\n        this > range.endInclusive -> range.endInclusive\n        else -> this\n    }\n}\n}\n\n/**\n * Ensures that this value lies in the specified [range].\n * \n * @return this value if it's in the [range], or `range.start` if this value is less than `range.start`, or `range.endInclusive` if this value is greater than `range.endInclusive`.\n * \n * @sample
samples.comparisons.ComparableOps.coerceIn\n *\npublic fun Long.coerceIn(range:
ClosedRange<Long>): Long {\n    if (range is ClosedFloatingPointRange) {\n        return
this.coerceIn<Long>(range)\n    }\n    if (range.isEmpty()) throw IllegalArgumentException("Cannot coerce value to an empty range: $range.")\n    return when {\n        this < range.start -> range.start\n        this > range.endInclusive -> range.endInclusive\n        else -> this\n    }\n}\n}\n\n"/*\n * Copyright 2010-2022 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT
EDIT!\n\npackage
kotlin\n\nimport kotlin.experimental.*\nimport
kotlin.jvm.*\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@JvmInline\npublic value class UByte @PublishedApi internal constructor(@PublishedApi internal val data: Byte) :
Comparable<UByte> {\n\n    companion object {\n        /**\n         * A constant holding the minimum value an
instance of UByte can have.\n         *\n         * public const val MIN_VALUE: UByte = UByte(0)\n         */\n        /**\n         * A constant holding the maximum value an instance of UByte can have.\n         *\n         * public const val
MAX_VALUE: UByte = UByte(-1)\n         */\n        /**\n         * The number of bytes used to represent an instance of
UByte in a binary form.\n         *\n         * public const val SIZE_BYTES: Int = 1\n         */\n        /**\n         * The number of
bits used to represent an instance of UByte in a binary form.\n         *\n         * public const val SIZE_BITS: Int = 8\n         */\n        /**\n         * Compares this value with the
specified value for order.\n         * Returns zero if this value is equal to the specified other value, a negative number if
it's less than other,\n         * or a positive number if it's greater than other.\n         */\n        @kotlin.internal.InlineOnly\n        @Suppress("OVERRIDE_BY_INLINE")\n        public override inline operator fun compareTo(other: UByte): Int =
this.toInt().compareTo(other.toInt())\n        /**\n         * Compares this value with the specified value for order.\n         * Returns zero if this value is equal to the specified other value, a negative number if
it's less than other,\n         * or a positive number if it's greater than other.\n         */\n        @kotlin.internal.InlineOnly\n        public inline operator fun
compareTo(other: UShort): Int = this.toInt().compareTo(other.toInt())\n        /**\n         * Compares this value with the
specified value for order.\n         * Returns zero if this value is equal to the specified other value, a negative number if
it's less than other,\n         * or a positive number if it's greater than other.\n         */\n        @kotlin.internal.InlineOnly\n        public inline operator fun
compareTo(other: UInt): Int = this.toUInt().compareTo(other)\n        /**\n         * Compares this value with the
specified value for order.\n         * Returns zero if this value is equal to the specified other value, a negative number if
it's less than other,\n         * or a positive number if it's greater than other.\n         */\n        @kotlin.internal.InlineOnly\n

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public inline operator fun compareTo(other: ULong): Int = this.toULong().compareTo(other)\n\n /** Adds the
other value to this value. *\n @kotlin.internal.InlineOnly\n public inline operator fun plus(other: UByte): UInt =
this.toUInt().plus(other.toUInt())\n /** Adds the other value to this value. *\n @kotlin.internal.InlineOnly\n
public inline operator fun plus(other: UShort): UInt = this.toUInt().plus(other.toUInt())\n /** Adds the other value
to this value. *\n @kotlin.internal.InlineOnly\n public
inline operator fun plus(other: UInt): UInt = this.toUInt().plus(other)\n /** Adds the other value to this value. *\n
@kotlin.internal.InlineOnly\n public inline operator fun plus(other: ULong): ULong =
this.toULong().plus(other)\n\n /** Subtracts the other value from this value. *\n @kotlin.internal.InlineOnly\n
public inline operator fun minus(other: UByte): UInt = this.toUInt().minus(other.toUInt())\n /** Subtracts the
other value from this value. *\n @kotlin.internal.InlineOnly\n public inline operator fun minus(other: UShort):
UInt = this.toUInt().minus(other.toUInt())\n /** Subtracts the other value from this value. *\n
@kotlin.internal.InlineOnly\n public inline operator fun minus(other: UInt): UInt = this.toUInt().minus(other)\n
/** Subtracts the other value from this value. *\n @kotlin.internal.InlineOnly\n public inline operator fun
minus(other: ULong): ULong = this.toULong().minus(other)\n\n /** Multiplies this value by
the other value. *\n @kotlin.internal.InlineOnly\n public inline operator fun times(other: UByte): UInt =
this.toUInt().times(other.toUInt())\n /** Multiplies this value by the other value. *\n
@kotlin.internal.InlineOnly\n public inline operator fun times(other: UShort): UInt =
this.toUInt().times(other.toUInt())\n /** Multiplies this value by the other value. *\n
@kotlin.internal.InlineOnly\n public inline operator fun times(other: UInt): UInt = this.toUInt().times(other)\n
/** Multiplies this value by the other value. *\n @kotlin.internal.InlineOnly\n public inline operator fun
times(other: ULong): ULong = this.toULong().times(other)\n\n /** Divides this value by the other value,
truncating the result to an integer that is closer to zero. *\n @kotlin.internal.InlineOnly\n public inline operator
fun div(other: UByte): UInt = this.toUInt().div(other.toUInt())\n /** Divides this value by the other value,
truncating the result to an integer
that is closer to zero. *\n @kotlin.internal.InlineOnly\n public inline operator fun div(other: UShort): UInt =
this.toUInt().div(other.toUInt())\n /** Divides this value by the other value, truncating the result to an integer that
is closer to zero. *\n @kotlin.internal.InlineOnly\n public inline operator fun div(other: UInt): UInt =
this.toUInt().div(other)\n /** Divides this value by the other value, truncating the result to an integer that is closer
to zero. *\n @kotlin.internal.InlineOnly\n public inline operator fun div(other: ULong): ULong =
this.toULong().div(other)\n\n /**\n * Calculates the remainder of truncating division of this value by the other
value.\n * \n * The result is always less than the divisor.\n *\n @kotlin.internal.InlineOnly\n public
inline operator fun rem(other: UByte): UInt = this.toUInt().rem(other.toUInt())\n /**\n * Calculates the
remainder of truncating division of this value by the other
value.\n * \n * The result is always less than the divisor.\n *\n @kotlin.internal.InlineOnly\n public
inline operator fun rem(other: UShort): UInt = this.toUInt().rem(other.toUInt())\n /**\n * Calculates the
remainder of truncating division of this value by the other value.\n * \n * The result is always less than the
divisor.\n *\n @kotlin.internal.InlineOnly\n public inline operator fun rem(other: UInt): UInt =
this.toUInt().rem(other)\n /**\n * Calculates the remainder of truncating division of this value by the other
value.\n * \n * The result is always less than the divisor.\n *\n @kotlin.internal.InlineOnly\n public
inline operator fun rem(other: ULong): ULong = this.toULong().rem(other)\n\n /**\n * Divides this value by
the other value, flooring the result to an integer that is closer to negative infinity.\n * \n * For unsigned types,
the results of flooring division and truncating division are
the same.\n *\n @kotlin.internal.InlineOnly\n public inline fun floorDiv(other: UByte): UInt =
this.toUInt().floorDiv(other.toUInt())\n /**\n * Divides this value by the other value, flooring the result to an
integer that is closer to negative infinity.\n * \n * For unsigned types, the results of flooring division and
truncating division are the same.\n *\n @kotlin.internal.InlineOnly\n public inline fun floorDiv(other:
UShort): UInt = this.toUInt().floorDiv(other.toUInt())\n /**\n * Divides this value by the other value, flooring
the result to an integer that is closer to negative infinity.\n * \n * For unsigned types, the results of flooring

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division and truncating division are the same.\n    */\n    @kotlin.internal.InlineOnly\n    public inline fun
floorDiv(other: UInt): UInt = this.toUInt().floorDiv(other)\n    /**\n     * Divides this value by the other value,
flooring the result to an integer that is closer to negative infinity.\n
    *\n     * For unsigned types, the results of flooring division and truncating division are the same.\n    */\n
    @kotlin.internal.InlineOnly\n    public inline fun floorDiv(other: ULong): ULong =
this.toULong().floorDiv(other)\n\n    /**\n     * Calculates the remainder of flooring division of this value by the
other value.\n     *\n     * The result is always less than the divisor.\n     *\n     * For unsigned types, the remainders
of flooring division and truncating division are the same.\n    */\n    @kotlin.internal.InlineOnly\n    public inline
fun mod(other: UByte): UByte = this.toUInt().mod(other.toUInt()).toUByte()\n    /**\n     * Calculates the remainder
of flooring division of this value by the other value.\n     *\n     * The result is always less than the divisor.\n     *\n
    * For unsigned types, the remainders of flooring division and truncating division are the same.\n    */\n
    @kotlin.internal.InlineOnly\n    public inline fun mod(other: UShort):
UShort = this.toUInt().mod(other.toUInt()).toUShort()\n    /**\n     * Calculates the remainder of flooring division
of this value by the other value.\n     *\n     * The result is always less than the divisor.\n     *\n     * For unsigned
types, the remainders of flooring division and truncating division are the same.\n    */\n
    @kotlin.internal.InlineOnly\n    public inline fun mod(other: UInt): UInt = this.toUInt().mod(other)\n    /**\n     *
Calculates the remainder of flooring division of this value by the other value.\n     *\n     * The result is always less
than the divisor.\n     *\n     * For unsigned types, the remainders of flooring division and truncating division are the
same.\n    */\n    @kotlin.internal.InlineOnly\n    public inline fun mod(other: ULong): ULong =
this.toULong().mod(other)\n\n    /**\n     * Returns this value incremented by one.\n     *\n     * @sample
samples.misc.Builtins.inc\n    */\n    @kotlin.internal.InlineOnly\n    public inline operator
fun inc(): UByte = UByte(data.inc())\n\n    /**\n     * Returns this value decremented by one.\n     *\n     * @sample
samples.misc.Builtins.dec\n    */\n    @kotlin.internal.InlineOnly\n    public inline operator fun dec(): UByte =
UByte(data.dec())\n\n    /**\n     * Creates a range from this value to the specified [other] value.\n    */\n
    @kotlin.internal.InlineOnly\n    public inline operator fun rangeTo(other: UByte): UIntRange =
UIntRange(this.toUInt(), other.toUInt())\n\n    /**\n     * Performs a bitwise AND operation between the two values.\n    */\n
    @kotlin.internal.InlineOnly\n    public inline infix fun and(other: UByte): UByte = UByte(this.data and other.data)\n
    /**\n     * Performs a bitwise OR operation between the two values.\n    */\n    @kotlin.internal.InlineOnly\n    public inline
infix fun or(other: UByte): UByte = UByte(this.data or other.data)\n    /**\n     * Performs a bitwise XOR operation
between the two values.\n    */\n    @kotlin.internal.InlineOnly\n    public inline infix fun xor(other: UByte):
UByte = UByte(this.data xor other.data)\n\n    /**\n     * Inverts the bits in this value.\n    */\n    @kotlin.internal.InlineOnly\n
public inline fun inv(): UByte = UByte(data.inv())\n\n    /**\n     * Converts this [UByte] value to [Byte].\n     *\n
    * If this value is less than or equals to [Byte.MAX_VALUE], the resulting `Byte` value represents\n     * the same
numerical value as this `UByte`. Otherwise the result is negative.\n     *\n     * The resulting `Byte` value has the
same binary representation as this `UByte` value.\n    */\n    @kotlin.internal.InlineOnly\n    public inline fun
toByte(): Byte = data\n    /**\n     * Converts this [UByte] value to [Short].\n     *\n     * The resulting `Short` value
represents the same numerical value as this `UByte`.\n     *\n     * The least significant 8 bits of the resulting `Short`
value are the same as the bits of this `UByte` value,\n     * whereas the most significant 8 bits are filled with zeros.\n
    */\n    @kotlin.internal.InlineOnly\n
public inline fun toShort(): Short = data.toShort() and 0xFF\n    /**\n     * Converts this [UByte] value to [Int].\n
    *\n     * The resulting `Int` value represents the same numerical value as this `UByte`.\n     *\n     * The least
significant 8 bits of the resulting `Int` value are the same as the bits of this `UByte` value,\n     * whereas the most
significant 24 bits are filled with zeros.\n    */\n    @kotlin.internal.InlineOnly\n    public inline fun toInt(): Int =
data.toInt() and 0xFF\n    /**\n     * Converts this [UByte] value to [Long].\n     *\n     * The resulting `Long` value
represents the same numerical value as this `UByte`.\n     *\n     * The least significant 8 bits of the resulting `Long`
value are the same as the bits of this `UByte` value,\n     * whereas the most significant 56 bits are filled with
zeros.\n    */\n    @kotlin.internal.InlineOnly\n    public inline fun toLong(): Long = data.toLong() and 0xFF\n\n
    /**\n     * Returns this value.\n    */\n

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    @kotlin.internal.InlineOnly\n    public inline fun toUByte(): UByte = this\n    /**\n     * Converts this [UByte] value to [UShort].\n     *\n     * The resulting `UShort` value represents the same numerical value as this `UByte`.\n     *\n     * The least significant 8 bits of the resulting `UShort` value are the same as the bits of this `UByte` value,\n     * whereas the most significant 8 bits are filled with zeros.\n     */\n    @kotlin.internal.InlineOnly\n    public inline fun toUShort(): UShort = UShort(data.toShort() and 0xFF)\n    /**\n     * Converts this [UByte] value to [UInt].\n     *\n     * The resulting `UInt` value represents the same numerical value as this `UByte`.\n     *\n     * The least significant 8 bits of the resulting `UInt` value are the same as the bits of this `UByte` value,\n     * whereas the most significant 24 bits are filled with zeros.\n     */\n    @kotlin.internal.InlineOnly\n    public inline fun toUInt(): UInt = UInt(data.toInt() and 0xFF)\n    /**\n     * Converts this [UByte] value to [ULong].\n     *\n     * The resulting `ULong` value represents the same numerical value as this `UByte`.\n     *\n     * The least significant 8 bits of the resulting `ULong` value are the same as the bits of this `UByte` value,\n     * whereas the most significant 56 bits are filled with zeros.\n     */\n    @kotlin.internal.InlineOnly\n    public inline fun toULong(): ULong = ULong(data.toLong() and 0xFF)\n    /**\n     * Converts this [UByte] value to [Float].\n     *\n     * The resulting `Float` value represents the same numerical value as this `UByte`.\n     */\n    @kotlin.internal.InlineOnly\n    public inline fun toFloat(): Float = this.toInt().toFloat()\n    /**\n     * Converts this [UByte] value to [Double].\n     *\n     * The resulting `Double` value represents the same numerical value as this `UByte`.\n     */\n    @kotlin.internal.InlineOnly\n    public inline fun toDouble(): Double = this.toInt().toDouble()\n    public override fun toString(): String = toInt().toString()\n    /**\n     * Converts this [Byte] value to [UByte].\n     *\n     * If this value is positive, the resulting `UByte` value represents the same numerical value as this `Byte`.\n     *\n     * The resulting `UByte` value has the same binary representation as this `Byte` value.\n     */\n    @SinceKotlin("1.5")\n    @WasExperimental(ExperimentalUnsignedTypes::class)\n    @kotlin.internal.InlineOnly\n    public inline fun Byte.toUByte(): UByte = UByte(this)\n    /**\n     * Converts this [Short] value to [UByte].\n     *\n     * If this value is positive and less than or equals to [UByte.MAX_VALUE], the resulting `UByte` value represents\n     * the same numerical value as this `Short`.\n     *\n     * The resulting `UByte` value is represented by the least significant 8 bits of this `Short` value.\n     */\n    @SinceKotlin("1.5")\n    @WasExperimental(ExperimentalUnsignedTypes::class)\n    @kotlin.internal.InlineOnly\n    public inline fun Short.toUByte(): UByte = UByte(this.toByte())\n    /**\n     * Converts this [Int] value to [UByte].\n     *\n     * If this value is positive and less than or equals to [UByte.MAX_VALUE], the resulting `UByte` value represents\n     * the same numerical value as this `Int`.\n     *\n     * The resulting `UByte` value is represented by the least significant 8 bits of this `Int` value.\n     */\n    @SinceKotlin("1.5")\n    @WasExperimental(ExperimentalUnsignedTypes::class)\n    @kotlin.internal.InlineOnly\n    public inline fun Int.toUByte(): UByte = UByte(this.toByte())\n    /**\n     * Converts this [Long] value to [UByte].\n     *\n     * If this value is positive and less than or equals to [UByte.MAX_VALUE], the resulting `UByte` value represents\n     * the same numerical value as this `Long`.\n     *\n     * The resulting `UByte` value is represented by the least significant 8 bits of this `Long` value.\n     */\n    @SinceKotlin("1.5")\n    @WasExperimental(ExperimentalUnsignedTypes::class)\n    @kotlin.internal.InlineOnly\n    public inline fun Long.toUByte(): UByte = UByte(this.toByte())\n    /**\n     * Copyright 2010-2022 JetBrains s.r.o. and Kotlin Programming Language contributors.\n     * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n     */\n    // Auto-generated file. DO NOT EDIT!\n    package kotlin\n    import kotlin.experimental.*\n    import kotlin.jvm.*\n    @SinceKotlin("1.5")\n    @WasExperimental(ExperimentalUnsignedTypes::class)\n    @JvmInline\n    public value class UInt @PublishedApi internal constructor(@PublishedApi internal val data: Int) : Comparable<UInt> {\n        companion object {\n            /**\n             * A constant holding the minimum value an instance of UInt can have.\n             */\n            public const val MIN_VALUE: UInt = UInt(0)\n            /**\n             * A constant holding the maximum value an instance of UInt can have.\n             */\n            public const val MAX_VALUE: UInt = UInt(-1)\n            /**\n             * The number of bytes used to represent an instance of UInt in a binary form.\n             */\n
```

```

    ^\n    public const val SIZE_BYTES: Int = 4\n\n
    /**\n    * The number of bits used to represent an instance of UInt in a binary form.\n    ^\n    public const
val SIZE_BITS: Int = 32\n    }\n\n    /**\n    * Compares this value with the specified value for order.\n    * Returns
zero if this value is equal to the specified other value, a negative number if it's less than other,\n    * or a positive
number if it's greater than other.\n    ^\n    @kotlin.internal.InlineOnly\n    public inline operator fun
compareTo(other: UByte): Int = this.compareTo(other.toUInt())\n\n    /**\n    * Compares this value with the
specified value for order.\n    * Returns zero if this value is equal to the specified other value, a negative number if
it's less than other,\n    * or a positive number if it's greater than other.\n    ^\n    @kotlin.internal.InlineOnly\n
public inline operator fun compareTo(other: UShort): Int = this.compareTo(other.toUInt())\n\n    /**\n    *
Compares this value with the specified value for order.\n
    * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n    * or
a positive number if it's greater than other.\n    ^\n    @kotlin.internal.InlineOnly\n
@Suppress("OVERRIDE_BY_INLINE")\n    public override inline operator fun compareTo(other: UInt): Int =
uintCompare(this.data, other.data)\n\n    /**\n    * Compares this value with the specified value for order.\n    *
Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n    * or a
positive number if it's greater than other.\n    ^\n    @kotlin.internal.InlineOnly\n    public inline operator fun
compareTo(other: ULong): Int = this.toULong().compareTo(other)\n\n    /** Adds the other value to this value. *\n    @kotlin.internal.InlineOnly\n    public inline operator fun plus(other: UByte): UInt = this.plus(other.toUInt())\n
    /** Adds the other value to this value. *\n    @kotlin.internal.InlineOnly\n
    public inline operator fun plus(other: UShort): UInt = this.plus(other.toUInt())\n    /** Adds the other value to this
value. *\n    @kotlin.internal.InlineOnly\n    public inline operator fun plus(other: UInt): UInt =
UInt(this.data.plus(other.data))\n    /** Adds the other value to this value. *\n    @kotlin.internal.InlineOnly\n
    public inline operator fun plus(other: ULong): ULong = this.toULong().plus(other)\n\n    /** Subtracts the other
value from this value. *\n    @kotlin.internal.InlineOnly\n    public inline operator fun minus(other: UByte): UInt =
this.minus(other.toUInt())\n    /** Subtracts the other value from this value. *\n    @kotlin.internal.InlineOnly\n
    public inline operator fun minus(other: UShort): UInt = this.minus(other.toUInt())\n    /** Subtracts the other value
from this value. *\n    @kotlin.internal.InlineOnly\n    public inline operator fun minus(other: UInt): UInt =
UInt(this.data.minus(other.data))\n    /** Subtracts the other value from
    this value. *\n    @kotlin.internal.InlineOnly\n    public inline operator fun minus(other: ULong): ULong =
this.toULong().minus(other)\n\n    /** Multiplies this value by the other value. *\n    @kotlin.internal.InlineOnly\n
    public inline operator fun times(other: UByte): UInt = this.times(other.toUInt())\n    /** Multiplies this value by the
other value. *\n    @kotlin.internal.InlineOnly\n    public inline operator fun times(other: UShort): UInt =
this.times(other.toUInt())\n    /** Multiplies this value by the other value. *\n    @kotlin.internal.InlineOnly\n
    public inline operator fun times(other: UInt): UInt = UInt(this.data.times(other.data))\n    /** Multiplies this value
by the other value. *\n    @kotlin.internal.InlineOnly\n    public inline operator fun times(other: ULong): ULong =
this.toULong().times(other)\n\n    /** Divides this value by the other value, truncating the result to an integer that is
closer to zero. *\n    @kotlin.internal.InlineOnly\n    public
    inline operator fun div(other: UByte): UInt = this.div(other.toUInt())\n    /** Divides this value by the other value,
truncating the result to an integer that is closer to zero. *\n    @kotlin.internal.InlineOnly\n    public inline operator
fun div(other: UShort): UInt = this.div(other.toUInt())\n    /** Divides this value by the other value, truncating the
result to an integer that is closer to zero. *\n    @kotlin.internal.InlineOnly\n    public inline operator fun div(other:
UInt): UInt = uintDivide(this, other)\n    /** Divides this value by the other value, truncating the result to an integer
that is closer to zero. *\n    @kotlin.internal.InlineOnly\n    public inline operator fun div(other: ULong): ULong =
this.toULong().div(other)\n\n    /**\n    * Calculates the remainder of truncating division of this value by the other
value.\n    * \n    * The result is always less than the divisor.\n    ^\n    @kotlin.internal.InlineOnly\n    public
    inline operator fun rem(other:
    UByte): UInt = this.rem(other.toUInt())\n    /**\n    * Calculates the remainder of truncating division of this value
by the other value.\n    * \n    * The result is always less than the divisor.\n    ^\n    @kotlin.internal.InlineOnly\n

```

```

public inline operator fun rem(other: UShort): UInt = this.rem(other.toUInt())\n /**\n * Calculates the
remainder of truncating division of this value by the other value.\n * \n * The result is always less than the
divisor.\n * \n @kotlin.internal.InlineOnly\n public inline operator fun rem(other: UInt): UInt =
uintRemainder(this, other)\n /**\n * Calculates the remainder of truncating division of this value by the other
value.\n * \n * The result is always less than the divisor.\n * \n @kotlin.internal.InlineOnly\n public
inline operator fun rem(other: ULong): ULong = this.toULong().rem(other)\n\n /**\n * Divides this value by
the other value, flooring the result to an integer that is
closer to negative infinity.\n * \n * For unsigned types, the results of flooring division and truncating division
are the same.\n * \n @kotlin.internal.InlineOnly\n public inline fun floorDiv(other: UByte): UInt =
this.floorDiv(other.toUInt())\n /**\n * Divides this value by the other value, flooring the result to an integer that
is closer to negative infinity.\n * \n * For unsigned types, the results of flooring division and truncating division
are the same.\n * \n @kotlin.internal.InlineOnly\n public inline fun floorDiv(other: UShort): UInt =
this.floorDiv(other.toUInt())\n /**\n * Divides this value by the other value, flooring the result to an integer that
is closer to negative infinity.\n * \n * For unsigned types, the results of flooring division and truncating division
are the same.\n * \n @kotlin.internal.InlineOnly\n public inline fun floorDiv(other: UInt): UInt = div(other)\n
/**\n * Divides this value
by the other value, flooring the result to an integer that is closer to negative infinity.\n * \n * For unsigned
types, the results of flooring division and truncating division are the same.\n * \n @kotlin.internal.InlineOnly\n
public inline fun floorDiv(other: ULong): ULong = this.toULong().floorDiv(other)\n\n /**\n * Calculates the
remainder of flooring division of this value by the other value.\n * \n * The result is always less than the
divisor.\n * \n * For unsigned types, the remainders of flooring division and truncating division are the same.\n
*\n @kotlin.internal.InlineOnly\n public inline fun mod(other: UByte): UByte =
this.mod(other.toUInt()).toUByte()\n /**\n * Calculates the remainder of flooring division of this value by the
other value.\n * \n * The result is always less than the divisor.\n * \n * For unsigned types, the remainders
of flooring division and truncating division are the same.\n
*\n @kotlin.internal.InlineOnly\n public inline fun mod(other: UShort): UShort =
this.mod(other.toUInt()).toUShort()\n /**\n * Calculates the remainder of flooring division of this value by the
other value.\n * \n * The result is always less than the divisor.\n * \n * For unsigned types, the remainders
of flooring division and truncating division are the same.\n
*\n @kotlin.internal.InlineOnly\n public inline fun mod(other: UInt): UInt = rem(other)\n /**\n * Calculates the remainder of flooring division of this value by
the other value.\n * \n * The result is always less than the divisor.\n * \n * For unsigned types, the
remainders of flooring division and truncating division are the same.\n * \n @kotlin.internal.InlineOnly\n
public inline fun mod(other: ULong): ULong = this.toULong().mod(other)\n\n /**\n * Returns this value
incremented by one.\n * \n * @sample samples.misc.Builtins.inc\n * \n
@\kotlin.internal.InlineOnly\n public inline operator fun inc(): UInt = UInt(data.inc())\n\n /**\n * Returns
this value decremented by one.\n * \n * @sample samples.misc.Builtins.dec\n * \n
@\kotlin.internal.InlineOnly\n public inline operator fun dec(): UInt = UInt(data.dec())\n\n /**\n * Creates a range
from this value to the specified [other] value. *\n @kotlin.internal.InlineOnly\n public inline operator fun
rangeTo(other: UInt): UIntRange = UIntRange(this, other)\n\n /**\n * Shifts this value left by the [bitCount]
number of bits.\n * \n * Note that only the five lowest-order bits of the [bitCount] are used as the shift
distance.\n * \n * The shift distance actually used is therefore always in the range `0..31`. \n * \n
@\kotlin.internal.InlineOnly\n public inline infix fun shl(bitCount: Int): UInt = UInt(data shl bitCount)\n\n /**\n
* Shifts this value right by the [bitCount] number of bits, filling the leftmost bits
with zeros.\n * \n * Note that only the five lowest-order bits of the [bitCount] are used as the shift distance.\n
*\n * The shift distance actually used is therefore always in the range `0..31`. \n * \n @kotlin.internal.InlineOnly\n
public inline infix fun shr(bitCount: Int): UInt = UInt(data ushr bitCount)\n\n /**\n * Performs a bitwise AND
operation between the two values. *\n @kotlin.internal.InlineOnly\n public inline infix fun and(other: UInt):
UInt = UInt(this.data and other.data)\n\n /**\n * Performs a bitwise OR operation between the two values. *\n

```



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significant 16 bits are filled with the sign bit of this value.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\n
public
    inline fun Short.toInt(): UInt = UInt(this.toInt())\n/**\n * Converts this [Int] value to [UInt].\n *\n * If this value
    is positive, the resulting `UInt` value represents the same numerical value as this `Int`. \n *\n * The resulting `UInt`
    value has the same binary representation as this `Int` value.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\n
public inline fun Int.toInt(): UInt = UInt(this)\n/**\n * Converts this [Long] value to [UInt].\n *\n * If this value
    is positive and less than or equals to [UInt.MAX_VALUE], the resulting `UInt` value represents\n * the same
    numerical value as this `Long`. \n *\n * The resulting `UInt` value is represented by the least significant 32 bits of
    this `Long` value.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\n
public inline fun Long.toInt(): UInt =
    UInt(this.toInt())\n/**\n * Converts this [Float] value to [UInt].\n *\n * The fractional part, if any, is rounded
    down towards zero.\n * Returns zero if this `Float` value is negative or `NaN`, [UInt.MAX_VALUE] if it's bigger
    than `UInt.MAX_VALUE`. \n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\n
public inline fun Float.toInt(): UInt = doubleToUInt(this.toDouble())\n/**\n * Converts this [Double] value to
    [UInt].\n *\n * The fractional part, if any, is rounded down towards zero.\n * Returns zero if this `Double` value is
    negative or `NaN`, [UInt.MAX_VALUE] if it's bigger than `UInt.MAX_VALUE`. \n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\n
public inline fun Double.toInt(): UInt = doubleToUInt(this)\n", "/*\n * Copyright 2010-2022 JetBrains s.r.o. and
    Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
    can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage
    kotlin\n\nimport kotlin.experimental.*\nimport
    kotlin.jvm.*\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@JvmInline\npu
    blic value class UShort @PublishedApi internal constructor(@PublishedApi internal val data: Short) :
    Comparable<UShort> {\n\n    companion object {\n\n        /**\n         * A constant holding the minimum value an
        instance of UShort can have.\n         *\n         * public const val MIN_VALUE: UShort = UShort(0)\n\n        /**\n
        * A constant holding the maximum value an instance of UShort can have.\n         *\n         * public const val
        MAX_VALUE: UShort = UShort(-1)\n\n        /**\n         * The number of bytes used to represent an instance of
        UShort in a binary form.\n         *\n         * public const val SIZE_BYTES: Int = 2\n\n        /**\n         * The number of
        bits used to represent an instance of UShort in a binary form.\n         *\n         * public const val SIZE_BITS: Int = 16\n
        }\n\n        /**\n         * Compares this value with the specified
        value for order.\n         * Returns zero if this value is equal to the specified other value, a negative number if it's less
        than other,\n         * or a positive number if it's greater than other.\n         *\n         * @kotlin.internal.InlineOnly\n
        public
        inline operator fun compareTo(other: UByte): Int = this.toInt().compareTo(other.toInt())\n\n        /**\n         * Compares
        this value with the specified value for order.\n         * Returns zero if this value is equal to the specified other value, a
        negative number if it's less than other,\n         * or a positive number if it's greater than other.\n         *\n
        *\n
        @kotlin.internal.InlineOnly\n        @Suppress("OVERRIDE_BY_INLINE")\n        public override inline operator fun
        compareTo(other: UShort): Int = this.toInt().compareTo(other.toInt())\n\n        /**\n         * Compares this value with the
        specified value for order.\n         * Returns zero if
        this value is equal to the specified other value, a negative number if it's less than other,\n         * or a positive number
        if it's greater than other.\n         *\n         * @kotlin.internal.InlineOnly\n        public inline operator fun compareTo(other:
        UInt): Int = this.toUInt().compareTo(other)\n\n        /**\n         * Compares this value with the specified value for order.\n
        * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n         * or a
        positive number if it's greater than other.\n         *\n         * @kotlin.internal.InlineOnly\n        public inline operator fun
        compareTo(other: ULong): Int = this.toULong().compareTo(other)\n\n        /**\n         * Adds the other value to this value. *\n
    }

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```

    @kotlin.internal.InlineOnly\n    public inline operator fun plus(other: UByte): UInt =
this.toUInt().plus(other.toUInt())\n    /** Adds the other value to this value. */\n    @kotlin.internal.InlineOnly\npublic inline operator fun plus(other: UShort): UInt = this.toUInt().plus(other.toUInt())\n    /** Adds the other value to this value. */\n    @kotlin.internal.InlineOnly\n    public inline operator fun plus(other:
UInt): UInt = this.toUInt().plus(other)\n    /** Adds the other value to this value. */\n    @kotlin.internal.InlineOnly\n    public inline operator fun plus(other: ULong): ULong =
this.toULong().plus(other)\n    /** Subtracts the other value from this value. */\n    @kotlin.internal.InlineOnly\npublic inline operator fun minus(other: UByte): UInt = this.toUInt().minus(other.toUInt())\n    /** Subtracts the
other value from this value. */\n    @kotlin.internal.InlineOnly\n    public inline operator fun minus(other: UShort):
UInt = this.toUInt().minus(other.toUInt())\n    /** Subtracts the other value from this value. */\n    @kotlin.internal.InlineOnly\n    public inline operator fun minus(other: UInt): UInt =
this.toUInt().minus(other)\n    /** Subtracts the other value from this value. */\n    @kotlin.internal.InlineOnly\n    public
inline operator fun minus(other: ULong): ULong = this.toULong().minus(other)\n    /** Multiplies this value by
the other value. */\n    @kotlin.internal.InlineOnly\n    public inline operator fun times(other: UByte): UInt =
this.toUInt().times(other.toUInt())\n    /** Multiplies this value by the other value. */\n    @kotlin.internal.InlineOnly\n    public inline operator fun times(other: UShort): UInt =
this.toUInt().times(other.toUInt())\n    /** Multiplies this value by the other value. */\n    @kotlin.internal.InlineOnly\n    public inline operator fun times(other: UInt): UInt =
this.toUInt().times(other)\n    /** Multiplies this value by the other value. */\n    @kotlin.internal.InlineOnly\n    public inline operator fun
times(other: ULong): ULong = this.toULong().times(other)\n    /** Divides this value by the other value,
truncating the result to an integer that is closer to zero. */\n    @kotlin.internal.InlineOnly\n    public inline operator
fun div(other: UByte): UInt =
    this.toUInt().div(other.toUInt())\n    /** Divides this value by the other value, truncating the result to an integer that
is closer to zero. */\n    @kotlin.internal.InlineOnly\n    public inline operator fun div(other: UShort): UInt =
this.toUInt().div(other.toUInt())\n    /** Divides this value by the other value, truncating the result to an integer that
is closer to zero. */\n    @kotlin.internal.InlineOnly\n    public inline operator fun div(other: UInt): UInt =
this.toUInt().div(other)\n    /** Divides this value by the other value, truncating the result to an integer that is closer
to zero. */\n    @kotlin.internal.InlineOnly\n    public inline operator fun div(other: ULong): ULong =
this.toULong().div(other)\n    /**\n     * Calculates the remainder of truncating division of this value by the other
value.\n     * \n     * The result is always less than the divisor.\n     */\n    @kotlin.internal.InlineOnly\n    public
inline operator fun rem(other: UByte): UInt = this.toUInt().rem(other.toUInt())\n    /**\n     * Calculates the remainder of truncating division of this value by the other value.\n     * \n     * The result
is always less than the divisor.\n     */\n    @kotlin.internal.InlineOnly\n    public inline operator fun rem(other:
UShort): UInt = this.toUInt().rem(other.toUInt())\n    /**\n     * Calculates the remainder of truncating division of
this value by the other value.\n     * \n     * The result is always less than the divisor.\n     */\n    @kotlin.internal.InlineOnly\n    public inline operator fun rem(other: UInt): UInt =
this.toUInt().rem(other)\n    /**\n     * Calculates the remainder of truncating division of this value by the other value.\n     * \n     * The result is always
less than the divisor.\n     */\n    @kotlin.internal.InlineOnly\n    public inline operator fun rem(other: ULong):
ULong = this.toULong().rem(other)\n    /**\n     * Divides this value by the other value, flooring the result to an
integer that is closer to negative
infinity.\n     * \n     * For unsigned types, the results of flooring division and truncating division are the same.\n     */\n    @kotlin.internal.InlineOnly\n    public inline fun floorDiv(other: UByte): UInt =
this.toUInt().floorDiv(other.toUInt())\n    /**\n     * Divides this value by the other value, flooring the result to an
integer that is closer to negative infinity.\n     * \n     * For unsigned types, the results of flooring division and
truncating division are the same.\n     */\n    @kotlin.internal.InlineOnly\n    public inline fun floorDiv(other:
UShort): UInt = this.toUInt().floorDiv(other.toUInt())\n    /**\n     * Divides this value by the other value, flooring
the result to an integer that is closer to negative infinity.\n     * \n     * For unsigned types, the results of flooring
division and truncating division are the same.\n     */\n    @kotlin.internal.InlineOnly\n    public inline fun

```



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floorDiv(other: UInt): UInt = this.toUInt().floorDiv(other)\n /**\n
    * Divides this value by the other value, flooring the result to an integer that is closer to negative infinity.\n    *\n
    * For unsigned types, the results of flooring division and truncating division are the same.\n    */\n
@kotlin.internal.InlineOnly\n public inline fun floorDiv(other: ULong): ULong =
this.toULong().floorDiv(other)\n\n /**\n    * Calculates the remainder of flooring division of this value by the
other value.\n    *\n    * The result is always less than the divisor.\n    *\n    * For unsigned types, the remainders
of flooring division and truncating division are the same.\n    */\n @kotlin.internal.InlineOnly\n public inline
fun mod(other: UByte): UByte = this.toUInt().mod(other.toUInt()).toUByte()\n /**\n    * Calculates the remainder
of flooring division of this value by the other value.\n    *\n    * The result is always less than the divisor.\n    *\n
    * For unsigned types, the remainders of flooring division and truncating
division are the same.\n    */\n @kotlin.internal.InlineOnly\n public inline fun mod(other: UShort): UShort =
this.toUInt().mod(other.toUInt()).toUShort()\n /**\n    * Calculates the remainder of flooring division of this
value by the other value.\n    *\n    * The result is always less than the divisor.\n    *\n    * For unsigned types, the
remainders of flooring division and truncating division are the same.\n    */\n @kotlin.internal.InlineOnly\n
public inline fun mod(other: UInt): UInt = this.toUInt().mod(other)\n /**\n    * Calculates the remainder of
flooring division of this value by the other value.\n    *\n    * The result is always less than the divisor.\n    *\n
    * For unsigned types, the remainders of flooring division and truncating division are the same.\n    */\n
@kotlin.internal.InlineOnly\n public inline fun mod(other: ULong): ULong = this.toULong().mod(other)\n\n\n /**\n
    * Returns this value incremented by one.\n    */\n
    *\n    * @sample samples.misc.Builtins.inc\n    */\n @kotlin.internal.InlineOnly\n public inline operator fun
inc(): UShort = UShort(data.inc())\n\n\n /**\n    * Returns this value decremented by one.\n    *\n    * @sample
samples.misc.Builtins.dec\n    */\n @kotlin.internal.InlineOnly\n public inline operator fun dec(): UShort =
UShort(data.dec())\n\n\n /**\n    * Creates a range from this value to the specified [other] value. *\n
@kotlin.internal.InlineOnly\n public inline operator fun rangeTo(other: UShort): UIntRange =
UIntRange(this.toUInt(), other.toUInt())\n\n\n /**\n    * Performs a bitwise AND operation between the two values. *\n
@kotlin.internal.InlineOnly\n public inline infix fun and(other: UShort): UShort = UShort(this.data and
other.data)\n\n\n /**\n    * Performs a bitwise OR operation between the two values. *\n @kotlin.internal.InlineOnly\n
public inline infix fun or(other: UShort): UShort = UShort(this.data or other.data)\n\n\n /**\n    * Performs a
bitwise XOR operation between the two values. *\n @kotlin.internal.InlineOnly\n public inline infix fun
xor(other: UShort): UShort = UShort(this.data xor other.data)\n\n\n /**\n    * Inverts the bits in this value. *\n
@kotlin.internal.InlineOnly\n public inline fun inv(): UShort = UShort(data.inv())\n\n\n /**\n    * Converts this
[UShort] value to [Byte].\n    *\n    * If this value is less than or equals to [Byte.MAX_VALUE], the resulting
`Byte` value represents\n    * the same numerical value as this `UShort`.\n    *\n    * The resulting `Byte` value is
represented by the least significant 8 bits of this `UShort` value.\n    * Note that the resulting `Byte` value may be
negative.\n    */\n @kotlin.internal.InlineOnly\n public inline fun toByte(): Byte = data.toByte()\n\n\n /**\n
    * Converts this [UShort] value to [Short].\n    *\n    * If this value is less than or equals to [Short.MAX_VALUE],
the resulting `Short` value represents\n    * the same numerical
value as this `UShort`. Otherwise the result is negative.\n    *\n    * The resulting `Short` value has the same binary
representation as this `UShort` value.\n    */\n @kotlin.internal.InlineOnly\n public inline fun toShort(): Short =
data\n\n\n /**\n    * Converts this [UShort] value to [Int].\n    *\n    * The resulting `Int` value represents the same
numerical value as this `UShort`.\n    *\n    * The least significant 16 bits of the resulting `Int` value are the same as
the bits of this `UShort` value,\n    * whereas the most significant 16 bits are filled with zeros.\n    */\n
@kotlin.internal.InlineOnly\n public inline fun toInt(): Int = data.toInt() and 0xFFFF\n\n\n /**\n    * Converts this
[UShort] value to [Long].\n    *\n    * The resulting `Long` value represents the same numerical value as this
`UShort`.\n    *\n    * The least significant 16 bits of the resulting `Long` value are the same as the bits of this
`UShort` value,\n    * whereas the most
significant 48 bits are filled with zeros.\n    */\n @kotlin.internal.InlineOnly\n public inline fun toLong(): Long
= data.toLong() and 0xFFFF\n\n\n /**\n    * Converts this [UShort] value to [UByte].\n    *\n    * If this value is

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less than or equals to [UByte.MAX_VALUE], the resulting `UByte` value represents
 * the same numerical
value as this `UShort`.
 * The resulting `UByte` value is represented by the least significant 8 bits of this
`UShort` value.
 *
@kotlin.internal.InlineOnly
 public inline fun toUByte(): UByte = data.toUByte()
/** Returns this value. */
@kotlin.internal.InlineOnly
 public inline fun toUShort(): UShort = this
/**
 * Converts this [UShort] value to [UInt].
 * The resulting `UInt` value represents the same numerical
value as this `UShort`.
 * The least significant 16 bits of the resulting `UInt` value are the same as the bits
of this `UShort` value,
 * whereas
the most significant 16 bits are filled with zeros.
 *
@kotlin.internal.InlineOnly
 public inline fun
toUInt(): UInt = UInt(data.toInt() and 0xFFFF)
/**
 * Converts this [UShort] value to [ULong].
 * The resulting `ULong` value represents the same numerical value as this `UShort`.
 * The least significant
16 bits of the resulting `ULong` value are the same as the bits of this `UShort` value,
 * whereas the most
significant 48 bits are filled with zeros.
 *
@kotlin.internal.InlineOnly
 public inline fun toULong():
ULong = ULong(data.toLong() and 0xFFFF)
/**
 * Converts this [UShort] value to [Float].
 * The resulting `Float` value represents the same numerical value as this `UShort`.
 *
@kotlin.internal.InlineOnly
 public inline fun toFloat(): Float = this.toInt().toFloat()
/**
 * Converts this
[UShort] value to [Double].
 * The resulting `Double` value
represents the same numerical value as this `UShort`.
 *
@kotlin.internal.InlineOnly
 public inline fun
toDouble(): Double = this.toInt().toDouble()
 public override fun toString(): String =
toInt().toString()
}
/**
 * Converts this [Byte] value to [UShort].
 * If this value is positive, the
resulting `UShort` value represents the same numerical value as this `Byte`.
 * The least significant 8 bits of the
resulting `UShort` value are the same as the bits of this `Byte` value,
 * whereas the most significant 8 bits are
filled with the sign bit of this value.
 *
@SinceKotlin("1.5")
@WasExperimental(ExperimentalUnsignedTypes::class)
@kotlin.internal.InlineOnly
npublic inline fun Byte.toUShort(): UShort = UShort(this.toShort())
/**
 * Converts this [Short] value to
[UShort].
 * If this value is positive, the resulting `UShort` value represents the same numerical value as this
`Short`.
 * The resulting `UShort` value has the same binary
representation as this `Short` value.
 *
@SinceKotlin("1.5")
@WasExperimental(ExperimentalUnsignedTypes::class)
@kotlin.internal.InlineOnly
npublic inline fun Short.toUShort(): UShort = UShort(this)
/**
 * Converts this [Int] value to [UShort].
 * If
this value is positive and less than or equals to [UShort.MAX_VALUE], the resulting `UShort` value represents
 * the same numerical value as this `Int`.
 * The resulting `UShort` value is represented by the least significant 16
bits of this `Int` value.
 *
@SinceKotlin("1.5")
@WasExperimental(ExperimentalUnsignedTypes::class)
@kotlin.internal.InlineOnly
npublic inline fun Int.toUShort(): UShort = UShort(this.toShort())
/**
 * Converts this [Long] value to
[UShort].
 * If this value is positive and less than or equals to [UShort.MAX_VALUE], the resulting `UShort`
value represents
 * the same numerical value as this `Long`.
 * The resulting `UShort` value is represented by
the least significant 16
bits of this `Long` value.
 *
@SinceKotlin("1.5")
@WasExperimental(ExperimentalUnsignedTypes::class)
@kotlin.internal.InlineOnly
npublic inline fun Long.toUShort(): UShort = UShort(this.toShort())
", /*
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and Kotlin Programming Language contributors.
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that can be found in the license/LICENSE.txt file.
 */
// Auto-generated file. DO NOT EDIT!
npackage
kotlin.ranges
/**
 * A range of values of type `Char`.
 */
npublic class CharRange(start: Char, endInclusive:
Char) : CharProgression(start, endInclusive, 1), ClosedRange<Char> {
 override val start: Char get() = first
n override val endInclusive: Char get() = last
n override fun contains(value: Char): Boolean = first <= value &&
value <= last
n /**
 * Checks whether the range is empty.
 * The range is empty if its start value is
greater than the end value.
 */
n override fun

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isEmpty(): Boolean = first > last\n\n override fun equals(other: Any?): Boolean =\n\n other is CharRange &&
(isEmpty() && other.isEmpty()) ||\n\n first == other.first && last == other.last)\n\n override fun hashCode(): Int
=\n\n if (isEmpty()) -1 else (31 * first.code + last.code)\n\n override fun toString(): String = \"$first..$last\"\n\n
companion object {\n\n /** An empty range of values of type Char. */\n\n public val EMPTY: CharRange =
CharRange(1.toChar(), 0.toChar())\n\n }\n\n}\n\n/**\n\n * A range of values of type `Int`.\n\n */\n\npublic class
IntRange(start: Int, endInclusive: Int) : IntProgression(start, endInclusive, 1), ClosedRange<Int> {\n\n override val
start: Int get() = first\n\n override val endInclusive: Int get() = last\n\n override fun contains(value: Int): Boolean =
first <= value && value <= last\n\n /**\n\n * Checks whether the range is empty.\n\n */\n\n * The range is empty
if its start value is greater than the end value.\n\n
*/\n\n override fun isEmpty(): Boolean = first > last\n\n override fun equals(other: Any?): Boolean =\n\n
other is IntRange && (isEmpty() && other.isEmpty()) ||\n\n first == other.first && last == other.last)\n\n
override fun hashCode(): Int =\n\n if (isEmpty()) -1 else (31 * first + last)\n\n override fun toString(): String =
\"$first..$last\"\n\n companion object {\n\n /** An empty range of values of type Int. */\n\n public val
EMPTY: IntRange = IntRange(1, 0)\n\n }\n\n}\n\n/**\n\n * A range of values of type `Long`.\n\n */\n\npublic class
LongRange(start: Long, endInclusive: Long) : LongProgression(start, endInclusive, 1), ClosedRange<Long> {\n\n
override val start: Long get() = first\n\n override val endInclusive: Long get() = last\n\n override fun
contains(value: Long): Boolean = first <= value && value <= last\n\n /**\n\n * Checks whether the range is
empty.\n\n */\n\n * The range is empty if its start value is greater than
the end value.\n\n */\n\n override fun isEmpty(): Boolean = first > last\n\n override fun equals(other: Any?):
Boolean =\n\n other is LongRange && (isEmpty() && other.isEmpty()) ||\n\n first == other.first && last ==
other.last)\n\n override fun hashCode(): Int =\n\n if (isEmpty()) -1 else (31 * (first xor (first ushr 32)) + (last xor
(last ushr 32))).toInt()\n\n override fun toString(): String = \"$first..$last\"\n\n companion object {\n\n /** An
empty range of values of type Long. */\n\n public val EMPTY: LongRange = LongRange(1, 0)\n\n }\n\n}\n\n"/\n\n
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is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass\n\n@file:kotlin.jvm.JvmName("CollectionsKt")\n\n@file:OptIn(kotlin.exper
imental.ExperimentalTypeInference::class)\n\npackage kotlin.collections\n\nimport kotlin.contracts.*\n\nimport
kotlin.random.Random\n\ninternal object EmptyIterator : ListIterator<Nothing> {\n\n override fun hasNext():
Boolean = false\n\n override fun hasPrevious(): Boolean = false\n\n override fun nextIndex(): Int = 0\n\n override
fun previousIndex(): Int = -1\n\n override fun next(): Nothing = throw NoSuchElementException()\n\n override fun
previous(): Nothing = throw NoSuchElementException()\n\n}\n\ninternal object EmptyList : List<Nothing>,
Serializable, RandomAccess {\n\n private const val serialVersionUID: Long = -7390468764508069838L\n\n
override fun equals(other: Any?): Boolean = other is List<*> && other.isEmpty()\n\n override fun hashCode(): Int
= 1\n\n override fun toString(): String = "[]"\n\n override val size: Int get() = 0\n\n override fun isEmpty():
Boolean = true\n\n override fun contains(element: Nothing): Boolean = false\n\n override fun containsAll(elements:
Collection<Nothing>): Boolean = elements.isEmpty()\n\n override fun get(index:
Int): Nothing = throw IndexOutOfBoundsException("Empty list doesn't contain element at index $index.")\n\n
override fun indexOf(element: Nothing): Int = -1\n\n override fun lastIndexOf(element: Nothing): Int = -1\n\n
override fun iterator(): Iterator<Nothing> = EmptyIterator\n\n override fun listIterator(): ListIterator<Nothing> =
EmptyIterator\n\n override fun listIterator(index: Int): ListIterator<Nothing> {\n\n if (index != 0) throw
IndexOutOfBoundsException("Index: $index")\n\n return EmptyIterator\n\n }\n\n override fun
subList(fromIndex: Int, toIndex: Int): List<Nothing> {\n\n if (fromIndex == 0 && toIndex == 0) return this\n\n
throw IndexOutOfBoundsException("fromIndex: $fromIndex, toIndex: $toIndex")\n\n }\n\n private fun
readResolve(): Any = EmptyList\n\n}\n\ninternal fun <T> Array<out T>.asCollection(): Collection<T> =
ArrayAsCollection(this, isVarargs = false)\n\nprivate class ArrayAsCollection<T>(val values: Array<out T>, val
isVarargs:
Boolean) : Collection<T> {\n\n override val size: Int get() = values.size\n\n override fun isEmpty(): Boolean =
values.isEmpty()\n\n override fun contains(element: T): Boolean = values.contains(element)\n\n override fun

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expect inline fun <E> buildListInternal(builderAction: MutableList<E>.() -> Unit): List<E>\n\n/**\n * Builds a new read-only [List] by populating a [MutableList] using the given [builderAction]\n * and returning a read-only list with the same elements.\n * The list passed as a receiver to the [builderAction] is valid only inside that function.\n * Using it outside of the function produces an unspecified behavior.\n * The returned list is serializable (JVM).\n * [capacity] is used to hint the expected number of elements added in the [builderAction].\n * @throws IllegalArgumentException if the given [capacity] is negative.\n * @sample samples.collections.Builders.Lists.buildListSampleWithCapacity\n *\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <E> buildList(capacity: Int, @BuilderInference builderAction: MutableList<E>.() -> Unit): List<E> {\n    contract\n    {\n        callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE)\n    }\n    return buildListInternal(capacity, builderAction)\n}\n\n@PublishedApi\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\ninternal expect inline fun <E> buildListInternal(capacity: Int, builderAction: MutableList<E>.() -> Unit): List<E>\n\n/**\n * Returns an [IntRange] of the valid indices for this collection.\n * @sample samples.collections.Collections.Collections.indicesOfCollection\n *\npublic val Collection<*>.indices: IntRange\n    get() = 0..size - 1\n\n/**\n * Returns the index of the last item in the list or -1 if the list is empty.\n * @sample samples.collections.Collections.Lists.lastIndexOfList\n *\npublic val <T> List<T>.lastIndex: Int\n    get() = this.size - 1\n\n/**\n * Returns `true` if the collection is not empty.\n * @sample samples.collections.Collections.Collections.collectionIsNotEmpty\n *\n@kotlin.internal.InlineOnly\npublic inline fun <T> Collection<T>.isNotEmpty(): Boolean = !isEmpty()\n\n/**\n * Returns `true` if this nullable collection is either null or empty.\n * @sample samples.collections.Collections.Collections.collectionOrNullEmpty\n *\n@kotlin.internal.InlineOnly\npublic inline fun <T> Collection<T>?.isNullOrEmpty(): Boolean {\n    contract {\n        returns(false) implies (this@isNullOrEmpty != null)\n    }\n    return this == null || this.isEmpty()\n}\n\n/**\n * Returns this Collection if it's not `null` and the empty list otherwise.\n * @sample samples.collections.Collections.Collections.collectionOrNullEmpty\n *\n@kotlin.internal.InlineOnly\npublic inline fun <T> Collection<T>?.orEmpty(): Collection<T> = this ?: emptyList()\n\n/**\n * Returns this List if it's not `null` and the empty list otherwise.\n * @sample samples.collections.Collections.Lists.listOrNullEmpty\n *\n@kotlin.internal.InlineOnly\npublic inline fun <T> List<T>?.orEmpty(): List<T> = this ?: emptyList()\n\n/**\n * Returns this collection if it's not empty\n * or the result of calling [defaultValue] function if the collection is empty.\n * @sample samples.collections.Collections.Collections.collectionIfEmpty\n *\n@kotlin.internal.InlineOnly\npublic inline fun <C, R> C.ifEmpty(defaultValue: () -> R): R where C : Collection<*>, C : R =\n    if (isEmpty()) default() else this\n\n/**\n * Checks if all elements in the specified collection are contained in this collection.\n * Allows to overcome type-safety restriction of `containsAll` that requires to pass a collection of type `Collection<E>`.\n * @sample samples.collections.Collections.Collections.collectionContainsAll\n *\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER") // false warning, extension takes precedence in some cases\n@kotlin.internal.InlineOnly\npublic inline fun <@kotlin.internal.OnlyInputTypes T> Collection<T>.containsAll(elements: Collection<T>): Boolean = this.containsAll(elements)\n\n/**\n * Returns a new list with the elements of this list randomly shuffled\n * using the specified [random] instance as the source of randomness.\n *\n@kotlin.internal.InlineOnly\npublic fun <T> Iterable<T>.shuffled(random: Random): List<T> =\n    toMutableList().apply { shuffle(random) }\n\ninternal fun <T> List<T>.optimizeReadOnlyList() = when (size) {\n    0 -> emptyList()\n    1 -> listOf(this[0])\n    else -> this\n}\n\n/**\n * Searches this list or its range for the provided [element] using the binary search algorithm.\n * The list is expected to be sorted into ascending order according to the Comparable natural ordering of its elements,\n * otherwise the result is undefined.\n * If the list contains
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point `(-insertion point - 1)`.\n * The insertion point is defined as the index
at which the element should be inserted,\n * so that the list (or the specified subrange of list) still remains sorted.\n
* @sample samples.collections.Collections.Lists.binarySearchWithComparisonFunction\n * \npublic fun <T>
List<T>.binarySearch(fromIndex: Int = 0, toIndex: Int = size, comparison: (T) -> Int): Int {\n    rangeCheck(size,
fromIndex, toIndex)\n\n    var low = fromIndex\n    var high = toIndex - 1\n\n    while (low <= high) {\n        val mid
= (low + high).ushr(1) // safe from overflows\n        val midVal = get(mid)\n        val cmp = comparison(midVal)\n\n        if (cmp < 0)\n            low = mid + 1\n        else if (cmp > 0)\n            high = mid - 1\n        else\n            return
mid // key found\n    }\n    return -(low + 1) // key not found\n}\n\n/**\n * Checks that `from` and `to` are in\n * the range of [0..size] and throws an appropriate exception, if they aren't.\n */\nprivate fun rangeCheck(size: Int,
fromIndex: Int, toIndex: Int) {\n    when {\n        fromIndex > toIndex -> throw IllegalArgumentException("\nfromIndex ($fromIndex) is greater than toIndex
($toIndex).")\n        fromIndex < 0 -> throw IndexOutOfBoundsException("\nfromIndex ($fromIndex) is less than
zero.")\n        toIndex > size -> throw IndexOutOfBoundsException("\ntoIndex ($toIndex) is greater than size
($size).")\n    }\n}\n\n@PublishedApi\n@SinceKotlin("1.3")\ninternal expect fun checkIndexOverflow(index:
Int): Int\n\n@PublishedApi\n@SinceKotlin("1.3")\ninternal expect fun checkCountOverflow(count: Int):
Int\n\n@PublishedApi\n@SinceKotlin("1.3")\ninternal fun throwIndexOverflow() { throw
ArithmeticException("\nIndex overflow has happened.") }\n\n@PublishedApi\n@SinceKotlin("1.3")\ninternal fun
throwCountOverflow() { throw ArithmeticException("\nCount overflow has happened.") }\n\n"/**\n * Copyright
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by the Apache 2.0 license that can
be found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("\nMapsKt")\n@file:OptIn(kotlin.experiment
al.ExperimentalTypeInference::class)\n\npackage kotlin.collections\n\nimport kotlin.contracts.*\n\nprivate object
EmptyMap : Map<Any?, Nothing>, Serializable {\n    private const val serialVersionUID: Long =
8246714829545688274\n\n    override fun equals(other: Any?): Boolean = other is Map<*, *> &&
other.isEmpty()\n    override fun hashCode(): Int = 0\n    override fun toString(): String = "{}"\n\n    override val
size: Int get() = 0\n    override fun isEmpty(): Boolean = true\n\n    override fun containsKey(key: Any?): Boolean =
false\n    override fun containsValue(value: Nothing): Boolean = false\n    override fun get(key: Any?): Nothing? =
null\n    override val entries: Set<Map.Entry<Any?, Nothing>> get() = EmptySet\n    override val keys: Set<Any?>
get() = EmptySet\n    override val values: Collection<Nothing> get() = EmptyList\n\n    private fun readResolve(): Any = EmptyMap\n}\n\n/**\n * Returns an empty read-only map of specified type.\n
*\n * The returned map is serializable (JVM).\n */\n@sample
samples.collections.Maps.Instantiation.emptyReadOnlyMap\n * \npublic fun <K, V> emptyMap(): Map<K, V> =
@Suppress("\nUNCHECKED_CAST") (EmptyMap as Map<K, V>)\n\n/**\n * Returns a new read-only map with
the specified contents, given as a list of pairs\n * where the first value is the key and the second is the value.\n *\n * If multiple pairs have the same key, the resulting map will contain the value from the last of those pairs.\n *\n * Entries of the map are iterated in the order they were specified.\n *\n * The returned map is serializable (JVM).\n
*\n * @sample samples.collections.Maps.Instantiation.mapFromPairs\n * \npublic fun <K, V> mapOf(vararg pairs:
Pair<K, V>): Map<K, V> =\n    if (pairs.size > 0) pairs.toMap(LinkedHashMap(mapCapacity(pairs.size))) else
emptyMap()\n\n/**\n * Returns an empty read-only map.\n
*\n * The returned map is serializable (JVM).\n */\n@sample
samples.collections.Maps.Instantiation.emptyReadOnlyMap\n * \n@kotlin.internal.InlineOnly\npublic inline fun
<K, V> mapOf(): Map<K, V> = emptyMap()\n\n/**\n * Returns an empty new [MutableMap].\n *\n * The returned
map preserves the entry iteration order.\n */\n@sample samples.collections.Maps.Instantiation.emptyMutableMap\n
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> mutableMapOf():
MutableMap<K, V> = LinkedHashMap()\n\n/**\n * Returns a new [MutableMap] with the specified contents, given
as a list of pairs\n * where the first component is the key and the second is the value.\n *\n * If multiple pairs have
the same key, the resulting map will contain the value from the last of those pairs.\n *\n * Entries of the map are

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iterated in the order they were specified.\n * \n * @sample
samples.collections.Maps.Instantiation.mutableMapFromPairs\n * @sample
samples.collections.Maps.Instantiation.emptyMutableMap\n
 * \n\npublic fun <K, V> mutableMapOf(vararg pairs: Pair<K, V>): MutableMap<K, V> =\n  LinkedHashMap<K,
V>(mapCapacity(pairs.size)).apply { putAll(pairs) }\n\n/**\n * Returns an empty new [HashMap].\n * \n * @sample
samples.collections.Maps.Instantiation.emptyHashMap\n
 * \n\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> hashMapOf(): HashMap<K, V>
= HashMap<K, V>()\n\n/**\n * Returns a new [HashMap] with the specified contents, given as a list of pairs\n *
where the first component is the key and the second is the value.\n * \n * @sample
samples.collections.Maps.Instantiation.hashMapFromPairs\n * \n\npublic fun <K, V> hashMapOf(vararg pairs:
Pair<K, V>): HashMap<K, V> = HashMap<K, V>(mapCapacity(pairs.size)).apply { putAll(pairs) }\n\n/**\n *
Returns an empty new [LinkedHashMap].\n * \n\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline
fun <K, V> linkedMapOf(): LinkedHashMap<K, V> = LinkedHashMap<K, V>()\n\n/**\n * Returns a new
[LinkedHashMap]
with the specified contents, given as a list of pairs\n * where the first component is the key and the second is the
value.\n * \n * If multiple pairs have the same key, the resulting map will contain the value from the last of those
pairs.\n * \n * Entries of the map are iterated in the order they were specified.\n * \n * @sample
samples.collections.Maps.Instantiation.linkedMapFromPairs\n * \n\npublic fun <K, V> linkedMapOf(vararg pairs:
Pair<K, V>): LinkedHashMap<K, V> = pairs.toMap(LinkedHashMap(mapCapacity(pairs.size)))\n\n/**\n * Builds
a new read-only [Map] by populating a [MutableMap] using the given [builderAction]\n * and returning a read-only
map with the same key-value pairs.\n * \n * The map passed as a receiver to the [builderAction] is valid only inside
that function.\n * Using it outside of the function produces an unspecified behavior.\n * \n * Entries of the map are
iterated in the order they were added by the [builderAction].\n * \n * The returned map is serializable
(JVM).\n * \n * @sample samples.collections.Builders.Maps.buildMapSample\n
 * \n\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic
inline fun <K, V> buildMap(@BuilderInference builderAction: MutableMap<K, V>().->Unit): Map<K, V> {\n
contract { callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }\n  return
buildMapInternal(builderAction)\n}\n\n@PublishedApi\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\ninternal
expect inline fun <K, V> buildMapInternal(builderAction: MutableMap<K, V>().->Unit): Map<K,
V>{\n\n/**\n * Builds a new read-only [Map] by populating a [MutableMap] using the given [builderAction]\n * and
returning a read-only map with the same key-value pairs.\n * \n * The map passed as a receiver to the
[builderAction] is valid only inside that function.\n * Using it outside of the function produces an unspecified
behavior.\n * \n * [capacity] is used to hint the expected number of pairs added in the
[builderAction].\n * \n * Entries of the map are iterated in the order they were added by the [builderAction].\n * \n *
The returned map is serializable (JVM).\n * \n * @throws IllegalArgumentException if the given [capacity] is
negative.\n * \n * @sample samples.collections.Builders.Maps.buildMapSample\n
 * \n\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic
inline fun <K, V> buildMap(capacity: Int, @BuilderInference builderAction: MutableMap<K, V>().->Unit):
Map<K, V> {\n  contract { callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }\n  return
buildMapInternal(capacity,
builderAction)\n}\n\n@PublishedApi\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\ninternal expect inline
fun <K, V> buildMapInternal(capacity: Int, builderAction: MutableMap<K, V>().->Unit): Map<K, V>{\n\n/**\n *
Calculate the initial capacity of a map.\n * \n\n@PublishedApi\ninternal expect fun mapCapacity(expectedSize: Int):
Int{\n\n/**\n * Returns
`true` if this map is not empty.\n * \n * @sample samples.collections.Maps.Usage.mapIsNotEmpty\n
 * \n\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K, V>.isEmpty(): Boolean =
!isEmpty()\n\n/**\n * Returns `true` if this nullable map is either null or empty.\n * \n * @sample
samples.collections.Maps.Usage.mapIsNullOrEmpty\n

```



```

*^@SinceKotlin("1.3")@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K,
V>?.isEmpty(): Boolean {\n    contract {\n        returns(false) implies (this@isEmpty != null)\n    }\n    return this == null || isEmpty()\n}\n/**\n * Returns the [Map] if its not `null`, or the empty [Map] otherwise.\n *\n * @sample samples.collections.Maps.Usage.mapOrEmpty\n */^@kotlin.internal.InlineOnly\npublic inline fun
<K, V> Map<K, V>?.orEmpty(): Map<K, V> = this ?: emptyMap()\n/**\n * Returns this map if it's not empty\n *
or the result of calling [defaultValue] function if the map is empty.\n *\n * @sample
samples.collections.Maps.Usage.mapIfEmpty\n
*/^@SinceKotlin("1.3")@kotlin.internal.InlineOnly\npublic inline fun <M, R> M.isEmpty(defaultValue: () ->
R): R where M : Map<*, *>, M : R =\n    if (isEmpty()) defaultValue() else this\n/**\n * Checks if the map
contains the given key.\n *\n * This method allows to use the `x` in map` syntax for checking whether an object is
contained in the map.\n *\n * @sample samples.collections.Maps.Usage.containsKey\n
*/^@kotlin.internal.InlineOnly\npublic inline operator fun <@kotlin.internal.OnlyInputTypes K, V> Map<out K,
V>.contains(key: K): Boolean = containsKey(key)\n/**\n * Returns the value corresponding to the given [key], or
`null` if such a key is not present in the map.\n */^@kotlin.internal.InlineOnly\npublic inline operator fun
<@kotlin.internal.OnlyInputTypes K, V> Map<out K, V>.get(key: K): V? =\n    @Suppress("UNCHECKED_CAST") (this as Map<K, V>).get(key)\n/**\n * Allows to use the index operator
for storing values in a mutable map.\n */^@kotlin.internal.InlineOnly\npublic
inline operator fun <K, V> MutableMap<K, V>.set(key: K, value: V): Unit {\n    put(key, value)\n}\n/**\n *
Returns `true` if the map contains the specified [key].\n *\n * Allows to overcome type-safety restriction of
`containsKey` that requires to pass a key of type `K`.\n */^@kotlin.internal.InlineOnly\npublic inline fun
<@kotlin.internal.OnlyInputTypes K> Map<out K, *>.containsKey(key: K): Boolean =\n    @Suppress("UNCHECKED_CAST") (this as Map<K, *>).containsKey(key)\n/**\n * Returns `true` if the map
maps one or more keys to the specified [value].\n *\n * Allows to overcome type-safety restriction of
`containsValue` that requires to pass a value of type `V`.\n *\n * @sample
samples.collections.Maps.Usage.containsValue\n */^@Suppress("EXTENSION_SHADOWED_BY_MEMBER")
// false warning, extension takes precedence in some cases\n@kotlin.internal.InlineOnly\npublic inline fun <K,
@kotlin.internal.OnlyInputTypes V> Map<K, V>.containsValue(value: V): Boolean
= this.containsValue(value)\n/**\n * Removes the specified key and its corresponding value from this map.\n
*\n * @return the previous value associated with the key, or `null` if the key was not present in the map.\n *\n
Allows to overcome type-safety restriction of `remove` that requires to pass a key of type `K`.\n
*/^@kotlin.internal.InlineOnly\npublic inline fun <@kotlin.internal.OnlyInputTypes K, V> MutableMap<out K,
V>.remove(key: K): V? =\n    @Suppress("UNCHECKED_CAST") (this as MutableMap<K,
V>).remove(key)\n/**\n * Returns the key component of the map entry.\n *\n * This method allows to use
destructuring declarations when working with maps, for example:\n *\n * ```\n * for ((key, value) in map) {\n *     // do
something with the key and the value\n * }\n * ```\n */^@kotlin.internal.InlineOnly\npublic inline operator fun <K,
V> Map.Entry<K, V>.component1(): K = key\n/**\n * Returns the value component of the map entry.\n *\n *
This method allows to use destructuring
declarations when working with maps, for example:\n *\n * ```\n * for ((key, value) in map) {\n *     // do something
with the key and the value\n * }\n * ```\n */^@kotlin.internal.InlineOnly\npublic inline operator fun <K, V>
Map.Entry<K, V>.component2(): V = value\n/**\n * Converts entry to [Pair] with key being first component and
value being second.\n */^@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map.Entry<K, V>.toPair():
Pair<K, V> = Pair(key, value)\n/**\n * Returns the value for the given key, or the result of the [defaultValue]
function if there was no entry for the given key.\n *\n * @sample samples.collections.Maps.Usage.getOrElse\n
*/^@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<K, V>.getOrElse(key: K, defaultValue: () -> V): V
= get(key) ?: defaultValue()\n\ninternal inline fun <K, V> Map<K, V>.getOrElseNullable(key: K, defaultValue: ()
-> V): V {\n    val value = get(key)\n    if (value == null && !containsKey(key)) {\n        return defaultValue()\n
    } else {\n        @Suppress("UNCHECKED_CAST")\n        return value as V\n    }\n}\n/**\n * Returns the
value for the given [key] or throws an exception if there is no such key in the map.\n *\n * If the map was created by

```

[withDefault], resorts to its `defaultValue` provider function instead of throwing an exception. @throws NoSuchElementException when the map doesn't contain a value for the specified key and no implicit default value was provided for that map.

```

@SinceKotlin("1.1")
public fun <K, V> Map<K, V>.getValue(key: K): V
= getOrImplicitDefault(key)
Returns the value for the given key. If the key is not found in the map, calls the [defaultValue] function, puts its result into the map under the given key and returns it. Note that the operation is not guaranteed to be atomic if the map is being modified concurrently.
@sample
samples.collections.Maps.Usage.getOrPut
public inline fun <K, V> MutableMap<K, V>.getOrPut(key:
K, defaultValue: () -> V): V {
    val value = get(key)
    return if (value == null) {
        val answer =
defaultValue()
        put(key, answer)
        answer
    } else {
        value
    }
}
Returns an [Iterator] over the entries in the [Map].
@sample
samples.collections.Maps.Usage.forOverEntries
@kotlin.internal.InlineOnly
public inline operator fun <K, V> Map<out K, V>.iterator():
Iterator<Map.Entry<K, V>> = entries.iterator()
Returns a [MutableIterator] over the mutable entries in the [MutableMap].
@kotlin.jvm.JvmName("mutableIterator")
@kotlin.internal.InlineOnly
public inline operator fun <K, V> MutableMap<K, V>.iterator(): MutableIterator<MutableMap.MutableEntry<K, V>> =
entries.iterator()
Populates the given [destination] map with entries having the keys of this map and the values obtained by applying the [transform] function to each entry in this [Map].
public inline fun <K,
V, R, M : MutableMap<in K, in R>> Map<out K, V>.mapValuesTo(destination: M, transform: (Map.Entry<K, V>)
-> R): M {
    return entries.associateByTo(destination, { it.key }, transform)
}
Populates the given [destination] map with entries having the keys obtained by applying the [transform] function to each entry in this [Map] and the values of this map. In case if any two entries are mapped to the equal keys, the value of the latter one will overwrite the value associated with the former one.
public inline fun <K, V, R, M :
MutableMap<in R, in V>> Map<out K, V>.mapKeysTo(destination: M, transform: (Map.Entry<K, V>) -> R): M
{
    return entries.associateByTo(destination, transform, { it.value })
}
Puts all the given [pairs] into this [MutableMap] with the first component in the pair being the key and the second the value.
public fun <K,
V> MutableMap<in K, in V>.putAll(pairs: Array<out Pair<K, V>>): Unit {
    for ((key, value) in
pairs) {
        put(key, value)
    }
}
Puts all the elements of the given collection into this [MutableMap] with the first component in the pair being the key and the second the value.
public fun <K, V>
MutableMap<in K, in V>.putAll(pairs: Iterable<Pair<K, V>>): Unit {
    for ((key, value) in pairs) {
        put(key, value)
    }
}
Puts all the elements of the given sequence into this [MutableMap] with the first component in the pair being the key and the second the value.
public fun <K, V> MutableMap<in K, in
V>.putAll(pairs: Sequence<Pair<K, V>>): Unit {
    for ((key, value) in pairs) {
        put(key, value)
    }
}
Returns a new map with entries having the keys of this map and the values obtained by applying the [transform] function to each entry in this [Map]. The returned map preserves the entry iteration order of the original map.
@sample
samples.collections.Maps.Transformations.mapValues
public inline fun <K, V, R> Map<out K, V>.mapValues(transform: (Map.Entry<K, V>) -> R): Map<K, R> {
    return
mapValuesTo(LinkedHashMap<K, R>(mapCapacity(size)), transform) // .optimizeReadOnlyMap()
Returns a new Map with entries having the keys obtained by applying the [transform] function to each entry in this [Map] and the values of this map. In case if any two entries are mapped to the equal keys, the value of the latter one will overwrite the value associated with the former one. The returned map preserves the entry iteration order of the original map.
@sample
samples.collections.Maps.Transformations.mapKeys
public inline fun <K, V, R> Map<out K, V>.mapKeys(transform: (Map.Entry<K, V>) -> R): Map<R, V> {
    return
mapKeysTo(LinkedHashMap<R, V>(mapCapacity(size)), transform) // .optimizeReadOnlyMap()
Returns a map containing all key-value pairs with keys matching the given [predicate]. The returned map preserves
the entry iteration order of the original map.
@sample
samples.collections.Maps.Filtering.filterKeys
public inline fun <K, V> Map<out K, V>.filterKeys(predicate: (K) -> Boolean): Map<K, V> {
    val result =
LinkedHashMap<K, V>()
    for (entry in this) {
        if (predicate(entry.key)) {
            result.put(entry.key,
entry.value)
        }
    }
    return result
}
Returns a map containing all key-value pairs with values

```

```

matching the given [predicate].\n *\n * The returned map preserves the entry iteration order of the original map.\n *\n @sample samples.collections.Maps.Filtering.filterValues\n */\npublic inline fun <K, V> Map<out K, V>.filterValues(predicate: (V) -> Boolean): Map<K, V> {\n    val result = LinkedHashMap<K, V>()\n    for (entry in this) {\n        if (predicate(entry.value)) {\n            result.put(entry.key, entry.value)\n        }\n    }\n    return result\n}\n\n/>\n */\n * Appends all entries matching the given [predicate] into the mutable map given as [destination] parameter.\n *\n @return the destination map.\n *\n @sample samples.collections.Maps.Filtering.filterTo\n */\npublic inline fun <K, V, M : MutableMap<in K, in V>> Map<out K, V>.filterTo(destination: M, predicate: (Map.Entry<K, V>) -> Boolean): M {\n    for (element in this) {\n        if (predicate(element)) {\n            destination.put(element.key, element.value)\n        }\n    }\n    return destination\n}\n\n/>\n */\n * Returns a new map containing all key-value pairs matching the given [predicate].\n *\n * The returned map preserves the entry iteration order of the original map.\n *\n @sample samples.collections.Maps.Filtering.filter\n */\npublic inline fun <K, V> Map<out K, V>.filter(predicate: (Map.Entry<K, V>) -> Boolean): Map<K, V> {\n    return filterTo(LinkedHashMap<K, V>(), predicate)\n}\n\n/>\n */\n * Appends all entries not matching the given [predicate] into the given [destination].\n *\n @return the destination map.\n *\n @sample samples.collections.Maps.Filtering.filterNotTo\n */\npublic inline fun <K, V, M : MutableMap<in K, in V>> Map<out K, V>.filterNotTo(destination: M, predicate: (Map.Entry<K, V>) -> Boolean): M {\n    for (element in this) {\n        if (!predicate(element)) {\n            destination.put(element.key, element.value)\n        }\n    }\n    return destination\n}\n\n/>\n */\n * Returns a new map containing all key-value pairs not matching the given [predicate].\n *\n * The returned map preserves the entry iteration order of the original map.\n *\n @sample samples.collections.Maps.Filtering.filterNot\n */\npublic inline fun <K, V> Map<out K, V>.filterNot(predicate: (Map.Entry<K, V>) -> Boolean): Map<K, V> {\n    return filterNotTo(LinkedHashMap<K, V>(), predicate)\n}\n\n/>\n */\n * Returns a new map containing all key-value pairs from the given collection of pairs.\n *\n * The returned map preserves the entry iteration order of the original collection.\n *\n * If any of two pairs would have the same key the last one gets added to the map.\n */\npublic fun <K, V> Iterable<Pair<K, V>>.toMap(): Map<K, V> {\n    if (this is Collection) {\n        return when (size) {\n            0 -> emptyMap()\n            1 -> mapOf(if (this is List) this[0] else iterator().next())\n            else -> toMap(LinkedHashMap<K, V>(mapCapacity(size)))\n        }\n    }\n    return toMap(LinkedHashMap<K, V>()).optimizeReadOnlyMap()\n}\n\n/>\n */\n * Populates and returns the [destination] mutable map with key-value pairs from the given collection of pairs.\n *\n */\npublic fun <K, V, M : MutableMap<in K, in V>> Iterable<Pair<K, V>>.toMap(destination: M): M =\n    destination.apply { putAll(this@toMap) }\n\n/>\n */\n * Returns a new map containing all key-value pairs from the given array of pairs.\n *\n * The returned map preserves the entry iteration order of the original array.\n *\n * If any of two pairs would have the same key the last one gets added to the map.\n */\npublic fun <K, V> Array<out Pair<K, V>>.toMap(): Map<K, V> =\n    when (size) {\n        0 -> emptyMap()\n        1 -> mapOf(this[0])\n        else -> toMap(LinkedHashMap<K, V>(mapCapacity(size)))\n    }\n\n/>\n */\n * Populates and returns the [destination] mutable map with key-value pairs from the given array of pairs.\n *\n */\npublic fun <K, V, M : MutableMap<in K, in V>> Array<out Pair<K, V>>.toMap(destination: M): M =\n    destination.apply { putAll(this@toMap) }\n\n/>\n */\n * Returns a new map containing all key-value pairs from the given sequence of pairs.\n *\n * The returned map preserves the entry iteration order of the original sequence.\n *\n * If any of two pairs would have the same key the last one gets added to the map.\n */\npublic fun <K, V> Sequence<Pair<K, V>>.toMap(): Map<K, V> =\n    toMap(LinkedHashMap<K, V>()).optimizeReadOnlyMap()\n\n/>\n */\n * Populates and returns the [destination] mutable map with key-value pairs from the given sequence of pairs.\n *\n */\npublic fun <K, V, M : MutableMap<in K, in V>> Sequence<Pair<K, V>>.toMap(destination: M): M =\n    destination.apply {\n        putAll(this@toMap) \n    }\n\n/>\n */\n * Returns a new read-only map containing all key-value pairs from the original map.\n *\n * The returned map preserves the entry iteration order of the original map.\n *\n */\n@SinceKotlin("1.1")\npublic fun <K, V> Map<out K, V>.toMap(): Map<K, V> =\n    when (size) {\n        0 -> emptyMap()\n        1 -> toSingletonMap()\n        else -> toMutableMap()\n    }\n\n/>\n */\n * Returns a new mutable map containing all key-value pairs from the original map.\n *\n * The returned map preserves the entry iteration order of

```

the original map.

```

@SinceKotlin("1.1")
public fun <K, V> Map<out K, V>.toMutableMap():
MutableMap<K, V> = LinkedHashMap(this)

```

Populates and returns the [destination] mutable map with key-value pairs from the given map.

```

@SinceKotlin("1.1")
public fun <K, V, M : MutableMap<in K, in V>>
Map<out K, V>.toMap(destination: M): M =
    destination.apply { putAll(this@toMap) }

```

Creates a new read-only map by replacing or adding an entry to this map from a given key-value [pair].

The returned map preserves the entry iteration order of the original map.

The [pair] is iterated in the end if it has a unique key.

```

public operator fun <K, V> Map<out K, V>.plus(pair: Pair<K, V>): Map<K, V> =
    if (this.isEmpty()) mapOf(pair) else LinkedHashMap(this).apply {
        put(pair.first, pair.second) }

```

Creates a new read-only map by replacing or adding entries to this map from a given collection of key-value [pairs].

The returned map preserves the entry iteration order of the original map.

Those [pairs] with unique keys are iterated in the end in the order of [pairs] collection.

```

public operator fun <K, V> Map<out K, V>.plus(pairs: Iterable<Pair<K, V>>): Map<K, V> =
    if (this.isEmpty())
        pairs.toMap() else LinkedHashMap(this).apply { putAll(pairs) }

```

Creates a new read-only map by replacing or adding entries to this map from a given array of key-value [pairs].

The returned map preserves the entry iteration order of the original map.

Those [pairs] with unique keys are iterated in the end in the order of [pairs] array.

```

public operator fun <K, V> Map<out K, V>.plus(pairs: Array<out Pair<K, V>>): Map<K, V> =
    if (this.isEmpty()) pairs.toMap() else LinkedHashMap(this).apply { putAll(pairs) }

```

Creates a new read-only map by replacing or adding entries to this map from a given sequence of key-value [pairs].

The returned map preserves the entry iteration order of the original map.

Those [pairs] with unique keys are iterated in the end in the order of [pairs] sequence.

```

public operator fun <K, V> Map<out K, V>.plus(pairs: Sequence<Pair<K, V>>): Map<K, V> =
    LinkedHashMap(this).apply { putAll(pairs) }
    .optimizeReadOnlyMap()

```

Creates a new read-only map by replacing or adding entries to this map from another [map].

The returned map preserves the entry iteration order of the original map.

Those entries of another [map] that are missing in this map are iterated in the end in the order of that [map].

```

public operator fun <K, V> Map<out K, V>.plus(map: Map<out K, V>): Map<K, V> =
    LinkedHashMap(this).apply { putAll(map) }

```

Appends or replaces the given [pair] in this mutable map.

```

@kotlin.internal.InlineOnly
public inline operator fun <K, V> MutableMap<in K, in V>.plusAssign(pair:
Pair<K, V>) {
    put(pair.first, pair.second)
}

```

Appends or replaces all pairs from the given collection of [pairs] in this mutable map.

```

@kotlin.internal.InlineOnly
public inline operator fun <K, V>
MutableMap<in K, in V>.plusAssign(pairs: Iterable<Pair<K, V>>) {
    putAll(pairs)
}

```

Appends or replaces all pairs from the given array of [pairs] in this mutable map.

```

@kotlin.internal.InlineOnly
public inline operator fun <K, V> MutableMap<in K, in V>.plusAssign(pairs: Array<out Pair<K, V>>) {
    putAll(pairs)
}

```

Appends or replaces all pairs from the given sequence of [pairs] in this mutable map.

```

@kotlin.internal.InlineOnly
public inline operator fun <K, V> MutableMap<in K, in V>.plusAssign(pairs: Sequence<Pair<K, V>>) {
    putAll(pairs)
}

```

Appends or replaces all entries from the given [map] in this mutable map.

```

@kotlin.internal.InlineOnly
public inline operator fun <K, V> MutableMap<in K, in V>.plusAssign(map:
Map<K, V>) {
    putAll(map)
}

```

Returns a map containing all entries of the original map except the entry with the given [key].

The returned map preserves the entry iteration order of the original map.

```

@SinceKotlin("1.1")
public operator fun <K, V> Map<out K, V>.minus(key: K): Map<K, V> =
    this.toMutableMap().apply { minusAssign(key) }
    .optimizeReadOnlyMap()

```

Returns a map containing all entries of the original map except those entries the keys of which are contained in the given [keys] collection.

The returned map preserves the entry iteration order of the original map.

```

@SinceKotlin("1.1")
public operator fun <K, V> Map<out K, V>.minus(keys: Iterable<K>): Map<K, V> =
    this.toMutableMap().apply { minusAssign(keys) }
    .optimizeReadOnlyMap()

```

Returns a map containing all entries of the original map except those entries the keys of which are contained in the given [keys] array.

The returned map preserves the entry iteration order of the original map.

```

@SinceKotlin("1.1")
public operator fun <K, V> Map<out K, V>.minus(keys:

```

```

Array<out K>): Map<K, V> =\n  this.toMutableMap().apply { minusAssign(keys)
}.optimizeReadOnlyMap()\n\n/**\n * Returns a map containing all entries of the original map except those entries\n * the keys of which are contained in the given [keys] sequence.\n *\n * The returned map preserves the entry iteration order of the original map.\n */\n@SinceKotlin("1.1")\npublic operator fun <K, V> Map<out K, V>.minus(keys: Sequence<K>): Map<K, V>
=\n  this.toMutableMap().apply { minusAssign(keys) }.optimizeReadOnlyMap()\n\n/**\n * Removes the entry with the given [key] from this mutable map.\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<K, V>.minusAssign(key: K) {\n  remove(key)\n}\n\n/**\n * Removes all entries the keys of which are contained in the given [keys] collection from this mutable map.\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<K, V>.minusAssign(keys: Iterable<K>) {\n  this.keys.removeAll(keys)\n}\n\n/**\n * Removes all entries the keys of which are contained in the given [keys] array from this mutable map.\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<K, V>.minusAssign(keys: Array<out K>) {\n  this.keys.removeAll(keys)\n}\n\n/**\n * Removes all entries from the keys of which are contained in the given [keys] sequence from this mutable map.\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<K, V>.minusAssign(keys: Sequence<K>) {\n  this.keys.removeAll(keys)\n}\n\n// do not expose for now\n@PublishedApi\ninternal fun <K, V> Map<K, V>.optimizeReadOnlyMap() = when (size) {\n  0 -> emptyMap()\n  1 -> toSingletonMapOrSelf()\n  else -> this\n}\n\n"/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("SetsKt")\n@file:OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n\npackage kotlin.collections\n\nimport kotlin.contracts.*\n\ninternal object EmptySet : Set<Nothing>, Serializable {\n  private const val serialVersionUID: Long = 3406603774387020532\n\n  override fun equals(other: Any?): Boolean = other is Set<*> && other.isEmpty()\n\n  override fun hashCode(): Int = 0\n\n  override fun toString(): String = "[]"\n\n  override val size: Int get() = 0\n\n  override fun isEmpty(): Boolean = true\n\n  override fun contains(element: Nothing): Boolean = false\n\n  override fun containsAll(elements: Collection<Nothing>): Boolean = elements.isEmpty()\n\n  override fun iterator(): Iterator<Nothing> = EmptyIterator\n\n  private fun readResolve(): Any = EmptySet\n}\n\n/**\n * Returns an empty read-only set. The returned set is serializable (JVM).\n */\n@sample\nsamples.collections.Collections.Sets.emptyReadOnlySet\n\n/**\n * Returns a new read-only set with the given elements.\n * Elements of the set are iterated in the order they were specified.\n * The returned set is serializable (JVM).\n */\n@sample\nsamples.collections.Collections.Sets.readOnlySet\n\n/**\n * Returns a new read-only set with the given elements. The returned set is serializable (JVM).\n */\n@sample\nsamples.collections.Collections.Sets.emptyReadOnlySet\n\n/**\n * Returns an empty new [MutableSet].\n * The returned set preserves the element iteration order.\n */\n@sample\nsamples.collections.Collections.Sets.emptyMutableSet\n\n/**\n * Returns a new [MutableSet] with the given elements. Elements of the set are iterated in the order they were specified.\n */\n@sample\nsamples.collections.Collections.Sets.mutableSet\n\n/**\n * Returns an empty new [HashSet].\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun <T> mutableSetOf(): MutableSet<T> = LinkedHashSet()\n\n/**\n * Returns a new [MutableSet] with the given elements. Elements of the set are iterated in the order they were specified.\n */\n@sample\nsamples.collections.Collections.Sets.mutableSet\n\n/**\n * Returns an empty new [HashSet].\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun <T> hashSetOf(): HashSet<T> = HashSet()\n\n/**\n * Returns a new [HashSet] with the given elements.\n */\n@sample\nsamples.collections.Collections.Sets.emptyHashSet\n\n/**\n * Returns an empty new [LinkedHashSet].\n */\n@sample\nsamples.collections.Collections.Sets.emptyLinkedHashSet\n
```

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*\/n@SinceKotlin("1.1")n@kotlin.internal.InlineOnlynpublic inline fun <T> linkedSetOf(): LinkedHashSet<T>
= LinkedHashSet()\n/n/**n * Returns a new [LinkedHashSet] with the given elements.\n * Elements of the set are
iterated in the order they were specified.\n * @sample samples.collections.Collections.Sets.linkedHashSetn
*\/npublic fun <T> linkedSetOf(vararg elements: T): LinkedHashSet<T> =
elements.toCollection(LinkedHashSet(mapCapacity(elements.size)))\n/n/**n * Returns a new read-only set either
with single given element, if it is not null, or empty set if the element is null.\n * The returned set is serializable
(JVM).\n * @sample samples.collections.Collections.Sets.setOfNotNulln
*\/n@SinceKotlin("1.4")npublic fun <T : Any> setOfNotNull(element: T?): Set<T> = if (element != null)
setOf(element) else emptySet()\n/n/**n * Returns a new read-only set only with those given elements, that are not
null.\n * Elements of the set are iterated in the order they were specified.\n * The returned set is serializable
(JVM).\n * @sample samples.collections.Collections.Sets.setOfNotNulln *\/n@SinceKotlin("1.4")npublic fun <T
: Any> setOfNotNull(vararg elements: T?): Set<T> {\n return
elements.filterNotNullTo(LinkedHashSet())\n}\n/n/**n * Builds a new read-only [Set] by populating a
[MutableSet] using the given [builderAction]n * and returning a read-only set with the same elements.\n *n * The
set passed as a receiver to the [builderAction] is valid only inside that function.\n * Using it outside of the function
produces an unspecified behavior.\n *n * Elements of the set are iterated in the order they were added by the
[builderAction].\n *n * The
returned set is serializable (JVM).\n *n * @sample samples.collections.Builders.Sets.buildSetSample\n
*\/n@SinceKotlin("1.6")n@WasExperimental(ExperimentalStdlibApi::class)n@kotlin.internal.InlineOnlynpublic
inline fun <E> buildSet(@BuilderInference builderAction: MutableSet<E>().->Unit): Set<E> {\n contract {
callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }\n return
buildSetInternal(builderAction)\n}\n/n@PublishedApi\n@SinceKotlin("1.3")n@kotlin.internal.InlineOnly\ninternal
expect inline fun <E> buildSetInternal(builderAction: MutableSet<E>().->Unit): Set<E>\n/n/**n * Builds a
new read-only [Set] by populating a [MutableSet] using the given [builderAction]n * and returning a read-only set
with the same elements.\n *n * The set passed as a receiver to the [builderAction] is valid only inside that
function.\n * Using it outside of the function produces an unspecified behavior.\n *n * [capacity] is used to hint the
expected number of elements added in the
[builderAction].\n *n * Elements of the set are iterated in the order they were added by the [builderAction].\n *n *
The returned set is serializable (JVM).\n *n * @throws IllegalArgumentException if the given [capacity] is
negative.\n *n * @sample samples.collections.Builders.Sets.buildSetSample\n
*\/n@SinceKotlin("1.6")n@WasExperimental(ExperimentalStdlibApi::class)n@kotlin.internal.InlineOnlynpublic
inline fun <E> buildSet(capacity: Int, @BuilderInference builderAction: MutableSet<E>().->Unit): Set<E> {\n
contract { callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }\n return buildSetInternal(capacity,
builderAction)\n}\n/n@PublishedApi\n@SinceKotlin("1.3")n@kotlin.internal.InlineOnly\ninternal expect inline
fun <E> buildSetInternal(capacity: Int, builderAction: MutableSet<E>().->Unit): Set<E>\n/n/n/** Returns this Set
if it's not `null` and the empty set otherwise. *\/n@kotlin.internal.InlineOnlynpublic inline fun <T>
Set<T>?.orEmpty(): Set<T> = this
?: emptySet()\n/ninternal fun <T> Set<T>.optimizeReadOnlySet() = when (size) {\n 0 -> emptySet()\n 1 ->
setOf(iterator().next())\n else -> this\n}\n"/n/** Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*\/n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("StringsKt")n@file:Suppress("PLATFORM
M_CLASS_MAPPED_TO_KOTLIN")\n\npackage kotlin.text\n/n/**n * Parses the string as a signed [Byte]
number and returns the result\n * or `null` if the string is not a valid representation of a number.\n
*\/n@SinceKotlin("1.1")npublic fun String.toByteArrayOrNull(): Byte? = toByteOrNull(radix = 10)\n/n/**n * Parses
the string as a signed [Byte] number and returns the result\n * or `null` if the string is not a valid representation of a
number.\n *n * @throws IllegalArgumentException when [radix] is not a valid radix for

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string to number conversion.\n *^@SinceKotlin("1.1")\npublic fun String.toByteArrayOrNull(radix: Int): Byte? {\n
val int = this.toIntOrNull(radix) ?: return null\n if (int < Byte.MIN_VALUE || int > Byte.MAX_VALUE) return
null\n return int.toByteArray()\n}\n\n/**\n * Parses the string as a [Short] number and returns the result\n * or `null` if
the string is not a valid representation of a number.\n *^@SinceKotlin("1.1")\npublic fun String.toShortOrNull():
Short? = toShortOrNull(radix = 10)\n\n/**\n * Parses the string as a [Short] number and returns the result\n * or
`null` if the string is not a valid representation of a number.\n *^n * @throws IllegalArgumentException when
[radix] is not a valid radix for string to number conversion.\n *^@SinceKotlin("1.1")\npublic fun
String.toShortOrNull(radix: Int): Short? {\n val int = this.toIntOrNull(radix) ?: return null\n if (int <
Short.MIN_VALUE || int > Short.MAX_VALUE) return null\n return int.toShort()\n}\n\n/**\n *
Parses the string as an [Int] number and returns the result\n * or `null` if the string is not a valid representation of a
number.\n *^@SinceKotlin("1.1")\npublic fun String.toIntOrNull(): Int? = toIntOrNull(radix = 10)\n\n/**\n *
Parses the string as an [Int] number and returns the result\n * or `null` if the string is not a valid representation of a
number.\n *^n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number
conversion.\n *^@SinceKotlin("1.1")\npublic fun String.toIntOrNull(radix: Int): Int? {\n checkRadix(radix)\n\n
val length = this.length\n if (length == 0) return null\n\n val start: Int\n val isNegative: Boolean\n val limit:
Int\n\n val firstChar = this[0]\n if (firstChar < '0') { // Possible leading sign\n if (length == 1) return null //
non-digit (possible sign) only, no digits after\n\n start = 1\n if (firstChar == '-') {\n isNegative =
true\n limit = Int.MIN_VALUE\n } else if (firstChar == '+') {\n isNegative = false\n limit = -Int.MAX_VALUE\n } else\n
return null\n } else {\n start = 0\n isNegative = false\n limit = -Int.MAX_VALUE\n }\n\n\n val
limitForMaxRadix = (-Int.MAX_VALUE) / 36\n\n var limitBeforeMul = limitForMaxRadix\n var result = 0\n
for (i in start until length) {\n val digit = digitOf(this[i], radix)\n\n if (digit < 0) return null\n if (result <
limitBeforeMul) {\n if (limitBeforeMul == limitForMaxRadix) {\n limitBeforeMul = limit /
radix\n\n if (result < limitBeforeMul) {\n return null\n }\n } else {\n
return null\n }\n }\n\n result *= radix\n\n if (result < limit + digit) return null\n\n result -=
digit\n }\n\n return if (isNegative) result else -result\n}\n\n/**\n * Parses
the string as a [Long] number and returns the result\n * or `null` if the string is not a valid representation of a
number.\n *^@SinceKotlin("1.1")\npublic fun String.toLongOrNull(): Long? = toLongOrNull(radix =
10)\n\n/**\n * Parses the string as a [Long] number and returns the result\n * or `null` if the string is not a valid
representation of a number.\n *^n * @throws IllegalArgumentException when [radix] is not a valid radix for string
to number conversion.\n *^@SinceKotlin("1.1")\npublic fun String.toLongOrNull(radix: Int): Long? {\n
checkRadix(radix)\n\n val length = this.length\n if (length == 0) return null\n\n val start: Int\n val isNegative:
Boolean\n val limit: Long\n\n val firstChar = this[0]\n if (firstChar < '0') { // Possible leading sign\n if
(length == 1) return null // non-digit (possible sign) only, no digits after\n\n start = 1\n if (firstChar == '-')
{\n isNegative = true\n limit = Long.MIN_VALUE\n } else if (firstChar == '+') {\n isNegative = false\n limit = -Long.MAX_VALUE\n } else\n
return null\n } else {\n start = 0\n isNegative = false\n limit = -Long.MAX_VALUE\n }\n\n\n val
limitForMaxRadix = (-Long.MAX_VALUE) / 36\n\n var limitBeforeMul = limitForMaxRadix\n var result =
0L\n for (i in start until length) {\n val digit = digitOf(this[i], radix)\n\n if (digit < 0) return null\n if
(result < limitBeforeMul) {\n if (limitBeforeMul == limitForMaxRadix) {\n limitBeforeMul = limit
/ radix\n\n if (result < limitBeforeMul) {\n return null\n }\n } else {\n
return null\n }\n }\n\n result *= radix\n\n if (result < limit + digit) return null\n\n result -=
digit\n }\n\n return if (isNegative) result else -result\n}\n\ninternal
fun numberFormatError(input: String): Nothing = throw NumberFormatException("Invalid number format:
'$input'")\n\n/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use
of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n *^@npackage kotlin.time\nimport kotlin.contracts.*\nimport kotlin.jvm.JvmInline\nimport kotlin.math.*\n\n/**\n *
Represents the amount of time one instant of time is away from another instant.\n *^n * A negative duration is

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@DeprecatedSinceKotlin(warningSince = `1.6`)\n    public fun nanoseconds(value: Double): Duration =
value.toDuration(DurationUnit.NANOSECONDS)\n\n    /**
Returns a [Duration] representing the specified [value] number of microseconds. */\n    @SinceKotlin(`1.5`)\n    @ExperimentalTime\n    @Deprecated(`Use 'Int.microseconds' extension property from Duration.Companion
instead.`\n, ReplaceWith(`value.microseconds`\n, `kotlin.time.Duration.Companion.microseconds`))\n    @DeprecatedSinceKotlin(warningSince = `1.6`)\n    public fun microseconds(value: Int): Duration =
value.toDuration(DurationUnit.MICROSECONDS)\n\n    /** Returns a [Duration] representing the specified
[value] number of microseconds. */\n    @SinceKotlin(`1.5`)\n    @ExperimentalTime\n    @Deprecated(`Use 'Long.microseconds' extension property from Duration.Companion instead.`\n,
ReplaceWith(`value.microseconds`\n, `kotlin.time.Duration.Companion.microseconds`))\n    @DeprecatedSinceKotlin(warningSince = `1.6`)\n    public fun microseconds(value: Long): Duration =
value.toDuration(DurationUnit.MICROSECONDS)\n\n    /**\n    * Returns a [Duration] representing the specified [value] number of microseconds.\n    * */\n    * @throws
IllegalArgumentException if the provided `Double` [value] is `NaN`.\n    */\n    @SinceKotlin(`1.5`)\n    @ExperimentalTime\n    @Deprecated(`Use 'Double.microseconds' extension property from
Duration.Companion instead.`\n, ReplaceWith(`value.microseconds`\n,
`kotlin.time.Duration.Companion.microseconds`))\n    @DeprecatedSinceKotlin(warningSince = `1.6`)\n    public fun microseconds(value: Double): Duration = value.toDuration(DurationUnit.MICROSECONDS)\n\n    /** Returns a [Duration] representing the specified [value] number of milliseconds. */\n    @SinceKotlin(`1.5`)\n    @ExperimentalTime\n    @Deprecated(`Use 'Int.milliseconds' extension property
from Duration.Companion instead.`\n, ReplaceWith(`value.milliseconds`\n,
`kotlin.time.Duration.Companion.milliseconds`))\n    @DeprecatedSinceKotlin(warningSince
= `1.6`)\n    public fun milliseconds(value: Int): Duration =
value.toDuration(DurationUnit.MILLISECONDS)\n\n    /** Returns a [Duration] representing the specified
[value] number of milliseconds. */\n    @SinceKotlin(`1.5`)\n    @ExperimentalTime\n    @Deprecated(`Use 'Long.milliseconds' extension property from Duration.Companion instead.`\n,
ReplaceWith(`value.milliseconds`\n, `kotlin.time.Duration.Companion.milliseconds`))\n    @DeprecatedSinceKotlin(warningSince = `1.6`)\n    public fun milliseconds(value: Long): Duration =
value.toDuration(DurationUnit.MILLISECONDS)\n\n    /**\n    * Returns a [Duration] representing the
specified [value] number of milliseconds.\n    * */\n    * @throws IllegalArgumentException if the provided
`Double` [value] is `NaN`.\n    */\n    @SinceKotlin(`1.5`)\n    @ExperimentalTime\n    @Deprecated(`Use 'Double.milliseconds' extension property from Duration.Companion instead.`\n,
ReplaceWith(`value.milliseconds`\n, `kotlin.time.Duration.Companion.milliseconds`))\n    @DeprecatedSinceKotlin(warningSince = `1.6`)\n    public fun milliseconds(value: Double): Duration =
value.toDuration(DurationUnit.MILLISECONDS)\n\n    /** Returns a [Duration] representing the specified
[value] number of seconds. */\n    @SinceKotlin(`1.5`)\n    @ExperimentalTime\n    @Deprecated(`Use
'Int.seconds' extension property from Duration.Companion instead.`\n, ReplaceWith(`value.seconds`\n,
`kotlin.time.Duration.Companion.seconds`))\n    @DeprecatedSinceKotlin(warningSince = `1.6`)\n    public
fun seconds(value: Int): Duration = value.toDuration(DurationUnit.SECONDS)\n\n    /** Returns a [Duration]
representing the specified [value] number of seconds. */\n    @SinceKotlin(`1.5`)\n    @ExperimentalTime\n    @Deprecated(`Use 'Long.seconds' extension property from Duration.Companion instead.`\n,
ReplaceWith(`value.seconds`\n, `kotlin.time.Duration.Companion.seconds`))\n    @DeprecatedSinceKotlin(warningSince = `1.6`)\n    public fun seconds(value: Long): Duration =
value.toDuration(DurationUnit.SECONDS)\n\n    /**\n    * Returns a [Duration] representing the specified
[value] number of seconds.\n    * */\n    * @throws IllegalArgumentException if the provided `Double` [value] is
`NaN`.\n    */\n    @SinceKotlin(`1.5`)\n    @ExperimentalTime\n    @Deprecated(`Use
'Double.seconds' extension property from Duration.Companion instead.`\n, ReplaceWith(`value.seconds`\n,
`kotlin.time.Duration.Companion.seconds`))\n    @DeprecatedSinceKotlin(warningSince = `1.6`)\n    public

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fun seconds(value: Double): Duration = value.toDuration(DurationUnit.SECONDS)\n\n    /** Returns a
[Duration] representing the specified [value] number of minutes. *\n    @SinceKotlin("\1.5")\n
@ExperimentalTime\n    @Deprecated("Use 'Int.minutes' extension property
from Duration.Companion instead.", ReplaceWith("value.minutes",
"\kotlin.time.Duration.Companion.minutes"))\n    @DeprecatedSinceKotlin(warningSince = "\1.6")\n    public
fun minutes(value: Int): Duration = value.toDuration(DurationUnit.MINUTES)\n\n    /** Returns a [Duration]
representing the specified [value] number of minutes. *\n    @SinceKotlin("\1.5")\n    @ExperimentalTime\n
    @Deprecated("Use 'Long.minutes' extension property from Duration.Companion instead.",
ReplaceWith("value.minutes", "\kotlin.time.Duration.Companion.minutes"))\n
    @DeprecatedSinceKotlin(warningSince = "\1.6")\n    public fun minutes(value: Long): Duration =
value.toDuration(DurationUnit.MINUTES)\n\n    /**\n    * Returns a [Duration] representing the specified
[value] number of minutes.\n    *\n    * @throws IllegalArgumentException if the provided `Double` [value] is
`NaN`.\n    *\n    @SinceKotlin("\1.5")\n    @ExperimentalTime\n
    @Deprecated("Use 'Double.minutes' extension property from Duration.Companion instead.",
ReplaceWith("value.minutes", "\kotlin.time.Duration.Companion.minutes"))\n
    @DeprecatedSinceKotlin(warningSince = "\1.6")\n    public fun minutes(value: Double): Duration =
value.toDuration(DurationUnit.MINUTES)\n\n\n    /** Returns a [Duration] representing the specified [value]
number of hours. *\n    @SinceKotlin("\1.5")\n    @ExperimentalTime\n    @Deprecated("Use 'Int.hours'
extension property from Duration.Companion instead.", ReplaceWith("value.hours",
"\kotlin.time.Duration.Companion.hours"))\n    @DeprecatedSinceKotlin(warningSince = "\1.6")\n    public
fun hours(value: Int): Duration = value.toDuration(DurationUnit.HOURS)\n\n    /** Returns a [Duration]
representing the specified [value] number of hours. *\n    @SinceKotlin("\1.5")\n    @ExperimentalTime\n
    @Deprecated("Use 'Long.hours' extension property from
Duration.Companion instead.", ReplaceWith("value.hours", "\kotlin.time.Duration.Companion.hours"))\n
    @DeprecatedSinceKotlin(warningSince = "\1.6")\n    public fun hours(value: Long): Duration =
value.toDuration(DurationUnit.HOURS)\n\n    /**\n    * Returns a [Duration] representing the specified
[value] number of hours.\n    *\n    * @throws IllegalArgumentException if the provided `Double` [value] is
`NaN`.\n    *\n    @SinceKotlin("\1.5")\n    @ExperimentalTime\n    @Deprecated("Use 'Double.hours'
extension property from Duration.Companion instead.", ReplaceWith("value.hours",
"\kotlin.time.Duration.Companion.hours"))\n    @DeprecatedSinceKotlin(warningSince = "\1.6")\n    public
fun hours(value: Double): Duration = value.toDuration(DurationUnit.HOURS)\n\n\n    /** Returns a [Duration]
representing the specified [value] number of days. *\n    @SinceKotlin("\1.5")\n    @ExperimentalTime\n
    @Deprecated("Use
'Int.days' extension property from Duration.Companion instead.", ReplaceWith("value.days",
"\kotlin.time.Duration.Companion.days"))\n    @DeprecatedSinceKotlin(warningSince = "\1.6")\n    public
fun days(value: Int): Duration = value.toDuration(DurationUnit.DAYS)\n\n    /** Returns a [Duration]
representing the specified [value] number of days. *\n    @SinceKotlin("\1.5")\n    @ExperimentalTime\n
    @Deprecated("Use 'Long.days' extension property from Duration.Companion instead.",
ReplaceWith("value.days", "\kotlin.time.Duration.Companion.days"))\n
    @DeprecatedSinceKotlin(warningSince = "\1.6")\n    public fun days(value: Long): Duration =
value.toDuration(DurationUnit.DAYS)\n\n    /**\n    * Returns a [Duration] representing the specified [value]
number of days.\n    *\n    * @throws IllegalArgumentException if the provided `Double` [value] is `NaN`.\n
    *\n    @SinceKotlin("\1.5")\n    @ExperimentalTime\n
    @Deprecated("Use 'Double.days' extension property from Duration.Companion instead.",
ReplaceWith("value.days", "\kotlin.time.Duration.Companion.days"))\n
    @DeprecatedSinceKotlin(warningSince = "\1.6")\n    public fun days(value: Double): Duration =
value.toDuration(DurationUnit.DAYS)\n\n\n    /** Parses a string that represents a duration and returns the
parsed [Duration] value.\n    *\n    * The following formats are accepted:\n    *\n    * - ISO-8601

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Duration format, e.g. `P1DT2H3M4.058S`, see [toIsoString] and [parseIsoString].
    * - The format of string returned by the default [Duration.toString] and `toString` in a specific unit,
    * e.g. `10s`, `1h 30m` or `-(1h 30m)`.
    * @throws IllegalArgumentException if the string doesn't represent a duration in any of the supported formats.
    * @sample samples.time.Durations.parse
    */
    public fun parse(value: String): Duration = try {
        parseDuration(value, strictIso = false)
    } catch (e: IllegalArgumentException) {
        throw IllegalArgumentException("Invalid duration string format: '$value'.", e)
    }
    /**
     * Parses a string that represents a duration in ISO-8601 format and returns the parsed [Duration] value.
     * @throws IllegalArgumentException if the string doesn't represent a duration in ISO-8601 format.
     * @sample samples.time.Durations.parseIsoString
     */
    public fun parseIsoString(value: String): Duration = try {
        parseDuration(value, strictIso = true)
    } catch (e: IllegalArgumentException) {
        throw IllegalArgumentException("Invalid ISO duration string format: '$value'.", e)
    }
    /**
     * Parses a string that represents a duration and returns the parsed [Duration] value,
     * or `null` if the string doesn't represent a duration in any of the supported formats.
     * The following formats are accepted:
     * - ISO-8601 Duration format, e.g. `P1DT2H3M4.058S`, see [toIsoString] and [parseIsoString].
     * - The format of string returned by the default [Duration.toString] and `toString` in a specific unit,
     * e.g. `10s`, `1h 30m` or `-(1h 30m)`.
     * @sample samples.time.Durations.parseOrNull
     */
    public fun parseOrNull(value: String): Duration? = try {
        parseDuration(value, strictIso = false)
    } catch (e: IllegalArgumentException) {
        null
    }
    /**
     * Parses a string that represents a duration in ISO-8601 format and returns the parsed [Duration] value,
     * or `null` if the string doesn't represent a duration in ISO-8601 format.
     * @sample samples.time.Durations.parseIsoStringOrNull
     */
    public fun parseIsoStringOrNull(value: String): Duration? = try {
        parseDuration(value, strictIso = true)
    } catch (e: IllegalArgumentException) {
        null
    }
    /**
     * Returns the negative of this value.
     */
    public operator fun unaryMinus(): Duration = durationOf(-value, unitDiscriminator)
    /**
     * Returns a duration whose value is the sum of this and [other] duration values.
     * @throws IllegalArgumentException if the operation results in an undefined value for the given arguments,
     * e.g. when adding infinite durations of different sign.
     */
    public operator fun plus(other: Duration): Duration {
        when {
            this.isInfinite() -> if (other.isFinite() || (this.rawValue xor other.rawValue >= 0))
                return this
            else
                throw IllegalArgumentException("Summing infinite durations of different signs yields an undefined result.")
        }
        other.isInfinite() -> return other
        return when {
            this.unitDiscriminator == other.unitDiscriminator -> {
                val result = this.value + other.value // never overflows long, but can overflow long63
                when {
                    isInNanos() -> durationOfNanosNormalized(result)
                    else -> durationOfMillisNormalized(result)
                }
            }
            this.isInMillis() -> addValuesMixedRanges(this.value, other.value)
            else -> addValuesMixedRanges(other.value, this.value)
        }
    }
    private fun addValuesMixedRanges(thisMillis: Long, otherNanos: Long): Duration {
        val otherMillis = nanosToMillis(otherNanos)
        val resultMillis = thisMillis + otherMillis
        return if (resultMillis in -MAX_NANOS_IN_MILLIS..MAX_NANOS_IN_MILLIS) {
            val otherNanoRemainder = otherNanos - millisToNanos(otherMillis)
            durationOfNanos(millisToNanos(resultMillis) + otherNanoRemainder)
        } else {
            durationOfMillis(resultMillis.coerceIn(-MAX_MILLIS, MAX_MILLIS))
        }
    }
    /**
     * Returns a duration whose value is the difference between this and [other] duration values.
     * @throws IllegalArgumentException if the operation results in an undefined value for the given arguments,
     * e.g. when subtracting infinite durations of the same sign.
     */
    public operator fun minus(other: Duration): Duration = this + (-other)
    /**
     * Returns a duration whose value is this duration value multiplied by the given [scale] number.
     * @throws IllegalArgumentException if the operation results in an undefined value for the given arguments,
     * e.g. when multiplying an infinite duration by

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zero.\n  */\n  public operator fun times(scale: Int): Duration {\n    if (isInfinite())\n    {\n      return when {\n        scale == 0 -> throw IllegalArgumentException("Multiplying infinite duration\n        by zero yields an undefined result.")\n        scale > 0 -> this\n        else -> -this\n      }\n    }\n    if\n    (scale == 0) return ZERO\n    val value = value\n    val result = value * scale\n    return if (isInNanos()) {\n      if (value in (MAX_NANOS / Int.MIN_VALUE)..(-MAX_NANOS / Int.MIN_VALUE)) {\n        // can't\n        overflow nanos range for any scale\n        durationOfNanos(result)\n      } else {\n        if (result / scale\n        == value) {\n          durationOfNanosNormalized(result)\n        } else {\n          val millis =\n          nanosToMillis(value)\n          val remNanos = value - millisToNanos(millis)\n          val resultMillis =\n          millis * scale\n          val totalMillis = resultMillis + nanosToMillis(remNanos * scale)\n          if (resultMillis / scale == millis && totalMillis xor resultMillis >= 0) {\n            durationOfMillis(totalMillis.coerceIn(-MAX_MILLIS..MAX_MILLIS))\n          } else {\n            if\n            (value.sign * scale.sign > 0) INFINITE else NEG_INFINITE\n          }\n        }\n      } else\n      {\n        if (result / scale == value) {\n          durationOfMillis(result.coerceIn(-\n          MAX_MILLIS..MAX_MILLIS))\n        } else {\n          if (value.sign * scale.sign > 0) INFINITE else\n          NEG_INFINITE\n        }\n      }\n    }\n    /**\n     * Returns a duration whose value is this duration value\n     multiplied by the given [scale] number.\n     *\n     * The operation may involve rounding when the result cannot be\n     represented exactly with a [Double] number.\n     *\n     * @throws IllegalArgumentException if the operation\n     results in an undefined value for the given arguments,\n     * e.g. when\n     multiplying an infinite duration by zero.\n     */\n    public operator fun times(scale: Double): Duration {\n      val\n      intScale = scale.roundToInt()\n      if (intScale.toDouble() == scale) {\n        return times(intScale)\n      }\n      val\n      unit = storageUnit\n      val result = toDouble(unit) * scale\n      return result.toDuration(unit)\n    }\n    /**\n     * Returns a duration whose value is this duration value divided by the given [scale] number.\n     *\n     * @throws IllegalArgumentException if the operation results in an undefined value for the given arguments,\n     * e.g. when dividing zero duration by zero.\n     */\n    public operator fun div(scale: Int): Duration {\n      if (scale ==\n      0) {\n        return when {\n          isPositive() -> INFINITE\n          isNegative() -> NEG_INFINITE\n          else -> throw IllegalArgumentException("Dividing zero duration by zero yields an undefined result.")\n        }\n      }\n      if (isInNanos()) {\n        return durationOfNanos(value / scale)\n      } else {\n        if (isInfinite())\n        return this * scale.sign\n        val result = value / scale\n        if (result in -\n        MAX_NANOS_IN_MILLIS..MAX_NANOS_IN_MILLIS) {\n          val rem = millisToNanos(value - (result * scale)) / scale\n          return durationOfNanos(millisToNanos(result) + rem)\n        }\n        return\n        durationOfMillis(result)\n      }\n    }\n    /**\n     * Returns a duration whose value is this duration value divided\n     by the given [scale] number.\n     *\n     * @throws IllegalArgumentException if the operation results in an\n     undefined value for the given arguments,\n     * e.g. when dividing an infinite duration by infinity or zero duration\n     by zero.\n     */\n    public operator fun div(scale: Double): Duration {\n      val intScale = scale.roundToInt()\n      if (intScale.toDouble() == scale && intScale != 0) {\n        return div(intScale)\n      }\n      val unit = storageUnit\n      val result = toDouble(unit) / scale\n      return result.toDuration(unit)\n    }\n    /** Returns a number that is the ratio of this and [other] duration values.\n     */\n    */\n    public operator fun div(other: Duration): Double {\n      val coarserUnit = maxOf(this.storageUnit,\n      other.storageUnit)\n      return this.toDouble(coarserUnit) / other.toDouble(coarserUnit)\n    }\n    /** Returns\n     true, if the duration value is less than zero.\n     */\n    public fun isNegative(): Boolean = rawValue < 0\n    /** Returns\n     true, if the duration value is greater than zero.\n     */\n    public fun isPositive(): Boolean = rawValue > 0\n    /**\n     Returns true, if the duration value is infinite.\n     */\n    public fun isInfinite(): Boolean = rawValue ==\n    INFINITE.rawValue || rawValue == NEG_INFINITE.rawValue\n    /** Returns true, if the duration value is finite.\n     */\n    public fun isFinite(): Boolean = !isInfinite()\n\n    Returns the absolute value of this value. The returned value is always non-negative.\n    */\n    public val absoluteValue:\n    Duration get() = if (isNegative()) -this else this\n\n    override fun compareTo(other: Duration): Int {\n      val\n      compareBits = this.rawValue xor other.rawValue\n      if (compareBits < 0 || compareBits.toInt() and 1 == 0) //

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different signs or same sign/same range\n      return this.rawValue.compareTo(other.rawValue)\n      // same
sign/different ranges\n      val r = this.unitDiscriminator - other.unitDiscriminator // compare ranges\n      return if
(isNegative()) -r else r\n    }\n\n    // splitting to components\n    /**\n     * Splits this duration into days, hours,
minutes, seconds, and nanoseconds and executes the given [action] with these components.\n     * The result of
[action] is returned as the result of this function.\n     *\n     * - `nanoseconds` represents the whole number of
nanoseconds in this duration, and its absolute value
is less than 1_000_000_000;\n     * - `seconds` represents the whole number of seconds in this duration, and its
absolute value is less than 60;\n     * - `minutes` represents the whole number of minutes in this duration, and its
absolute value is less than 60;\n     * - `hours` represents the whole number of hours in this duration, and its absolute
value is less than 24;\n     * - `days` represents the whole number of days in this duration.\n     *\n     * Infinite
durations are represented as either [Long.MAX_VALUE] days, or [Long.MIN_VALUE] days (depending on the
sign of infinity),\n     * and zeroes in the lower components.\n     */\n    public inline fun <T> toComponents(action:
(days: Long, hours: Int, minutes: Int, seconds: Int, nanoseconds: Int) -> T): T {\n        contract { callsInPlace(action,
InvocationKind.EXACTLY_ONCE) }\n        return action(inWholeDays, hoursComponent, minutesComponent,
secondsComponent, nanosecondsComponent)\n    }\n\n    /**\n     * Splits this
duration into hours, minutes, seconds, and nanoseconds and executes the given [action] with these components.\n     *
The result of [action] is returned as the result of this function.\n     *\n     * - `nanoseconds` represents the whole
number of nanoseconds in this duration, and its absolute value is less than 1_000_000_000;\n     * - `seconds`
represents the whole number of seconds in this duration, and its absolute value is less than 60;\n     * - `minutes`
represents the whole number of minutes in this duration, and its absolute value is less than 60;\n     * - `hours`
represents the whole number of hours in this duration.\n     *\n     * Infinite durations are represented as either
[Long.MAX_VALUE] hours, or [Long.MIN_VALUE] hours (depending on the sign of infinity),\n     * and zeroes
in the lower components.\n     */\n    public inline fun <T> toComponents(action: (hours: Long, minutes: Int,
seconds: Int, nanoseconds: Int) -> T): T {\n        contract { callsInPlace(action,
InvocationKind.EXACTLY_ONCE) }\n        return action(inWholeHours, minutesComponent, secondsComponent,
nanosecondsComponent)\n    }\n\n    /**\n     * Splits this duration into minutes, seconds, and nanoseconds and
executes the given [action] with these components.\n     * The result of [action] is returned as the result of this
function.\n     *\n     * - `nanoseconds` represents the whole number of nanoseconds in this duration, and its absolute
value is less than 1_000_000_000;\n     * - `seconds` represents the whole number of seconds in this duration, and its
absolute value is less than 60;\n     * - `minutes` represents the whole number of minutes in this duration.\n     *\n     *
Infinite durations are represented as either [Long.MAX_VALUE] minutes, or [Long.MIN_VALUE] minutes
(dependent on the sign of infinity),\n     * and zeroes in the lower components.\n     */\n    public inline fun <T>
toComponents(action: (minutes: Long, seconds: Int, nanoseconds: Int) -> T): T {\n        contract { callsInPlace(action,
InvocationKind.EXACTLY_ONCE) }\n        return action(inWholeMinutes,
secondsComponent, nanosecondsComponent)\n    }\n\n    /**\n     * Splits this duration into seconds, and
nanoseconds and executes the given [action] with these components.\n     * The result of [action] is returned as the
result of this function.\n     *\n     * - `nanoseconds` represents the whole number of nanoseconds in this duration,
and its absolute value is less than 1_000_000_000;\n     * - `seconds` represents the whole number of seconds in this
duration.\n     *\n     * Infinite durations are represented as either [Long.MAX_VALUE] seconds, or
[Long.MIN_VALUE] seconds (depending on the sign of infinity),\n     * and zero nanoseconds.\n     */\n    public
inline fun <T> toComponents(action: (seconds: Long, nanoseconds: Int) -> T): T {\n        contract {
callsInPlace(action, InvocationKind.EXACTLY_ONCE) }\n        return action(inWholeSeconds,
nanosecondsComponent)\n    }\n\n    }\n\n    @PublishedApi\n    internal val hoursComponent: Int\n        get() = if (isInfinite()) 0 else (inWholeHours
% 24).toInt()\n\n    @PublishedApi\n    internal val minutesComponent: Int\n        get() = if (isInfinite()) 0 else
(inWholeMinutes % 60).toInt()\n\n    @PublishedApi\n    internal val secondsComponent: Int\n        get() = if
(isInfinite()) 0 else (inWholeSeconds % 60).toInt()\n\n    @PublishedApi\n    internal val nanosecondsComponent:
Int\n        get() = when { \n            isInfinite() -> 0\n            isInMillis() -> millisToNanos(value % 1_000).toInt()\n

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    else -> (value % 1_000_000_000).toInt()\n    }\n\n    // conversion to units\n\n    /**\n     * Returns the value
of this duration expressed as a [Double] number of the specified [unit].\n     *\n     * The operation may involve
rounding when the result cannot be represented exactly with a [Double] number.\n     *\n     * An infinite duration
value is converted either to [Double.POSITIVE_INFINITY]
or [Double.NEGATIVE_INFINITY] depending on its sign.\n     */\n    public fun toDouble(unit: DurationUnit):
Double {\n        return when (rawValue) {\n            INFINITE.rawValue -> Double.POSITIVE_INFINITY\n
NEG_INFINITE.rawValue -> Double.NEGATIVE_INFINITY\n            else -> {\n                // TODO: whether it's
ok to convert to Double before scaling\n                convertDurationUnit(value.toDouble(), storageUnit, unit)\n
}\n            }\n        }\n    }\n\n    /**\n     * Returns the value of this duration expressed as a [Long] number of the specified
[unit].\n     *\n     * If the result doesn't fit in the range of [Long] type, it is coerced into that range:\n     * -
[Long.MIN_VALUE] is returned if it's less than `Long.MIN_VALUE`,\n     * - [Long.MAX_VALUE] is returned if
it's greater than `Long.MAX_VALUE`.\n     *\n     * An infinite duration value is converted either to
[Long.MAX_VALUE] or [Long.MIN_VALUE] depending on its sign.\n     */\n    public fun
toLong(unit: DurationUnit): Long {\n        return when (rawValue) {\n            INFINITE.rawValue ->
Long.MAX_VALUE\n            NEG_INFINITE.rawValue -> Long.MIN_VALUE\n            else ->
convertDurationUnit(value, storageUnit, unit)\n        }\n    }\n\n    /**\n     * Returns the value of this duration
expressed as an [Int] number of the specified [unit].\n     *\n     * If the result doesn't fit in the range of [Int] type, it
is coerced into that range:\n     * - [Int.MIN_VALUE] is returned if it's less than `Int.MIN_VALUE`,\n     * -
[Int.MAX_VALUE] is returned if it's greater than `Int.MAX_VALUE`.\n     *\n     * An infinite duration value is
converted either to [Int.MAX_VALUE] or [Int.MIN_VALUE] depending on its sign.\n     */\n    public fun
toInt(unit: DurationUnit): Int =\n        toLong(unit).coerceIn(Int.MIN_VALUE.toInt(),
Int.MAX_VALUE.toInt()).toInt()\n\n    /** The value of this duration expressed as a [Double] number of days.
*/\n    @ExperimentalTime\n    @Deprecated("Use
inWholeDays property instead or convert toDouble(DAYS) if a double value is required."),
    ReplaceWith("toDouble(DurationUnit.DAYS)")\n    public val inDays: Double get() =
toDouble(DurationUnit.DAYS)\n\n    /** The value of this duration expressed as a [Double] number of hours. */\n
    @ExperimentalTime\n    @Deprecated("Use inWholeHours property instead or convert toDouble(HOURS) if a
double value is required.", ReplaceWith("toDouble(DurationUnit.HOURS)")\n    public val inHours: Double
get() = toDouble(DurationUnit.HOURS)\n\n    /** The value of this duration expressed as a [Double] number of
minutes. */\n    @ExperimentalTime\n    @Deprecated("Use inWholeMinutes property instead or convert
toDouble(MINUTES) if a double value is required.", ReplaceWith("toDouble(DurationUnit.MINUTES)")\n    public
val inMinutes: Double get() = toDouble(DurationUnit.MINUTES)\n\n    /** The value of this duration
expressed as a [Double] number of seconds. */\n    @ExperimentalTime\n
    @Deprecated("Use inWholeSeconds property instead or convert toDouble(SECONDS) if a double value is
required.", ReplaceWith("toDouble(DurationUnit.SECONDS)")\n    public val inSeconds: Double get() =
toDouble(DurationUnit.SECONDS)\n\n    /** The value of this duration expressed as a [Double] number of
milliseconds. */\n    @ExperimentalTime\n    @Deprecated("Use inWholeMilliseconds property instead or convert
toDouble(MILLISECONDS) if a double value is required.",
    ReplaceWith("toDouble(DurationUnit.MILLISECONDS)")\n    public val inMilliseconds: Double get() =
toDouble(DurationUnit.MILLISECONDS)\n\n    /** The value of this duration expressed as a [Double] number of
microseconds. */\n    @ExperimentalTime\n    @Deprecated("Use inWholeMicroseconds property instead or
convert toDouble(MICROSECONDS) if a double value is required.",
    ReplaceWith("toDouble(DurationUnit.MICROSECONDS)")\n    public val inMicroseconds: Double get() =
toDouble(DurationUnit.MICROSECONDS)\n\n    /** The value of this duration expressed as a [Double] number of
nanoseconds. */\n    @ExperimentalTime\n
    @Deprecated("Use inWholeNanoseconds property instead or convert toDouble(NANOSECONDS) if a double
value is required.", ReplaceWith("toDouble(DurationUnit.NANOSECONDS)")\n    public val inNanoseconds:
Double get() = toDouble(DurationUnit.NANOSECONDS)\n\n    /**\n     * The value of this duration expressed as

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a [Long] number of days.\n    *\n    * An infinite duration value is converted either to [Long.MAX_VALUE] or
[Long.MIN_VALUE] depending on its sign.\n    */\n    public val inWholeDays: Long\n        get() =
toLong(DurationUnit.DAYS)\n\n    /**\n    * The value of this duration expressed as a [Long] number of hours.\n    *\n    * An infinite duration value is converted either to [Long.MAX_VALUE] or [Long.MIN_VALUE] depending
on its sign.\n    */\n    public val inWholeHours: Long\n        get() = toLong(DurationUnit.HOURS)\n\n    /**\n    *
The value of this
duration expressed as a [Long] number of minutes.\n    *\n    * An infinite duration value is converted either to
[Long.MAX_VALUE] or [Long.MIN_VALUE] depending on its sign.\n    */\n    public val inWholeMinutes:
Long\n        get() = toLong(DurationUnit.MINUTES)\n\n    /**\n    * The value of this duration expressed as a
[Long] number of seconds.\n    *\n    * An infinite duration value is converted either to [Long.MAX_VALUE] or
[Long.MIN_VALUE] depending on its sign.\n    */\n    public val inWholeSeconds: Long\n        get() =
toLong(DurationUnit.SECONDS)\n\n    /**\n    * The value of this duration expressed as a [Long] number of
milliseconds.\n    *\n    * An infinite duration value is converted either to [Long.MAX_VALUE] or
[Long.MIN_VALUE] depending on its sign.\n    */\n    public val inWholeMilliseconds: Long\n        get() {\n
return if (isInMillis() && isFinite()) value else toLong(DurationUnit.MILLISECONDS)\n        }\n\n    /**\n    *
The value of this
duration expressed as a [Long] number of microseconds.\n    *\n    * If the result doesn't fit in the range of [Long]
type, it is coerced into that range:\n    * - [Long.MIN_VALUE] is returned if it's less than `Long.MIN_VALUE`,\n
* - [Long.MAX_VALUE] is returned if it's greater than `Long.MAX_VALUE`.\n    *\n    * An infinite duration
value is converted either to [Long.MAX_VALUE] or [Long.MIN_VALUE] depending on its sign.\n    */\n    public
val inWholeMicroseconds: Long\n        get() = toLong(DurationUnit.MICROSECONDS)\n\n    /**\n    * The value
of this duration expressed as a [Long] number of nanoseconds.\n    *\n    * If the result doesn't fit in the range of
[Long] type, it is coerced into that range:\n    * - [Long.MIN_VALUE] is returned if it's less than
`Long.MIN_VALUE`,\n    * - [Long.MAX_VALUE] is returned if it's greater than `Long.MAX_VALUE`.\n    *\n    *
An infinite duration value is converted either to [Long.MAX_VALUE] or [Long.MIN_VALUE] depending
on its sign.\n    */\n    public val inWholeNanoseconds: Long\n        get() {\n            val value = value\n
return when {\n                isInNanos() -> value\n                value > Long.MAX_VALUE / NANOS_IN_MILLIS ->
Long.MAX_VALUE\n                value < Long.MIN_VALUE / NANOS_IN_MILLIS -> Long.MIN_VALUE\n                else ->
millisToNanos(value)\n            }\n        }\n\n    // shortcuts\n\n    /**\n    * Returns the value of this
duration expressed as a [Long] number of nanoseconds.\n    *\n    * If the value doesn't fit in the range of [Long]
type, it is coerced into that range, see the conversion [Double.toLong] for details.\n    *\n    * The range of
durations that can be expressed as a `Long` number of nanoseconds is approximately \u00b1292 years.\n    */\n
@ExperimentalTime\n    @Deprecated("Use inWholeNanoseconds property instead.")\n    ReplaceWith("this.inWholeNanoseconds")\n    public fun toLongNanoseconds(): Long =
inWholeNanoseconds\n\n    /**\n    * Returns the value of this duration expressed as a [Long] number of milliseconds.\n    *\n    * The value
is coerced to the range of [Long] type, if it doesn't fit in that range, see the conversion [Double.toLong] for details.\n
*\n    * The range of durations that can be expressed as a `Long` number of milliseconds is approximately
\u00b11292 million years.\n    */\n    @ExperimentalTime\n    @Deprecated("Use inWholeMilliseconds property
instead.", ReplaceWith("this.inWholeMilliseconds"))\n    public fun toLongMilliseconds(): Long =
inWholeMilliseconds\n\n    /**\n    * Returns a string representation of this duration value\n    * expressed as a
combination of numeric components, each in its own unit.\n    *\n    * Each component is a number followed by the
unit abbreviated name: `d`, `h`, `m`, `s`:\n    * `5h`, `1d 12h`, `1h 0m 30.340s`.\n    * The last component, usually
seconds, can be a number with a fractional part.\n    *\n    * If the duration
is less than a second, it is represented as a single number\n    * with one of sub-second units: `ms` (milliseconds),
`us` (microseconds), or `ns` (nanoseconds):\n    * `140.884ms`, `500us`, `24ns`.\n    *\n    * A negative duration is
prefixed with `-` sign and, if it consists of multiple components, surrounded with parentheses:\n    * `-12m` and
`-(1h 30m)`.\n    *\n    * Special cases:\n    * - an infinite duration is formatted as `"Infinity"` or `"-Infinity"`

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without a unit.\n * It's recommended to use [toISOString] that uses more strict ISO-8601 format instead of
this `toString`\n * when you want to convert a duration to a string in cases of serialization, interchange, etc.\n
*\n * @sample samples.time.Durations.toStringDefault\n *^\n override fun toString(): String = when
(rawValue) {\n 0L -> \"0s\"\n INFINITE.rawValue -> \"Infinity\"\n NEG_INFINITE.rawValue -> \"-
Infinity\"\n else -> {\n val isNegative
= isNegative()\n buildString {\n if (isNegative) append('-')\n absoluteValue.toComponents
{ days, hours, minutes, seconds, nanoseconds ->\n val hasDays = days != 0L\n val hasHours
= hours != 0\n val hasMinutes = minutes != 0\n val hasSeconds = seconds != 0 ||
nanoseconds != 0\n var components = 0\n if (hasDays) {\n
append(days).append('d')\n components++\n }\n if (hasHours || (hasDays &&
(hasMinutes || hasSeconds))) {\n if (components++ > 0) append(' ')\n
append(hours).append('h')\n }\n if (hasMinutes || (hasSeconds && (hasHours || hasDays)))
{\n if (components++ > 0) append(' ')\n append(minutes).append('m')\n
}\n if (hasSeconds) {\n if (components++ > 0) append(' ')\n when
{\n seconds != 0 || hasDays || hasHours || hasMinutes ->\n
appendFractional(seconds, nanoseconds, 9, \"s\", isoZeroes = false)\n nanoseconds >= 1_000_000 -
->\n appendFractional(nanoseconds / 1_000_000, nanoseconds % 1_000_000, 6, \"ms\",
isoZeroes = false)\n nanoseconds >= 1_000 ->\n appendFractional(nanoseconds
/ 1_000, nanoseconds % 1_000, 3, \"us\", isoZeroes = false)\n else ->\n
append(nanoseconds).append(\"ns\")\n }\n }\n if (isNegative && components
> 1) insert(1, '.')\n }\n }\n }\n }\n private fun
StringBuilder.appendFractional(whole:
Int, fractional: Int, fractionalSize: Int, unit: String, isoZeroes: Boolean) {\n append(whole)\n if (fractional
!= 0) {\n append('.')\n val fracString = fractional.toString().padStart(fractionalSize, '0')\n val
nonZeroDigits = fracString.indexOfLast { it != '0' } + 1\n when {\n !isoZeroes && nonZeroDigits <
3 -> appendRange(fracString, 0, nonZeroDigits)\n else -> appendRange(fracString, 0, ((nonZeroDigits + 2)
/ 3) * 3)\n }\n }\n append(unit)\n }\n\n /**\n * Returns a string representation of this duration
value expressed in the given [unit]\n * and formatted with the specified [decimals] number of digits after decimal
point.\n *\n * Special cases:\n * - an infinite duration is formatted as `\"Infinity\"` or `\"-Infinity\"` without a
unit.\n *\n * @param decimals the number of digits after decimal point
to show. The value must be non-negative.\n * No more than 12 decimals will be shown, even if a larger number
is requested.\n *\n * @return the value of duration in the specified [unit] followed by that unit abbreviated
name: `d`, `h`, `m`, `s`, `ms`, `us`, or `ns`.\n *\n * @throws IllegalArgumentException if [decimals] is less than
zero.\n *\n * @sample samples.time.Durations.toStringDecimals\n *^\n public fun toString(unit:
DurationUnit, decimals: Int = 0): String {\n require(decimals >= 0) { \"decimals must be not negative, but was
$decimals\" }\n val number = toDouble(unit)\n if (number.isInfinite()) return number.toString()\n
return formatToExactDecimals(number, decimals.coerceAtMost(12)) + unit.shortName()\n }\n\n /**\n *
Returns an ISO-8601 based string representation of this duration.\n *\n * The returned value is presented in the
format `PTm>s.fS`, where `h`, `m`, `s` are the integer components
of this duration (see [toComponents])\n * and `f` is a fractional part of second. Depending on the roundness of
the value the fractional part can be formatted with either\n * 0, 3, 6, or 9 decimal digits.\n *\n * The infinite
duration is represented as `\"PT999999999999H\"` which is larger than any possible finite duration in Kotlin.\n
*\n * Negative durations are indicated with the sign `-` in the beginning of the returned string, for example, `\"-
PT5M30S\"`.\n *\n * @sample samples.time.Durations.toIsoString\n *^\n public fun toIsoString(): String =
buildString {\n if (isNegative()) append('-')\n append(\"PT\")\n
this@Duration.absoluteValue.toComponents { hours, minutes, seconds, nanoseconds ->\n
@Suppress(\"NAME_SHADOWING\")\n var hours = hours\n if (isInfinite()) {\n // use large
enough value instead of Long.MAX_VALUE\n hours = 9_999_999_999_999\n

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this [Double] number of microseconds.\n *\n * @throws IllegalArgumentException if this [Double] value is
`NaN`.\n *\n @SinceKotlin("1.3")\n @ExperimentalTime\n @Deprecated("Use 'Double.microseconds' extension
property from Duration.Companion
instead.", ReplaceWith("this.microseconds"),
"\kotlin.time.Duration.Companion.microseconds"))\n @DeprecatedSinceKotlin(warningSince = "1.5")\n public val
Double.microseconds get() = toDuration(DurationUnit.MICROSECONDS)\n\n/** Returns a [Duration] equal to
this [Int] number of milliseconds. *\n @SinceKotlin("1.3")\n @ExperimentalTime\n @Deprecated("Use
'Int.milliseconds' extension property from Duration.Companion instead.", ReplaceWith("this.milliseconds"),
"\kotlin.time.Duration.Companion.milliseconds"))\n @DeprecatedSinceKotlin(warningSince = "1.5")\n public val
Int.milliseconds get() = toDuration(DurationUnit.MILLISECONDS)\n\n/** Returns a [Duration] equal to this
[Long] number of milliseconds. *\n @SinceKotlin("1.3")\n @ExperimentalTime\n @Deprecated("Use
'Long.milliseconds' extension property from Duration.Companion instead.", ReplaceWith("this.milliseconds"),
"\kotlin.time.Duration.Companion.milliseconds"))\n @DeprecatedSinceKotlin(warningSince = "1.5")\n public
val Long.milliseconds get() = toDuration(DurationUnit.MILLISECONDS)\n\n/** Returns a [Duration] equal to
this [Double] number of milliseconds.\n *\n * @throws IllegalArgumentException if this [Double] value is `NaN`.\n
*\n @SinceKotlin("1.3")\n @ExperimentalTime\n @Deprecated("Use 'Double.milliseconds' extension property
from Duration.Companion instead.", ReplaceWith("this.milliseconds"),
"\kotlin.time.Duration.Companion.milliseconds"))\n @DeprecatedSinceKotlin(warningSince = "1.5")\n public val
Double.milliseconds get() = toDuration(DurationUnit.MILLISECONDS)\n\n/** Returns a [Duration] equal to this
[Int] number of seconds. *\n @SinceKotlin("1.3")\n @ExperimentalTime\n @Deprecated("Use 'Int.seconds'
extension property from Duration.Companion instead.", ReplaceWith("this.seconds"),
"\kotlin.time.Duration.Companion.seconds"))\n @DeprecatedSinceKotlin(warningSince = "1.5")\n public val
Int.seconds get() = toDuration(DurationUnit.SECONDS)\n\n/** Returns a [Duration] equal
to this [Long] number of seconds. *\n @SinceKotlin("1.3")\n @ExperimentalTime\n @Deprecated("Use
'Long.seconds' extension property from Duration.Companion instead.", ReplaceWith("this.seconds"),
"\kotlin.time.Duration.Companion.seconds"))\n @DeprecatedSinceKotlin(warningSince = "1.5")\n public val
Long.seconds get() = toDuration(DurationUnit.SECONDS)\n\n/** Returns a [Duration] equal to this [Double]
number of seconds.\n *\n * @throws IllegalArgumentException if this [Double] value is `NaN`.\n
*\n @SinceKotlin("1.3")\n @ExperimentalTime\n @Deprecated("Use 'Double.seconds' extension property from
Duration.Companion instead.", ReplaceWith("this.seconds"),
"\kotlin.time.Duration.Companion.seconds"))\n @DeprecatedSinceKotlin(warningSince = "1.5")\n public val
Double.seconds get() = toDuration(DurationUnit.SECONDS)\n\n/** Returns a [Duration] equal to this [Int]
number of minutes. *\n @SinceKotlin("1.3")\n @ExperimentalTime\n @Deprecated("Use 'Int.minutes' extension
property
from Duration.Companion instead.", ReplaceWith("this.minutes"),
"\kotlin.time.Duration.Companion.minutes"))\n @DeprecatedSinceKotlin(warningSince = "1.5")\n public val
Int.minutes get() = toDuration(DurationUnit.MINUTES)\n\n/** Returns a [Duration] equal to this [Long] number of
minutes. *\n @SinceKotlin("1.3")\n @ExperimentalTime\n @Deprecated("Use 'Long.minutes' extension property
from Duration.Companion instead.", ReplaceWith("this.minutes"),
"\kotlin.time.Duration.Companion.minutes"))\n @DeprecatedSinceKotlin(warningSince = "1.5")\n public val
Long.minutes get() = toDuration(DurationUnit.MINUTES)\n\n/** Returns a [Duration] equal to this [Double]
number of minutes.\n *\n * @throws IllegalArgumentException if this [Double] value is `NaN`.\n
*\n @SinceKotlin("1.3")\n @ExperimentalTime\n @Deprecated("Use 'Double.minutes' extension property from
Duration.Companion instead.", ReplaceWith("this.minutes"),
"\kotlin.time.Duration.Companion.minutes"))\n @DeprecatedSinceKotlin(warningSince
= "1.5")\n public val Double.minutes get() = toDuration(DurationUnit.MINUTES)\n\n/** Returns a [Duration]
equal to this [Int] number of hours. *\n @SinceKotlin("1.3")\n @ExperimentalTime\n @Deprecated("Use
'Int.hours' extension property from Duration.Companion instead.", ReplaceWith("this.hours"),

```

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\"kotlin.time.Duration.Companion.hours\")\n@DeprecatedSinceKotlin(warningSince = \"1.5\")\npublic val
Int.hours get() = toDuration(DurationUnit.HOURS)\n\n/** Returns a [Duration] equal to this [Long] number of
hours. *\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\n@Deprecated(\"Use 'Long.hours' extension property from
Duration.Companion instead.\", ReplaceWith(\"this.hours\"),
\"kotlin.time.Duration.Companion.hours\")\n@DeprecatedSinceKotlin(warningSince = \"1.5\")\npublic val
Long.hours get() = toDuration(DurationUnit.HOURS)\n\n/** Returns a [Duration] equal to this [Double]
number of hours.\n *\n * @throws IllegalArgumentException if this [Double] value is `NaN`.\n
*\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\n@Deprecated(\"Use
'Double.hours' extension property from Duration.Companion instead.\", ReplaceWith(\"this.hours\"),
\"kotlin.time.Duration.Companion.hours\")\n@DeprecatedSinceKotlin(warningSince = \"1.5\")\npublic val
Double.hours get() = toDuration(DurationUnit.HOURS)\n\n/** Returns a [Duration] equal to this [Int] number of
days. *\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\n@Deprecated(\"Use 'Int.days' extension property from
Duration.Companion instead.\", ReplaceWith(\"this.days\"),
\"kotlin.time.Duration.Companion.days\")\n@DeprecatedSinceKotlin(warningSince = \"1.5\")\npublic val Int.days
get() = toDuration(DurationUnit.DAYS)\n\n/** Returns a [Duration] equal to this [Long] number of days.
*\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\n@Deprecated(\"Use 'Long.days' extension property from
Duration.Companion instead.\", ReplaceWith(\"this.days\"),
\"kotlin.time.Duration.Companion.days\")\n@DeprecatedSinceKotlin(warningSince = \"1.5\")\npublic
val Long.days get() = toDuration(DurationUnit.DAYS)\n\n/** Returns a [Duration] equal to this [Double]
number of days.\n *\n * @throws IllegalArgumentException if this [Double] value is `NaN`.\n
*\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\n@Deprecated(\"Use 'Double.days' extension property from
Duration.Companion instead.\", ReplaceWith(\"this.days\"),
\"kotlin.time.Duration.Companion.days\")\n@DeprecatedSinceKotlin(warningSince = \"1.5\")\npublic val
Double.days get() = toDuration(DurationUnit.DAYS)\n\n/** Returns a duration whose value is the specified
[duration] value multiplied by this number.
*\n@SinceKotlin(\"1.6\")\n@WasExperimental(ExperimentalTime::class)\n@kotlin.internal.InlineOnly\npublic
inline operator fun Int.times(duration: Duration): Duration = duration * this\n\n/** Returns a duration whose
value is the specified [duration] value multiplied by this number.\n *\n * The operation may involve rounding when
the result cannot be represented exactly with
a [Double] number.\n *\n * @throws IllegalArgumentException if the operation results in a `NaN` value.\n
*\n@SinceKotlin(\"1.6\")\n@WasExperimental(ExperimentalTime::class)\n@kotlin.internal.InlineOnly\npublic
inline operator fun Double.times(duration: Duration): Duration = duration * this\n\n\nprivate fun
parseDuration(value: String, strictIso: Boolean): Duration {\n    var length = value.length\n    if (length == 0) throw
IllegalArgumentException(\"The string is empty\")\n    var index = 0\n    var result = Duration.ZERO\n    val
infinityString = \"Infinity\"\n    when (value[index]) {\n        '+', '-' -> index++\n    }\n    val hasSign = index > 0\n    val
isNegative = hasSign && value.startsWith('-')\n    when {\n        length <= index ->\n            throw
IllegalArgumentException(\"No components\")\n        value[index] == 'P' -> {\n            if (++index == length) throw
IllegalArgumentException()\n            val nonDigitSymbols = \"+-.\", var isTimeComponent
= false\n            var prevUnit: DurationUnit? = null\n            while (index < length) {\n                if (value[index] ==
'T') {\n                    if (isTimeComponent || ++index == length) throw IllegalArgumentException()\n                    isTimeComponent = true\n                    continue\n                }\n                val component =
value.substringWhile(index) { it in '0'..'9' || it in nonDigitSymbols }\n                if (component.isEmpty()) throw
IllegalArgumentException()\n                index += component.length\n                val unitChar =
value.getOrElse(index) { throw IllegalArgumentException(\"Missing unit for value $component\") }\n                index++\n                val unit = durationUnitByIsoChar(unitChar, isTimeComponent)\n                if (prevUnit != null
&& prevUnit <= unit) throw IllegalArgumentException(\"Unexpected order of duration components\")\n                prevUnit = unit\n                val dotIndex = component.indexOf('.')\n

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        if (unit == DurationUnit.SECONDS && dotIndex > 0) {\n            val whole =
component.substring(0, dotIndex)\n            result += parseOverLongIsoComponent(whole).toDuration(unit)\n
        result += component.substring(dotIndex).toDouble().toDuration(unit)\n        } else {\n
result += parseOverLongIsoComponent(component).toDuration(unit)\n        }\n    }\n    strictIso
->\n        throw IllegalArgumentException()\n        value.regionMatches(index, infinityString, 0, length =
maxOf(length - index, infinityString.length), ignoreCase = true) -> {\n            result = Duration.INFINITE\n        }\n
        else -> {\n            // parse default string format\n            var prevUnit: DurationUnit? = null\n            var
afterFirst = false\n            var allowSpaces = !hasSign\n            if (hasSign && value[index] == '(' && value.last()
== ')') {\n                allowSpaces
= true\n                if (++index == --length) throw IllegalArgumentException("No components")\n            }\n
while (index < length) {\n                if (afterFirst && allowSpaces) {\n                    index = value.skipWhile(index) {\n
it == ' ' }\n                }\n                afterFirst = true\n                val component = value.substringWhile(index) {\n
it in '0'..'9' || it == '.' }\n                if (component.isEmpty()) throw IllegalArgumentException()\n                index +=
component.length\n                val unitName = value.substringWhile(index) {\n
it in 'a'..'z' }\n                index +=
unitName.length\n                val unit = durationUnitByShortName(unitName)\n                if (prevUnit != null &&
prevUnit <= unit) throw IllegalArgumentException("Unexpected order of duration components")\n
prevUnit = unit\n                val dotIndex = component.indexOf('.')\n                if (dotIndex > 0) {\n
                    val whole = component.substring(0, dotIndex)\n                    result += whole.toLong().toDuration(unit)\n
                    result += component.substring(dotIndex).toDouble().toDuration(unit)\n                    if (index < length) throw
IllegalArgumentException("Fractional component must be last")\n                } else {\n                    result +=
component.toLong().toDuration(unit)\n                }\n            }\n        }\n        return if (isNegative) -result else
result\n    }\n\nprivate fun parseOverLongIsoComponent(value: String): Long {\n    val length = value.length\n    var
startIndex = 0\n    if (length > 0 && value[0] in "+-") startIndex++\n    if ((length - startIndex) > 16 &&
(startIndex..value.lastIndex).all { value[it] in '0'..'9' }) {\n        // all chars are digits, but more than
ceiling(log10(MAX_MILLIS / 1000)) of them\n        return if (value[0] == '-') Long.MIN_VALUE else
Long.MAX_VALUE\n    }\n    // TODO: replace with just toLong after
min JDK becomes 8\n    return if (value.startsWith("+")) value.drop(1).toLong() else
value.toLong()\n}\n\nprivate inline fun String.substringWhile(startIndex: Int, predicate: (Char) -> Boolean):
String =\n    substring(startIndex, skipWhile(startIndex, predicate))\n\nprivate inline fun
String.skipWhile(startIndex: Int, predicate: (Char) -> Boolean): Int {\n    var i = startIndex\n    while (i < length &&
predicate(this[i])) i++\n    return i\n}\n\n// The ranges are chosen so that they are:\n// - symmetric relative to
zero: this greatly simplifies operations with sign, e.g. unaryMinus and minus.\n// - non-overlapping, but adjacent:
the first value that doesn't fit in nanos range, can be exactly represented in millis.\n\ninternal const val
NANOS_IN_MILLIS = 1_000_000\n// maximum number duration can store in nanosecond range\n\ninternal const
val MAX_NANOS = Long.MAX_VALUE / 2 / NANOS_IN_MILLIS * NANOS_IN_MILLIS - 1 // ends in
..._999_999\n// maximum number duration can store
in millisecond range, also encodes an infinite value\n\ninternal const val MAX_MILLIS = Long.MAX_VALUE /
2\n// MAX_NANOS expressed in milliseconds\n\nprivate const val MAX_NANOS_IN_MILLIS = MAX_NANOS /
NANOS_IN_MILLIS\n\nprivate fun nanosToMillis(nanos: Long): Long = nanos / NANOS_IN_MILLIS\n\nprivate
fun millisToNanos(millis: Long): Long = millis * NANOS_IN_MILLIS\n\nprivate fun
durationOfNanos(normalNanos: Long) = Duration(normalNanos shl 1)\n\nprivate fun durationOfMillis(normalMillis:
Long) = Duration((normalMillis shl 1) + 1)\n\nprivate fun durationOf(normalValue: Long, unitDiscriminator: Int) =
Duration((normalValue shl 1) + unitDiscriminator)\n\nprivate fun durationOfNanosNormalized(nanos: Long) =\n    if
(nanos in -MAX_NANOS..MAX_NANOS) {\n        durationOfNanos(nanos)\n    } else {\n
        durationOfMillis(nanosToMillis(nanos))\n    }\n\nprivate fun durationOfMillisNormalized(millis: Long) =\n    if
(millis in -MAX_NANOS_IN_MILLIS..MAX_NANOS_IN_MILLIS) {\n
        durationOfNanos(millisToNanos(millis))\n    }\n}

```

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    } else {\n        durationOfMillis(millis.coerceIn(-MAX_MILLIS, MAX_MILLIS))\n    }\n\ninternal expect val
durationAssertionsEnabled: Boolean\n\ninternal expect fun formatToExactDecimals(value: Double, decimals: Int):
String\n\ninternal expect fun formatUpToDecimals(value: Double, decimals: Int): String", "/*\n * Copyright 2010-
2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n@file:kotlin.jvm.JvmName("UnsignedKt")\n\npackage kotlin\n\n\n@PublishedApi\n\ninternal fun uintCompare(v1:
Int, v2: Int): Int = (v1 xor Int.MIN_VALUE).compareTo(v2 xor Int.MIN_VALUE)\n\n@PublishedApi\n\ninternal fun
ulongCompare(v1: Long, v2: Long): Int = (v1 xor Long.MIN_VALUE).compareTo(v2 xor
Long.MIN_VALUE)\n\n\n@PublishedApi\n\ninternal fun uintDivide(v1: UInt, v2: UInt): UInt = (v1.toLong() /
v2.toLong()).toUInt()\n\n@PublishedApi\n\ninternal fun uintRemainder(v1:
UInt, v2: UInt): UInt = (v1.toLong() % v2.toLong()).toUInt()\n\n\n// Division and remainder are based on Guava's
UnsignedLongs implementation\n\n// Copyright 2011 The Guava Authors\n\n\n@PublishedApi\n\ninternal fun
ulongDivide(v1: ULong, v2: ULong): ULong {\n    val dividend = v1.toLong()\n    val divisor = v2.toLong()\n    if
(divisor < 0) { // i.e., divisor >= 2^63:\n        return if (v1 < v2) ULong(0) else ULong(1)\n    }\n\n    // Optimization
- use signed division if both dividend and divisor < 2^63\n    if (dividend >= 0) {\n        return ULong(dividend /
divisor)\n    }\n\n    // Otherwise, approximate the quotient, check, and correct if necessary.\n    val quotient =
((dividend ushr 1) / divisor) shl 1\n    val rem = dividend - quotient * divisor\n    return ULong(quotient + if
(ULong(rem) >= ULong(divisor)) 1 else 0)\n}\n\n\n@PublishedApi\n\ninternal fun ulongRemainder(v1: ULong, v2:
ULong): ULong {\n    val dividend = v1.toLong()\n    val divisor = v2.toLong()\n    if (divisor < 0)
{ // i.e., divisor >= 2^63:\n        return if (v1 < v2) {\n            v1 // dividend < divisor\n        } else {\n
            v1 - v2
// dividend >= divisor\n        }\n    }\n\n    // Optimization - use signed modulus if both dividend and divisor < 2^63\n
if (dividend >= 0) {\n        return ULong(dividend % divisor)\n    }\n\n    // Otherwise, approximate the quotient,
check, and correct if necessary.\n    val quotient = ((dividend ushr 1) / divisor) shl 1\n    val rem = dividend -
quotient * divisor\n    return ULong(rem - if (ULong(rem) >= ULong(divisor)) divisor else
0)\n}\n\n\n@PublishedApi\n\ninternal fun doubleToUInt(v: Double): UInt = when {\n    v.isNaN() -> 0u\n    v <=
UInt.MIN_VALUE.toDouble() -> UInt.MIN_VALUE\n    v >= UInt.MAX_VALUE.toDouble() ->
UInt.MAX_VALUE\n    v <= Int.MAX_VALUE -> v.toInt().toUInt()\n    else -> (v -
Int.MAX_VALUE).toInt().toUInt() + Int.MAX_VALUE.toUInt() // Int.MAX_VALUE < v <
UInt.MAX_VALUE\n}\n\n\n@PublishedApi\n\ninternal fun doubleToULong(v:
Double): ULong = when {\n    v.isNaN() -> 0u\n    v <= ULong.MIN_VALUE.toDouble() ->
ULong.MIN_VALUE\n    v >= ULong.MAX_VALUE.toDouble() -> ULong.MAX_VALUE\n    v <
Long.MAX_VALUE -> v.toLong().toULong()\n\n    // Real values from Long.MAX_VALUE to
(Long.MAX_VALUE + 1) are not representable in Double, so don't handle them.\n    else -> (v -
9223372036854775808.0).toLong().toULong() + 9223372036854775808uL // Long.MAX_VALUE + 1 < v <
ULong.MAX_VALUE\n}\n\n\n\n@PublishedApi\n\ninternal fun uintToDouble(v: Int): Double = (v and
Int.MAX_VALUE).toDouble() + (v ushr 31 shl 30).toDouble() * 2\n\n\n@PublishedApi\n\ninternal fun
ulongToDouble(v: Long): Double = (v ushr 11).toDouble() * 2048 + (v and 2047)\n\n\n\ninternal fun
ulongToString(v: Long): String = ulongToString(v, 10)\n\n\ninternal fun ulongToString(v: Long, base: Int): String {\n
if (v >= 0) return v.toString(base)\n\n    var quotient = ((v ushr 1) / base) shl 1\n    var rem = v - quotient * base\n
if (rem >= base) {\n        rem
-= base\n        quotient += 1\n    }\n    return quotient.toString(base) + rem.toString(base)\n}\n\n\n", "/*\n * Copyright
2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("CollectionsKt")\n\n\npackage
kotlin.collections\n\n\n**\n * Given an [iterator] function constructs an [Iterable] instance that returns values through
the [Iterator]\n * provided by that function.\n * @sample samples.collections.Iterables.Building.iterable\n
*\n@kotlin.internal.InlineOnly\n\npublic inline fun <T> Iterable(crossinline iterator: () -> Iterator<T>): Iterable<T>
= object : Iterable<T> {\n    override fun iterator(): Iterator<T> = iterator()\n}\n\n\n**\n * A wrapper over another

```

[Iterable] (or any other object that can produce an [Iterator]) that returns
* an indexing iterator.
*
internal class
IndexingIterable<out

```
T>(private val iteratorFactory: () -> Iterator<T>) : Iterable<IndexedValue<T>> {  
    override fun iterator():  
    Iterator<IndexedValue<T>> = IndexingIterator(iteratorFactory())  
}  
* Returns the size of this iterable if  
it is known, or `null` otherwise.  
*  
@PublishedApi  
internal fun <T> Iterable<T>.collectionSizeOrNull(): Int? =  
if (this is Collection<*>) this.size else null  
* Returns the size of this iterable if it is known, or the specified  
[default] value otherwise.  
*  
@PublishedApi  
internal fun <T> Iterable<T>.collectionSizeOrDefault(default:  
Int): Int = if (this is Collection<*>) this.size else default  
* Returns a single list of all elements from all  
collections in the given collection.  
*  
@sample samples.collections.Iterables.Operations.flattenIterable  
*  
public  
fun <T> Iterable<Iterable<T>>.flatten(): List<T> {  
    val result = ArrayList<T>()  
    for (element in this) {  
        result.addAll(element)  
    }  
    return  
    result  
}  
* Returns a pair of lists, where  
* first* list is built from the first values of each pair from this  
collection,  
* second* list is built from the second values of each pair from this collection.  
*  
@sample  
samples.collections.Iterables.Operations.unzipIterable  
*  
public fun <T, R> Iterable<Pair<T, R>>.unzip():  
Pair<List<T>, List<R>> {  
    val expectedSize = collectionSizeOrDefault(10)  
    val listT =  
    ArrayList<T>(expectedSize)  
    val listR = ArrayList<R>(expectedSize)  
    for (pair in this) {  
        listT.add(pair.first)  
        listR.add(pair.second)  
    }  
    return listT to listR  
}  
*  
/*  
Copyright 2010-2020  
JetBrains s.r.o. and Kotlin Programming Language contributors.  
Use of this source code is governed by the  
Apache 2.0 license that can be found in the license/LICENSE.txt file.  
*  
@file:kotlin.jvm.JvmMultifileClass  
@file:kotlin.jvm.JvmName("SequencesKt")  
package  
kotlin.sequences  
import kotlin.random.Random  
*  
* Given an [iterator] function constructs a [Sequence] that returns values through the [Iterator]  
* provided by that  
function.  
* The values are evaluated lazily, and the sequence is potentially infinite.  
*  
@sample  
samples.collections.Sequences.Building.sequenceFromIterator  
*  
@kotlin.internal.InlineOnly  
public inline fun  
<T> Sequence(crossinline iterator: () -> Iterator<T>): Sequence<T> = object : Sequence<T> {  
    override fun  
    iterator(): Iterator<T> = iterator()  
}  
* Creates a sequence that returns all elements from this iterator. The  
sequence is constrained to be iterated only once.  
*  
@sample  
samples.collections.Sequences.Building.sequenceFromIterator  
*  
public fun <T> Iterator<T>.asSequence():  
Sequence<T> = Sequence { this }.constrainOnce()  
* Creates a sequence that returns the specified values.  
*  
@sample  
samples.collections.Sequences.Building.sequenceOfValues  
*  
public fun <T> sequenceOf(vararg  
elements: T): Sequence<T> = if (elements.isEmpty())  
    emptySequence() else elements.asSequence()  
* Returns an empty sequence.  
*  
public fun <T>  
emptySequence(): Sequence<T> = EmptySequence  
private object EmptySequence : Sequence<Nothing>,  
DropTakeSequence<Nothing> {  
    override fun iterator(): Iterator<Nothing> = EmptyIterator  
    override fun  
    drop(n: Int) = EmptySequence  
    override fun take(n: Int) = EmptySequence  
}  
* Returns this sequence if  
it's not `null` and the empty sequence otherwise.  
*  
@sample  
samples.collections.Sequences.Usage.sequenceOrEmpty  
*  
@SinceKotlin("1.3")  
@kotlin.internal.InlineOnly  
public inline fun <T> Sequence<T>?.orEmpty():  
Sequence<T> = this ?: emptySequence()  
* Returns a sequence that iterates through the elements either of  
this sequence  
* or, if this sequence turns out to be empty, of the sequence returned by [defaultValue] function.  
*  
@sample  
samples.collections.Sequences.Usage.sequenceIfEmpty  
*  
@SinceKotlin("1.3")  
public fun  
<T>  
Sequence<T>.ifEmpty(defaultValue: () -> Sequence<T>): Sequence<T> = sequence {  
    val iterator =  
    this@ifEmpty.iterator()  
    if (iterator.hasNext()) {  
        yieldAll(iterator)  
    } else {  
        yieldAll(defaultValue())  
    }  
}  
* Returns a sequence of all elements from all sequences in this  
sequence.  
*  
The operation is _intermediate_ and _stateless_.  
*  
@sample  
samples.collections.Sequences.Transformations.flattenSequenceOfSequences  
*  
public fun <T>  
Sequence<Sequence<T>>.flatten(): Sequence<T> = flatten { it.iterator() }  
* Returns a sequence of all
```



```

sequence which combines values from the underlying [sequence] with
their indices and returns them as \n * [IndexedValue] objects.\n */\ninternal class
IndexingSequence<T>\nconstructor(private val sequence: Sequence<T>) : Sequence<IndexedValue<T>> {\n
override fun iterator(): Iterator<IndexedValue<T>> = object : Iterator<IndexedValue<T>> {\n    val iterator =
sequence.iterator()\n    var index = 0\n    override fun next(): IndexedValue<T> {\n        return
IndexedValue(checkIndexOverflow(index++), iterator.next())\n    }\n\n    override fun hasNext(): Boolean {\n
return iterator.hasNext()\n    }\n}\n}\n\n/**\n * A sequence which takes the values from two parallel
underlying sequences, passes them to the given\n * [transform] function and returns the values returned by that
function. The sequence stops returning\n * values as soon as one of the underlying sequences stops returning
values.\n */\ninternal class MergingSequence<T1, T2, V>\nconstructor(\n    private val sequence1:
Sequence<T1>,\n    private val
sequence2: Sequence<T2>,\n    private val transform: (T1, T2) -> V)\n : Sequence<V> {\n    override fun iterator():
Iterator<V> = object : Iterator<V> {\n        val iterator1 = sequence1.iterator()\n        val iterator2 =
sequence2.iterator()\n        override fun next(): V {\n            return transform(iterator1.next(), iterator2.next())\n
}\n\n        override fun hasNext(): Boolean {\n            return iterator1.hasNext() && iterator2.hasNext()\n        }\n
}\n}\n\ninternal class FlatteningSequence<T, R, E>\nconstructor(\n    private val sequence: Sequence<T>,\n    private val
transformer: (T) -> R,\n    private val iterator: (R) -> Iterator<E>)\n : Sequence<E> {\n    override fun
iterator(): Iterator<E> = object : Iterator<E> {\n        val iterator = sequence.iterator()\n        var itemIterator:
Iterator<E>? = null\n\n        override fun next(): E {\n            if (!ensureItemIterator())\n                throw
NoSuchElementException()\n            return itemIterator!!.next()\n        }\n\n        override fun hasNext(): Boolean {\n
return ensureItemIterator()\n        }\n\n        private fun
ensureItemIterator(): Boolean {\n            if (itemIterator?.hasNext() == false)\n                itemIterator = null\n\n            while (itemIterator == null) {\n                if (!iterator.hasNext()) {\n                    return false\n                } else {\n                    val element = iterator.next()\n                    val nextItemIterator = iterator(transformer(element))\n                }\n                if (nextItemIterator.hasNext()) {\n                    itemIterator = nextItemIterator\n                    return true\n                }\n            }\n            return true\n        }\n    }\n}\n\ninternal fun <T, C, R> flatMapIndexed(source:
Sequence<T>, transform: (Int, T) -> C, iterator: (C) -> Iterator<R>): Sequence<R> =\n    sequence {\n        var
index = 0\n        for (element in source) {\n            val result = transform(checkIndexOverflow(index++), element)\n            yieldAll(iterator(result))\n        }\n    }\n\n/**\n * A sequence that supports drop(n) and take(n) operations\n */\ninternal interface
DropTakeSequence<T> : Sequence<T> {\n    fun drop(n: Int): Sequence<T>\n    fun take(n: Int):
Sequence<T>\n}\n\n/**\n * A sequence that skips [startIndex] values from the underlying [sequence]\n * and stops
returning values right before [endIndex], i.e. stops at `endIndex - 1`\n */\ninternal class SubSequence<T>(\n    private val sequence: Sequence<T>,\n    private val startIndex: Int,\n    private val endIndex: Int)\n : Sequence<T>,\n    DropTakeSequence<T> {\n    init {\n        require(startIndex >= 0) { "\"startIndex should be non-negative, but is $startIndex\""}\n        require(endIndex >= 0) { "\"endIndex should be non-negative, but is $endIndex\""}\n        require(endIndex >= startIndex) { "\"endIndex should be not less than startIndex, but was $endIndex < $startIndex\""}\n    }\n\n    private val count: Int get() = endIndex - startIndex\n\n    override fun drop(n: Int): Sequence<T> = if
(n >= count) emptySequence() else SubSequence(sequence, startIndex + n, endIndex)\n\n    override fun take(n: Int):
Sequence<T> = if (n >= count) this else SubSequence(sequence, startIndex, startIndex + n)\n\n    override fun
iterator() = object : Iterator<T> {\n        val iterator = sequence.iterator()\n        var position = 0\n\n        //
Shouldn't be called from constructor to avoid premature iteration\n        private fun drop() {\n            while (position
< startIndex && iterator.hasNext()) {\n                iterator.next()\n                position++\n            }\n        }\n\n        override fun hasNext(): Boolean {\n            drop()\n            return (position < endIndex) && iterator.hasNext()\n        }\n\n        override fun next(): T {\n            drop()\n            if (position >= endIndex)\n                throw
NoSuchElementException()\n            position++\n            return iterator.next()\n        }\n    }\n}\n\n/**\n * A sequence that returns at most [count]
values from the underlying [sequence], and stops returning values\n * as soon as that count is reached.\n */\ninternal

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class TakeSequence<T>(\n  private val sequence: Sequence<T>,\n  private val count: Int\n) : Sequence<T>,\nDropTakeSequence<T> {\n\n  init {\n    require(count >= 0) { \"count must be non-negative, but was $count.\" }\n  }\n\n  override fun drop(n: Int): Sequence<T> = if (n >= count) emptySequence() else\nSubSequence(sequence, n, count)\n  override fun take(n: Int): Sequence<T> = if (n >= count) this else\nTakeSequence(sequence, n)\n\n  override fun iterator(): Iterator<T> = object : Iterator<T> {\n    var left =\ncount\n    val iterator = sequence.iterator()\n    override fun next(): T {\n      if (left == 0)\n        throw\n        NoSuchElementException()\n      left--\n      return iterator.next()\n    }\n\n    override fun hasNext(): Boolean {\n      return left > 0 && iterator.hasNext()\n    }\n  }\n}\n\n/**\n * A sequence that returns values from the underlying [sequence] while the [predicate] function\n returns `true`, and stops returning values once the function returns `false` for the next element.\n */\n\ninternal\n class TakeWhileSequence<T>\n constructor(\n  private val sequence: Sequence<T>,\n  private val predicate: (T) -\n  > Boolean\n) : Sequence<T> {\n  override fun iterator(): Iterator<T> = object : Iterator<T> {\n    val iterator =\nsequence.iterator()\n    var nextState: Int = -1 // -1 for unknown, 0 for done, 1 for continue\n    var nextItem: T?\n= null\n\n    private fun calcNext() {\n      if (iterator.hasNext()) {\n        val item = iterator.next()\n        if (predicate(item)) {\n          nextState = 1\n          nextItem = item\n          return\n        }\n        nextState = 0\n      }\n    }\n\n    override fun next(): T {\n      if (nextState == -1)\n        calcNext() // will change nextState\n        if (nextState == 0)\n          throw NoSuchElementException()\n        @Suppress(\"UNCHECKED_CAST\")\n        val result = nextItem as T\n        // Clean next to avoid\n        keeping reference on yielded instance\n        nextItem = null\n        nextState = -1\n        return result\n      }\n\n      override fun hasNext(): Boolean {\n        if (nextState == -1)\n          calcNext() // will change\n          nextState\n          return nextState == 1\n        }\n      }\n\n    }\n\n  }\n\n  /**\n   * A sequence that skips the specified number of\n   values from the underlying [sequence] and returns\n   * all values after that.\n   */\n\n  internal\n   class DropSequence<T>(\n    private val sequence: Sequence<T>,\n    private val count: Int\n) : Sequence<T>, DropTakeSequence<T> {\n  init {\n\n    require(count >= 0) { \"count must be non-negative, but was $count.\" }\n  }\n\n  override fun drop(n: Int):\nSequence<T> = (count + n).let { n1 -> if (n1 < 0) DropSequence(this, n) else DropSequence(sequence, n1) }\n\n  override fun take(n: Int): Sequence<T> = (count + n).let { n1 -> if (n1 < 0) TakeSequence(this, n) else\nSubSequence(sequence, count, n1) }\n\n  override fun iterator(): Iterator<T> = object : Iterator<T> {\n    val\niterator = sequence.iterator()\n    var left = count\n\n    // Shouldn't be called from constructor to avoid\n    premature iteration\n    private fun drop() {\n      while (left > 0 && iterator.hasNext()) {\n        iterator.next()\n        left--\n      }\n    }\n\n    override fun next(): T {\n      drop()\n      return\niterator.next()\n    }\n\n    override fun hasNext(): Boolean {\n      drop()\n      return iterator.hasNext()\n    }\n  }\n}\n\n/**\n * A sequence\n that skips the values from the underlying [sequence] while the given [predicate] returns `true` and returns\n * all\n values after that.\n */\n\ninternal\n class DropWhileSequence<T>\n constructor(\n  private val sequence:\nSequence<T>,\n  private val predicate: (T) -> Boolean\n) : Sequence<T> {\n  override fun iterator():\nIterator<T> = object : Iterator<T> {\n    val iterator = sequence.iterator()\n    var dropState: Int = -1 // -1 for not\ndropping, 1 for nextItem, 0 for normal iteration\n    var nextItem: T? = null\n\n    private fun drop() {\n      while (iterator.hasNext()) {\n        val item = iterator.next()\n        if (!predicate(item)) {\n          nextItem = item\n          dropState = 1\n          return\n        }\n        dropState = 0\n      }\n    }\n\n    override fun next(): T {\n      if (dropState == -1)\n        drop()\n        if (dropState == 1)\n          @Suppress(\"UNCHECKED_CAST\")\n          val result = nextItem as T\n          nextItem =\nnull\n          dropState = 0\n          return result\n        }\n        return iterator.next()\n      }\n\n    override fun hasNext(): Boolean {\n      if (dropState == -1)\n        drop()\n        return dropState == 1 ||\niterator.hasNext()\n      }\n    }\n\n  }\n\n  internal\n   class DistinctSequence<T, K>(\n    private val source: Sequence<T>,\n    private val keySelector: (T) -> K\n) : Sequence<T> {\n  override fun iterator(): Iterator<T> =\nDistinctIterator(source.iterator(), keySelector)\n}\n\nprivate\n class DistinctIterator<T, K>(\n  private val source:\nIterator<T>,\n  private val keySelector: (T) -> K\n) : AbstractIterator<T>() {\n  private val observed =

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HashSet<K>()\n    override fun computeNext() {\n        while (source.hasNext()) {\n            val next =
source.next()\n            val key = keySelector(next)\n            if (observed.add(key))\n                {\n                    setNext(next)\n                    return\n                }\n            }\n        }\n        done()\n    }\n}\n\nprivate class
GeneratorSequence<T : Any>(private val getInitialValue: () -> T?, private val getNextValue: (T) -> T?) :
Sequence<T> {\n    override fun iterator(): Iterator<T> = object : Iterator<T> {\n        var nextItem: T? = null\n        var nextState: Int = -2 // -2 for initial unknown, -1 for next unknown, 0 for done, 1 for continue\n        private fun
calcNext() {\n            nextItem = if (nextState == -2) getInitialValue() else getNextValue(nextItem!!)\n            nextState = if (nextItem == null) 0 else 1\n        }\n        override fun next(): T {\n            if (nextState < 0)\n                calcNext()\n            if (nextState == 0)\n                throw NoSuchElementException()\n            val result =
nextItem as T\n            // Do not clean nextItem (to avoid keeping reference on yielded instance) -- need to keep
state for
getNextValue\n            nextState = -1\n            return result\n        }\n        override fun hasNext(): Boolean {\n            if (nextState < 0)\n                calcNext()\n            return nextState == 1\n        }\n    }\n}\n\n/**\n * Returns a
wrapper sequence that provides values of this sequence, but ensures it can be iterated only one time.\n * The
operation is _intermediate_ and _stateless_.  

 * [IllegalStateException] is thrown on iterating the returned
sequence for the second time and the following times.\n *  

 * public fun <T> Sequence<T>.constrainOnce():
Sequence<T> {\n    // as? does not work in js\n    //return this as? ConstrainedOnceSequence<T> ?:\n    ConstrainedOnceSequence(this)\n    return if (this is ConstrainedOnceSequence<T>) this else
ConstrainedOnceSequence(this)\n}\n\n/**\n * Returns a sequence which invokes the function to calculate the next
value on each iteration until the function returns `null`.\n * The returned sequence is constrained
to be iterated only once.\n * @see constrainOnce\n * @see kotlin.sequences.sequence\n * @sample
samples.collections.Sequences.Building.generateSequence\n */\npublic fun <T : Any>
generateSequence(nextFunction: () -> T?): Sequence<T> {\n    return GeneratorSequence(nextFunction, {\n        nextFunction()\n    }).constrainOnce()\n}\n\n/**\n * Returns a sequence defined by the starting value [seed] and the
function [nextFunction],\n * which is invoked to calculate the next value based on the previous one on each
iteration.\n * The sequence produces values until it encounters first `null` value.\n * If [seed] is `null`, an empty
sequence is produced.\n * The sequence can be iterated multiple times, each time starting with [seed].\n *  

 * @see kotlin.sequences.sequence\n * @sample
samples.collections.Sequences.Building.generateSequenceWithSeed\n */\npublic fun <T : Any> generateSequence(seed: T?,
nextFunction: (T) -> T?): Sequence<T>
=\n    if (seed == null)\n        EmptySequence\n    else\n        GeneratorSequence({ seed }, nextFunction)\n}\n\n/**\n * Returns a sequence defined by the function [seedFunction], which is invoked to produce the starting value,\n * and
the [nextFunction], which is invoked to calculate the next value based on the previous one on each iteration.\n *
The sequence produces values until it encounters first `null` value.\n * If [seedFunction] returns `null`, an empty
sequence is produced.\n * The sequence can be iterated multiple times.\n * @see
kotlin.sequences.sequence\n * @sample
samples.collections.Sequences.Building.generateSequenceWithLazySeed\n */\npublic fun <T : Any>
generateSequence(seedFunction: () -> T?, nextFunction: (T) -> T?): Sequence<T> =\n    GeneratorSequence(seedFunction, nextFunction)\n}\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("PreconditionsKt")\n\npackage
kotlin\n\nimport kotlin.contracts.contract\n\n/**\n * Throws an [IllegalArgumentException] if the [value] is false.\n *  

 * @sample samples.misc.Preconditions.failRequireWithLazyMessage\n */\n@kotlin.internal.InlineOnly\npublic
inline fun require(value: Boolean): Unit {\n    contract {\n        returns() implies value\n    }\n    require(value) {\n        "Failed requirement." }\n}\n\n/**\n * Throws an [IllegalArgumentException] with the result of calling
[LazyMessage] if the [value] is false.\n * @sample samples.misc.Preconditions.failRequireWithLazyMessage\n */

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*\/@kotlin.internal.InlineOnly\npublic inline fun require(value: Boolean, lazyMessage: () -> Any): Unit {\n
contract {\n    returns() implies value\n } \n if (!value) {\n    val message = lazyMessage()\n    throw
IllegalArgumentExcepTion(message.toString())\n } \n}\n\n/**\n
* Throws an [IllegalArgumentExcepTion] if the [value] is null. Otherwise returns the not null value.\n
*\/@kotlin.internal.InlineOnly\npublic inline fun <T : Any> requireNotNull(value: T?): T {\n    contract {\n
returns() implies (value != null)\n } \n    return requireNotNull(value) { "Required value was null." } \n}\n\n/**\n
* Throws an [IllegalArgumentExcepTion] with the result of calling [lazyMessage] if the [value] is null. Otherwise\n
* returns the not null value.\n * \n * @sample samples.misc.Preconditions.failRequireNotNullWithLazyMessage\n
*\/@kotlin.internal.InlineOnly\npublic inline fun <T : Any> requireNotNull(value: T?, lazyMessage: () -> Any): T\n
{\n    contract {\n    returns() implies (value != null)\n } \n\n    if (value == null) {\n    val message =
lazyMessage()\n    throw IllegalArgumentExcepTion(message.toString())\n } else {\n    return value\n
}\n}\n\n/**\n * Throws an [IllegalStateExcepTion] if the [value] is false.\n * \n * @sample
samples.misc.Preconditions.failCheckWithLazyMessage\n *\/@kotlin.internal.InlineOnly\npublic
inline fun check(value: Boolean): Unit {\n    contract {\n    returns() implies value\n } \n    check(value) {\n
"Check failed." } \n}\n\n/**\n * Throws an [IllegalStateExcepTion] with the result of calling [lazyMessage] if the
[value] is false.\n * \n * @sample samples.misc.Preconditions.failCheckWithLazyMessage\n
*\/@kotlin.internal.InlineOnly\npublic inline fun check(value: Boolean, lazyMessage: () -> Any): Unit {\n
contract {\n    returns() implies value\n } \n    if (!value) {\n    val message = lazyMessage()\n    throw
IllegalStateExcepTion(message.toString())\n } \n}\n\n/**\n * Throws an [IllegalStateExcepTion] if the [value] is
null. Otherwise\n * returns the not null value.\n * \n * @sample
samples.misc.Preconditions.failCheckWithLazyMessage\n *\/@kotlin.internal.InlineOnly\npublic inline fun <T :
Any> checkNotNull(value: T?): T {\n    contract {\n
returns() implies (value != null)\n } \n    return checkNotNull(value) { "Required value was null." } \n}\n\n/**\n
* Throws an [IllegalStateExcepTion] with the result of calling [lazyMessage] if the [value] is null.
Otherwise\n * returns the not null value.\n * \n * @sample
samples.misc.Preconditions.failCheckWithLazyMessage\n *\/@kotlin.internal.InlineOnly\npublic inline fun <T :
Any> checkNotNull(value: T?, lazyMessage: () -> Any): T {\n    contract {\n    returns() implies (value != null)\n
}\n\n    if (value == null) {\n    val message = lazyMessage()\n    throw
IllegalStateExcepTion(message.toString())\n } else {\n    return value\n } \n}\n\n\n/**\n * Throws an
[IllegalStateExcepTion] with the given [message].\n * \n * @sample samples.misc.Preconditions.failWithError\n
*\/@kotlin.internal.InlineOnly\npublic inline fun error(message: Any): Nothing = throw
IllegalStateExcepTion(message.toString())\n", "/*\n * Copyright 2010-2021 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n *\/@n\npackage kotlin.collections\n\n/\n// NOTE: THIS FILE IS
AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n/\n\nimport kotlin.js.*\nimport
primitiveArrayConcat\nimport withType\nimport kotlin.ranges.contains\nimport kotlin.ranges.reversed\n\n\n/**\n
* Returns an element at the given [index] or throws an [IndexOutOfBoundsExcepTion] if the [index] is out of bounds
of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n *\/@n\npublic actual fun <T>
Array<out T>.elementAt(index: Int): T {\n    return elementAtOrElse(index) { throw
IndexOutOfBoundsExcepTion("index: $index, size: $size}") } \n}\n\n\n/**\n * Returns an element at the given
[index] or throws an [IndexOutOfBoundsExcepTion] if the [index] is out of bounds of this array.\n
* \n * @sample samples.collections.Collections.Elements.elementAt\n *\/@n\npublic actual fun
ByteArray.elementAt(index: Int): Byte {\n    return elementAtOrElse(index) { throw
IndexOutOfBoundsExcepTion("index: $index, size: $size}") } \n}\n\n\n/**\n * Returns an element at the given
[index] or throws an [IndexOutOfBoundsExcepTion] if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n *\/@n\npublic actual fun ShortArray.elementAt(index: Int): Short\n
{\n    return elementAtOrElse(index) { throw IndexOutOfBoundsExcepTion("index: $index, size: $size}") } \n}\n

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}\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n * \npublic
actual fun IntArray.elementAt(index: Int): Int {\n    return elementAtOrElse(index) { throw
IndexOutOfBoundsException("index: $index, size: $size}") }\n}\n\n/**\n
* Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of
bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n * \npublic actual fun
LongArray.elementAt(index: Int): Long {\n    return elementAtOrElse(index) { throw
IndexOutOfBoundsException("index: $index, size: $size}") }\n}\n\n/**\n * Returns an element at the given
[index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n * \npublic actual fun FloatArray.elementAt(index: Int): Float
{\n    return elementAtOrElse(index) { throw IndexOutOfBoundsException("index: $index, size: $size}")
}\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n * \npublic
actual fun DoubleArray.elementAt(index:
Int): Double {\n    return elementAtOrElse(index) { throw IndexOutOfBoundsException("index: $index, size:
$size}") }\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the
[index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n
* \npublic actual fun BooleanArray.elementAt(index: Int): Boolean {\n    return elementAtOrElse(index) { throw
IndexOutOfBoundsException("index: $index, size: $size") }\n}\n\n/**\n * Returns an element at the given
[index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n * \npublic actual fun CharArray.elementAt(index: Int): Char
{\n    return elementAtOrElse(index) { throw IndexOutOfBoundsException("index: $index, size: $size") }\n
}\n}\n\n/**\n * Returns a [List] that wraps the original array.\n * \npublic actual fun <T> Array<out T>.asList():
List<T> {\n    return ArrayList<T>(this.unsafeCast<Array<Any?>>())\n}\n\n/**\n * Returns a [List] that wraps the
original array.\n * \n@kotlin.internal.InlineOnly\npublic actual inline fun ByteArray.asList(): List<Byte> {\n
return this.unsafeCast<Array<Byte>>().asList()\n}\n\n/**\n * Returns a [List] that wraps the original array.\n
* \n@kotlin.internal.InlineOnly\npublic actual inline fun ShortArray.asList(): List<Short> {\n    return
this.unsafeCast<Array<Short>>().asList()\n}\n\n/**\n * Returns a [List] that wraps the original array.\n
* \n@kotlin.internal.InlineOnly\npublic actual inline fun IntArray.asList(): List<Int> {\n    return
this.unsafeCast<Array<Int>>().asList()\n}\n\n/**\n * Returns a [List] that wraps the original array.\n
* \n@kotlin.internal.InlineOnly\npublic actual inline fun LongArray.asList(): List<Long> {\n    return
this.unsafeCast<Array<Long>>().asList()\n}\n\n/**\n * Returns a [List] that wraps the original array.\n
* \n@kotlin.internal.InlineOnly\npublic
actual inline fun FloatArray.asList(): List<Float> {\n    return this.unsafeCast<Array<Float>>().asList()\n}\n\n/**\n
* Returns a [List] that wraps the original array.\n * \n@kotlin.internal.InlineOnly\npublic actual inline fun
DoubleArray.asList(): List<Double> {\n    return this.unsafeCast<Array<Double>>().asList()\n}\n\n/**\n * Returns
a [List] that wraps the original array.\n * \n@kotlin.internal.InlineOnly\npublic actual inline fun
BooleanArray.asList(): List<Boolean> {\n    return this.unsafeCast<Array<Boolean>>().asList()\n}\n\n/**\n *
Returns a [List] that wraps the original array.\n * \npublic actual fun CharArray.asList(): List<Char> {\n    return
object : AbstractList<Char>(), RandomAccess {\n        override val size: Int get() = this@asList.size\n        override
fun isEmpty(): Boolean = this@asList.isEmpty()\n        override fun contains(element: Char): Boolean =
this@asList.contains(element)\n        override fun get(index: Int): Char {\n
AbstractList.checkElementIndex(index,
size)\n        return this@asList[index]\n    }\n    override fun indexOf(element: Char): Int {\n
@Suppress("USELESS_CAST")\n        if ((element as Any?) !is Char) return -1\n        return
this@asList.indexOf(element)\n    }\n    override fun lastIndexOf(element: Char): Int {\n
@Suppress("USELESS_CAST")\n        if ((element as Any?) !is Char) return -1\n        return
this@asList.lastIndexOf(element)\n    }\n}\n}\n\n/**\n * Returns `true` if the two specified arrays are *deeply*

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equal to one another, \n * i.e. contain the same number of the same elements in the same order. \n * \n * If two corresponding elements are nested arrays, they are also compared deeply. \n * If any of arrays contains itself on any nesting level the behavior is undefined. \n * \n * The elements of other types are compared for equality with the [equals][Any.equals] function. \n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`. \n

```
*\n@SinceKotlin("1.1")\n@kotlin.internal.LowPriorityInOverloadResolution\npublic actual infix fun <T>  
Array<out T>.contentDeepEquals(other: Array<out T>): Boolean {\n    return  
this.contentDeepEquals(other)\n}\n\n/**\n * Returns `true` if the two specified arrays are *deeply* equal to one  
another, \n * i.e. contain the same number of the same elements in the same order. \n * \n * The specified arrays are  
also considered deeply equal if both are `null`. \n * \n * If two corresponding elements are nested arrays, they are  
also compared deeply. \n * If any of arrays contains itself on any nesting level the behavior is undefined. \n * \n * The  
elements of other types are compared for equality with the [equals][Any.equals] function. \n * For floating point  
numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`. \n
```

```
*\n@SinceKotlin("1.4")\n@library("arrayDeepEquals")\npublic actual infix fun <T> Array<out  
T>?.contentDeepEquals(other:  
Array<out T>?): Boolean {\n    definedExternally\n}\n\n/**\n * Returns a hash code based on the contents of this  
array as if it is [List]. \n * Nested arrays are treated as lists too. \n * \n * If any of arrays contains itself on any nesting  
level the behavior is undefined. \n
```

```
*\n@SinceKotlin("1.1")\n@kotlin.internal.LowPriorityInOverloadResolution\npublic actual fun <T> Array<out  
T>.contentDeepHashCode(): Int {\n    return this.contentDeepHashCode()\n}\n\n/**\n * Returns a hash code based  
on the contents of this array as if it is [List]. \n * Nested arrays are treated as lists too. \n * \n * If any of arrays  
contains itself on any nesting level the behavior is undefined. \n
```

```
*\n@SinceKotlin("1.4")\n@library("arrayDeepHashCode")\npublic actual fun <T> Array<out  
T>?.contentDeepHashCode(): Int {\n    definedExternally\n}\n\n/**\n * Returns a string representation of the  
contents of this array as if it is a [List]. \n * Nested arrays are treated as lists too. \n * \n * \n *  
* If any of arrays contains itself on any nesting level that reference \n * is rendered as `"[...]"` to prevent  
recursion. \n * \n * @sample samples.collections.Arrays.ContentOperations.contentDeepToString\n
```

```
*\n@SinceKotlin("1.1")\n@kotlin.internal.LowPriorityInOverloadResolution\npublic actual fun <T> Array<out  
T>.contentDeepToString(): String {\n    return this.contentDeepToString()\n}\n\n/**\n * Returns a string  
representation of the contents of this array as if it is a [List]. \n * Nested arrays are treated as lists too. \n * \n * \n * If any  
of arrays contains itself on any nesting level that reference \n * is rendered as `"[...]"` to prevent recursion. \n * \n * \n *  
* @sample samples.collections.Arrays.ContentOperations.contentDeepToString\n
```

```
*\n@SinceKotlin("1.4")\n@library("arrayDeepToString")\npublic actual fun <T> Array<out  
T>?.contentDeepToString(): String {\n    definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays  
are *structurally* equal to one another, \n *  
* i.e. contain the same number of the same elements in the same order. \n * \n * The elements are compared for  
equality with the [equals][Any.equals] function. \n * For floating point numbers it means that `NaN` is equal to itself  
and `-0.0` is not equal to `0.0`. \n *\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation  
warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic actual infix fun <T>  
Array<out T>.contentEquals(other: Array<out T>): Boolean {\n    return this.contentEquals(other)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another, \n * i.e. contain the same number of  
the same elements in the same order. \n * \n * The elements are compared for equality with the [equals][Any.equals]  
function. \n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`. \n
```

```
*\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation  
warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince  
= "1.4")\npublic actual infix fun ByteArray.contentEquals(other: ByteArray): Boolean {\n    return  
this.contentEquals(other)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one  
another, \n * i.e. contain the same number of the same elements in the same order. \n * \n * The elements are
```

compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic actual infix fun ShortArray.contentEquals(other: ShortArray): Boolean {\n return this.contentEquals(other)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic actual infix fun IntArray.contentEquals(other: IntArray): Boolean {\n return this.contentEquals(other)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic actual infix fun LongArray.contentEquals(other: LongArray): Boolean {\n return this.contentEquals(other)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic actual infix fun FloatArray.contentEquals(other: FloatArray): Boolean {\n return this.contentEquals(other)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic actual infix fun DoubleArray.contentEquals(other: DoubleArray): Boolean {\n return this.contentEquals(other)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic actual infix fun BooleanArray.contentEquals(other: BooleanArray): Boolean {\n return this.contentEquals(other)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin("1.4")\n@library("arrayEquals")\npublic actual infix fun <T> Array<out T>?.contentEquals(other: Array<out T>?): Boolean {\n definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */

```

*^@SinceKotlin("1.4")^@library("arrayEquals")^public actual infix fun ByteArray?.contentEquals(other:
ByteArray?): Boolean {^n definedExternally^}^n/^n/**^n * Returns `true` if the two specified arrays are
*structurally* equal to one another,^n * i.e. contain the same number of the same elements in the same order.^n * ^n
* The elements are compared for equality with the [equals][Any.equals] function.^n * For floating point numbers it
means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.^n
*^@SinceKotlin("1.4")^@library("arrayEquals")^public
actual infix fun ShortArray?.contentEquals(other: ShortArray?): Boolean {^n definedExternally^}^n/^n/**^n *
Returns `true` if the two specified arrays are *structurally* equal to one another,^n * i.e. contain the same number of
the same elements in the same order.^n * ^n * The elements are compared for equality with the [equals][Any.equals]
function.^n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.^n
*^@SinceKotlin("1.4")^@library("arrayEquals")^public actual infix fun IntArray?.contentEquals(other:
IntArray?): Boolean {^n definedExternally^}^n/^n/**^n * Returns `true` if the two specified arrays are
*structurally* equal to one another,^n * i.e. contain the same number of the same elements in the same order.^n * ^n
* The elements are compared for equality with the [equals][Any.equals] function.^n * For floating point numbers it
means that `NaN` is equal to itself and `-0.0` is not equal
to `0.0`.^n
*^@SinceKotlin("1.4")^@library("arrayEquals")^public actual infix fun
LongArray?.contentEquals(other: LongArray?): Boolean {^n definedExternally^}^n/^n/**^n * Returns `true` if the
two specified arrays are *structurally* equal to one another,^n * i.e. contain the same number of the same elements
in the same order.^n * ^n * The elements are compared for equality with the [equals][Any.equals] function.^n * For
floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.^n
*^@SinceKotlin("1.4")^@library("arrayEquals")^public actual infix fun FloatArray?.contentEquals(other:
FloatArray?): Boolean {^n definedExternally^}^n/^n/**^n * Returns `true` if the two specified arrays are
*structurally* equal to one another,^n * i.e. contain the same number of the same elements in the same order.^n * ^n
* The elements are compared for equality with the [equals][Any.equals] function.^n * For floating point numbers it
means that `NaN`
is equal to itself and `-0.0` is not equal to `0.0`.^n
*^@SinceKotlin("1.4")^@library("arrayEquals")^public
actual infix fun DoubleArray?.contentEquals(other: DoubleArray?): Boolean {^n definedExternally^}^n/^n/**^n *
Returns `true` if the two specified arrays are *structurally* equal to one another,^n * i.e. contain the same number of
the same elements in the same order.^n * ^n * The elements are compared for equality with the [equals][Any.equals]
function.^n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.^n
*^@SinceKotlin("1.4")^@library("arrayEquals")^public actual infix fun BooleanArray?.contentEquals(other:
BooleanArray?): Boolean {^n definedExternally^}^n/^n/**^n * Returns `true` if the two specified arrays are
*structurally* equal to one another,^n * i.e. contain the same number of the same elements in the same order.^n * ^n
* The elements are compared for equality with the [equals][Any.equals] function.^n
* For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.^n
*^@SinceKotlin("1.4")^@library("arrayEquals")^public actual infix fun CharArray?.contentEquals(other:
CharArray?): Boolean {^n definedExternally^}^n/^n/**^n * Returns a hash code based on the contents of this array
as if it is [List].^n
*^@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.")^n
*^@SinceKotlin("1.1")^@DeprecatedSinceKotlin(hiddenSince = "1.4")^n
public actual fun <T>
Array<out T>.contentHashCode(): Int {^n return this.contentHashCode()^}^n/^n/**^n * Returns a hash code based
on the contents of this array as if it is [List].^n
*^@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.")^n
*^@SinceKotlin("1.1")^@DeprecatedSinceKotlin(hiddenSince = "1.4")^n
public actual fun
ByteArray.contentHashCode(): Int {^n return this.contentHashCode()^}^n/^n/**^n * Returns a hash code based on
the contents of this array as
if it is [List].^n
*^@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.")^n
*^@SinceKotlin("1.1")^@DeprecatedSinceKotlin(hiddenSince = "1.4")^n
public actual fun
ShortArray.contentHashCode(): Int {^n return this.contentHashCode()^}^n/^n/**^n * Returns a hash code based on
the contents of this array as if it is [List].^n
*^@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation

```


warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic actual fun
IntArray.contentHashCode(): Int {\n return this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on
the contents of this array as if it is [List].\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation
warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic actual fun
LongArray.contentHashCode(): Int {\n return this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on
the contents of this array as if it is [List].\n */\n@Deprecated(\"Use
Kotlin compiler 1.4 to avoid deprecation
warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic actual fun
FloatArray.contentHashCode(): Int {\n return this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on
the contents of this array as if it is [List].\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation
warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic actual fun
DoubleArray.contentHashCode(): Int {\n return this.contentHashCode()\n}\n\n/**\n * Returns a hash code based
on the contents of this array as if it is [List].\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation
warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic actual fun
BooleanArray.contentHashCode(): Int {\n return this.contentHashCode()\n}\n\n/**\n * Returns a hash code based
on the contents of this array as if it is [List].\n */\n@Deprecated(\"Use
Kotlin compiler 1.4 to avoid deprecation
warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic actual fun
CharArray.contentHashCode(): Int {\n return this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on
the contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayHashCode\")\npublic actual
fun <T> Array<out T>?.contentHashCode(): Int {\n definedExternally\n}\n\n/**\n * Returns a hash code based on
the contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayHashCode\")\npublic actual
fun ByteArray?.contentHashCode(): Int {\n definedExternally\n}\n\n/**\n * Returns a hash code based on the
contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayHashCode\")\npublic actual fun
ShortArray?.contentHashCode(): Int {\n definedExternally\n}\n\n/**\n * Returns a hash code based on the
contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayHashCode\")\npublic
actual fun IntArray?.contentHashCode(): Int {\n definedExternally\n}\n\n/**\n * Returns a hash code based on
the contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayHashCode\")\npublic actual
fun LongArray?.contentHashCode(): Int {\n definedExternally\n}\n\n/**\n * Returns a hash code based on the
contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayHashCode\")\npublic actual fun
FloatArray?.contentHashCode(): Int {\n definedExternally\n}\n\n/**\n * Returns a hash code based on the
contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayHashCode\")\npublic actual fun
DoubleArray?.contentHashCode(): Int {\n definedExternally\n}\n\n/**\n * Returns a hash code based on the
contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayHashCode\")\npublic actual fun
BooleanArray?.contentHashCode(): Int
{\n definedExternally\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayHashCode\")\npublic actual fun CharArray?.contentHashCode(): Int
{\n definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is
[List].\n */\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated(\"Use
Kotlin compiler 1.4 to avoid deprecation
warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic actual fun <T>
Array<out T>.contentToString(): String {\n return this.contentToString()\n}\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n */\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to
avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince
= \"1.4\")\npublic actual fun ByteArray.contentToString(): String {\n return this.contentToString()\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n */\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to

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avoid deprecation warning.\")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic
actual fun ShortArray.contentToString(): String {\n    return this.contentToString()\n}\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated("Use Kotlin compiler 1.4 to
avoid deprecation warning.\")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic
actual fun IntArray.contentToString(): String {\n    return this.contentToString()\n}\n\n/**\n * Returns a string
representation of the
contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated("Use Kotlin compiler 1.4 to
avoid deprecation warning.\")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic
actual fun LongArray.contentToString(): String {\n    return this.contentToString()\n}\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated("Use Kotlin compiler 1.4 to
avoid deprecation warning.\")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic
actual fun FloatArray.contentToString(): String {\n    return this.contentToString()\n}\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated("Use
Kotlin compiler 1.4 to avoid deprecation
warning.\")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic actual fun
DoubleArray.contentToString(): String {\n    return this.contentToString()\n}\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated("Use Kotlin compiler 1.4 to
avoid deprecation warning.\")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic
actual fun BooleanArray.contentToString(): String {\n    return this.contentToString()\n}\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated("Use Kotlin compiler 1.4 to
avoid deprecation warning.\")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic
actual fun CharArray.contentToString():
String {\n    return this.contentToString()\n}\n\n/**\n * Returns a string representation of the
contents of the
specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun <T> Array<out T>?.contentToString():
String {\n    definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as
if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun ByteArray?.contentToString(): String
{\n    definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is
[List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun ShortArray?.contentToString():
String {\n    definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as
if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun IntArray?.contentToString(): String {\n
definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is
[List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun LongArray?.contentToString(): String
{\n    definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is
[List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun FloatArray?.contentToString(): String
{\n    definedExternally\n}\n\n/**\n

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* Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun DoubleArray?.contentToString(): String
{\n  definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is
[List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun BooleanArray?.contentToString():
String {\n  definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as
if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun CharArray?.contentToString(): String
{\n  definedExternally\n}\n\n/**\n * Copies this array or
its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the
[destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param
destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by
default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param
endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws
IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this
array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange
doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the
[destination] array indices range.\n * \n * @return the [destination] array.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT
_ARGUMENTS")\npublic
actual inline fun <T> Array<out T>.copyInto(destination: Array<T>, destinationOffset: Int = 0, startIndex: Int = 0,
endIndex: Int = size): Array<T> {\n  arrayCopy(this, destination, destinationOffset, startIndex, endIndex)\n
return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n
*\n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with
the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in
the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to
copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n
*\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex]
or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws
IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified
[destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the
[destination] array.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT
_ARGUMENTS")\npublic actual inline fun ByteArray.copyInto(destination: ByteArray, destinationOffset: Int = 0,
startIndex: Int = 0, endIndex: Int = size): ByteArray {\n  arrayCopy(this.unsafeCast<Array<Byte>>(),
destination.unsafeCast<Array<Byte>>(), destinationOffset, startIndex, endIndex)\n  return destination\n}\n\n/**\n
* Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the
same array in the [destination] and even specify the subrange so that it overlaps with the destination
range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the
[destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy,
0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n
*\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of
range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the
subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is
out of the [destination] array indices range.\n * \n * @return the [destination] array.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT
_ARGUMENTS")\npublic actual inline fun ShortArray.copyInto(destination: ShortArray, destinationOffset: Int =

```

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0, startIndex: Int =
0, endIndex: Int = size): ShortArray {
    arrayCopy(this.unsafeCast<Array<Short>>(),
destination.unsafeCast<Array<Short>>(), destinationOffset, startIndex, endIndex)\n    return destination\n}\n\n/**\n
* Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the
same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n *
@param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to
copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n *
@param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws
IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this
array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange
doesn't
fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the
[destination] array indices range.\n * \n * @return the [destination] array.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT
_ARGUMENTS")\npublic actual inline fun IntArray.copyInto(destination: IntArray, destinationOffset: Int = 0,
startIndex: Int = 0, endIndex: Int = size): IntArray {
    arrayCopy(this.unsafeCast<Array<Int>>(),
destination.unsafeCast<Array<Int>>(), destinationOffset, startIndex, endIndex)\n    return destination\n}\n\n/**\n
* Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the
same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n *
@param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to
copy to, 0 by default.\n
* @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end
(exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or
[IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex
> endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array
starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n
*\n * @return the [destination] array.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT
_ARGUMENTS")\npublic actual inline fun LongArray.copyInto(destination: LongArray, destinationOffset: Int = 0,
startIndex: Int = 0, endIndex: Int = size): LongArray {
    arrayCopy(this.unsafeCast<Array<Long>>(),
destination.unsafeCast<Array<Long>>(), destinationOffset, startIndex,
endIndex)\n    return destination\n}\n\n/**\n
* Copies this array or its subrange into the [destination] array and
returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so
that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param
destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the
beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the
subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or
[IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex
> endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array
starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n
*\n * @return the [destination] array.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT
_ARGUMENTS")\npublic actual inline fun FloatArray.copyInto(destination: FloatArray, destinationOffset: Int = 0,
startIndex: Int = 0, endIndex: Int = size): FloatArray {
    arrayCopy(this.unsafeCast<Array<Float>>(),
destination.unsafeCast<Array<Float>>(), destinationOffset, startIndex, endIndex)\n    return destination\n}\n\n/**\n
* Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the
same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n *
@param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to

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copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n

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*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun DoubleArray.copyInto(destination: DoubleArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): DoubleArray {\n    arrayCopy(this.unsafeCast<Array<Double>>(), destination.unsafeCast<Array<Double>>(), destinationOffset, startIndex, endIndex)\n    return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n *\n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n *\n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n *\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n *\n * @return the [destination] array.\n
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*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun BooleanArray.copyInto(destination: BooleanArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): BooleanArray {\n    arrayCopy(this.unsafeCast<Array<Boolean>>(), destination.unsafeCast<Array<Boolean>>(), destinationOffset, startIndex, endIndex)\n    return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n *\n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n *\n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n *\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n *\n * @return the [destination] array.\n
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*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun CharArray.copyInto(destination: CharArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): CharArray {\n    arrayCopy(this.unsafeCast<Array<Char>>(), destination.unsafeCast<Array<Char>>(), destinationOffset, startIndex, endIndex)\n    return destination\n}\n\n/**\n * Returns new array which is a copy of the original array.\n *\n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n *\n * @Suppress("ACTUAL_WITHOUT_EXPECT", "NOTHING_TO_INLINE")\npublic actual inline fun <T> Array<out T>.copyOf(): Array<T> {\n    return this.asDynamic().slice()\n}\n\n/**\n * Returns new array which is a copy of the original array.\n *\n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n
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*\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline fun ByteArray.copyOf(): ByteArray {\n    return this.asDynamic().slice()\n}\n\n/**\n * Returns new array which is a copy of the original array.\n *\n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n *\n * @Suppress("NOTHING_TO_INLINE")\npublic actual inline fun ShortArray.copyOf(): ShortArray {\n    return this.asDynamic().slice()\n}\n\n/**\n * Returns new

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array which is a copy of the original array.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.copyOfOf\n *^\n@Suppress(\\"NOTHING_TO_INLINE\\")\npublic
actual inline fun IntArray.copyOfOf(): IntArray {\n    return this.asDynamic().slice()\n}\n\n/**\n * Returns new array
which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n
*^\npublic actual fun LongArray.copyOfOf(): LongArray {\n    return withType(\\"LongArray\\",
this.asDynamic().slice())\n}\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.copyOfOf\n *^\n@Suppress(\\"NOTHING_TO_INLINE\\")\npublic
actual inline fun FloatArray.copyOfOf(): FloatArray {\n    return this.asDynamic().slice()\n}\n\n/**\n * Returns new
array which is a copy of the original array.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.copyOfOf\n *^\n@Suppress(\\"NOTHING_TO_INLINE\\")\npublic
actual inline fun DoubleArray.copyOfOf(): DoubleArray {\n    return this.asDynamic().slice()\n}\n\n/**\n * Returns
new array which is a copy of the original array.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.copyOfOf\n *^\npublic actual fun BooleanArray.copyOfOf():
BooleanArray {\n    return withType(\\"BooleanArray\\", this.asDynamic().slice())\n}\n\n/**\n * Returns new array
which is a copy
of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n *^\npublic actual
fun CharArray.copyOfOf(): CharArray {\n    return withType(\\"CharArray\\", this.asDynamic().slice())\n}\n\n/**\n *
Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either
truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the
original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the
original array, the extra elements in the copy array are filled with zero values.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n *^\npublic actual fun
ByteArray.copyOfOf(newSize: Int): ByteArray {\n    require(newSize >= 0) { \\"Invalid new array size: $newSize.\\\"
}\n    return fillFrom(this, ByteArray(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original
array, resized to the
given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If
[newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize]
is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n * \n *
@sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n *^\npublic actual fun
ShortArray.copyOfOf(newSize: Int): ShortArray {\n    require(newSize >= 0) { \\"Invalid new array size: $newSize.\\\"
}\n    return fillFrom(this, ShortArray(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original
array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if
necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the
[newSize].\n * - If [newSize] is greater than the size of the original array, the extra
elements in the copy array are filled with zero values.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n *^\npublic actual fun
IntArray.copyOfOf(newSize: Int): IntArray {\n    require(newSize >= 0) { \\"Invalid new array size: $newSize.\\\" }\n
return fillFrom(this, IntArray(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original array,
resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n
* \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If
[newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero
values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n *^\npublic actual
fun LongArray.copyOfOf(newSize: Int): LongArray {\n    require(newSize >= 0) { \\"Invalid new array size:
$newSize.\\\" }\n    return withType(\\"LongArray\\",
arrayCopyResize(this, newSize, 0L))\n}\n\n/**\n * Returns new array which is a copy of the original array, resized
to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * -
If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize]
is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n * \n *

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@sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n *\npublic actual fun
FloatArray.copyOf(newSize: Int): FloatArray {\n  require(newSize >= 0) { \"Invalid new array size: $newSize.\"
}\n  return fillFrom(this, FloatArray(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original
array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if
necessary.\n * \n * - If [newSize] is less than the size of the
original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original
array, the extra elements in the copy array are filled with zero values.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n *\npublic actual fun
DoubleArray.copyOf(newSize: Int): DoubleArray {\n  require(newSize >= 0) { \"Invalid new array size:
$newSize.\" }\n  return fillFrom(this, DoubleArray(newSize))\n}\n\n/**\n * Returns new array which is a copy of
the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with `false`
values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the
[newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are
filled with `false` values.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n *\npublic
actual fun BooleanArray.copyOf(newSize: Int): BooleanArray {\n  require(newSize >= 0) { \"Invalid new array
size: $newSize.\" }\n  return withType(\"BooleanArray\", arrayCopyResize(this, newSize, false))\n}\n\n/**\n *
Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either
truncated or padded at the end with null char (`\u0000`) values if necessary.\n * \n * - If [newSize] is less than the
size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of
the original array, the extra elements in the copy array are filled with null char (`\u0000`) values.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n *\npublic actual fun
CharArray.copyOf(newSize: Int): CharArray {\n  require(newSize >= 0) { \"Invalid new array size: $newSize.\"
}\n  return withType(\"CharArray\", fillFrom(this, CharArray(newSize)))\n}\n\n/**\n * Returns
new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or
padded at the end with `null` values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the
copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra
elements in the copy array are filled with `null` values.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.resizingCopyOf\n
*\n@Suppress(\"ACTUAL_WITHOUT_EXPECT\")\npublic actual fun <T> Array<out T>.copyOf(newSize: Int):
Array<T?> {\n  require(newSize >= 0) { \"Invalid new array size: $newSize.\" }\n  return arrayCopyResize(this,
newSize, null)\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n
*\n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive)
to copy.\n * \n * @throws IndexOutOfBoundsException if
[fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@Suppress(\"ACTUAL_WITHOUT_EXPECT\")\npublic actual fun <T> Array<out
T>.copyOfRange(fromIndex: Int, toIndex: Int): Array<T> {\n  AbstractList.checkRangeIndexes(fromIndex,
toIndex, size)\n  return this.asDynamic().slice(fromIndex, toIndex)\n}\n\n/**\n * Returns a new array which is a
copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to
copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException
if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *\npublic actual fun
ByteArray.copyOfRange(fromIndex: Int, toIndex: Int): ByteArray {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n
return this.asDynamic().slice(fromIndex, toIndex)\n}\n\n/**\n * Returns a new array which is a copy of the
specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n *
@param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if

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[fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
 IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\npublic actual fun
 ShortArray.copyOfRange(fromIndex: Int, toIndex: Int): ShortArray {\n
 AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n return this.asDynamic().slice(fromIndex,
 toIndex)\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n *
 @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to
 copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero
 or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater
 than [toIndex].\n */\npublic actual fun IntArray.copyOfRange(fromIndex: Int, toIndex: Int): IntArray {\n
 AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n return this.asDynamic().slice(fromIndex,
 toIndex)\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n *
 @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to
 copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the
 size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\npublic
 actual fun LongArray.copyOfRange(fromIndex: Int, toIndex: Int): LongArray {\n
 AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n return withType("LongArray",
 this.asDynamic().slice(fromIndex, toIndex))\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the
 start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n *
 @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this
 array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\npublic actual fun
 FloatArray.copyOfRange(fromIndex: Int, toIndex: Int): FloatArray {\n
 AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n return this.asDynamic().slice(fromIndex,
 toIndex)\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n *
 @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to
 copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the
 size of this array.\n *
 * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\npublic actual fun
 DoubleArray.copyOfRange(fromIndex: Int, toIndex: Int): DoubleArray {\n
 AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n return this.asDynamic().slice(fromIndex,
 toIndex)\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n *
 @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to
 copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the
 size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\npublic
 actual fun BooleanArray.copyOfRange(fromIndex: Int, toIndex: Int): BooleanArray {\n
 AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n return withType("BooleanArray",
 this.asDynamic().slice(fromIndex, toIndex))\n}\n\n/**\n * Returns a new array which
 is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to
 copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException
 if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
 IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\npublic actual fun
 CharArray.copyOfRange(fromIndex: Int, toIndex: Int): CharArray {\n
 AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n return withType("CharArray",
 this.asDynamic().slice(fromIndex, toIndex))\n}\n\n/**\n * Fills this array or its subrange with the specified
 [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param
 toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws
 IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size


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of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun <T> Array<T>.fill(element: T, fromIndex: Int = 0, toIndex: Int = size): Unit {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n this.asDynamic().fill(element, fromIndex,
toIndex);\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param
fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive)
to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero
or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater
than [toIndex].\n
*\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun ByteArray.fill(element: Byte, fromIndex:
Int = 0, toIndex: Int = size): Unit {\n AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n
this.asDynamic().fill(element, fromIndex, toIndex);\n}\n\n/**\n * Fills this array or its subrange with the specified
[element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param
toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *
@throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun ShortArray.fill(element: Short, fromIndex: Int = 0, toIndex: Int = size): Unit {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n this.asDynamic().fill(element, fromIndex,
toIndex);\n}\n\n/**\n * Fills this array or its subrange with the specified
[element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param
toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *
@throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun IntArray.fill(element: Int, fromIndex: Int = 0, toIndex: Int = size): Unit {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n this.asDynamic().fill(element, fromIndex,
toIndex);\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param
fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive)
to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException
if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun LongArray.fill(element: Long, fromIndex: Int = 0, toIndex: Int = size): Unit {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n this.asDynamic().fill(element, fromIndex,
toIndex);\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param
fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive)
to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero
or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater
than [toIndex].\n
*\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun FloatArray.fill(element: Float, fromIndex: Int = 0, toIndex: Int = size): Unit {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n this.asDynamic().fill(element, fromIndex,
toIndex);\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param
fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive)
to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero
or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater

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than [toIndex].\n

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*\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun DoubleArray.fill(element: Double, fromIndex: Int = 0, toIndex: Int = size): Unit {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n  this.asDynamic().fill(element, fromIndex,
toIndex);\n}\n\n/**\n
 * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the
range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array
by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater
than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun BooleanArray.fill(element: Boolean, fromIndex: Int = 0, toIndex: Int = size): Unit {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n  this.asDynamic().fill(element, fromIndex,
toIndex);\n}\n\n/**\n
 * Fills this array or its subrange with the specified [element] value.\n * \n * @param
fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive)
to
fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or
[toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than
[toIndex].\n
*\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun CharArray.fill(element: Char, fromIndex: Int = 0, toIndex: Int = size): Unit {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n  this.asDynamic().fill(element, fromIndex,
toIndex);\n}\n\n/**\n
 * Returns an array containing all elements of the original array and then the given [element].\n
*\n@Suppress("ACTUAL_WITHOUT_EXPECT", "NOTHING_TO_INLINE")\npublic actual inline operator
fun <T> Array<out T>.plus(element: T): Array<T> {\n  return
this.asDynamic().concat(arrayOf(element))\n}\n\n/**\n
 * Returns an array containing all elements of the original
array and then the given [element].\n *\n@Suppress("NOTHING_TO_INLINE")\npublic
actual inline operator fun ByteArray.plus(element: Byte): ByteArray {\n  return
plus(byteArrayOf(element))\n}\n\n/**\n
 * Returns an array containing all elements of the original array and then the
given [element].\n *\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator fun
ShortArray.plus(element: Short): ShortArray {\n  return plus(shortArrayOf(element))\n}\n\n/**\n
 * Returns an
array containing all elements of the original array and then the given [element].\n
*\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator fun IntArray.plus(element: Int):
IntArray {\n  return plus(intArrayOf(element))\n}\n\n/**\n
 * Returns an array containing all elements of the
original array and then the given [element].\n *\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline
operator fun LongArray.plus(element: Long): LongArray {\n  return plus(longArrayOf(element))\n}\n\n/**\n
 * Returns an array containing all elements of the original array and then the given
[element].\n *\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator fun
FloatArray.plus(element: Float): FloatArray {\n  return plus(floatArrayOf(element))\n}\n\n/**\n
 * Returns an array
containing all elements of the original array and then the given [element].\n
*\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator fun DoubleArray.plus(element:
Double): DoubleArray {\n  return plus(doubleArrayOf(element))\n}\n\n/**\n
 * Returns an array containing all
elements of the original array and then the given [element].\n *\n@Suppress("NOTHING_TO_INLINE")\npublic
actual inline operator fun BooleanArray.plus(element: Boolean): BooleanArray {\n  return
plus(booleanArrayOf(element))\n}\n\n/**\n
 * Returns an array containing all elements of the original array and then
the given [element].\n *\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator fun
CharArray.plus(element: Char): CharArray {\n  return plus(charArrayOf(element))\n}\n\n/**\n
 * Returns
an array containing all elements of the original array and then all elements of the given [elements] collection.\n
*\n@Suppress("ACTUAL_WITHOUT_EXPECT")\npublic actual operator fun <T> Array<out T>.plus(elements:

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Collection<T>): Array<T> {\n return arrayPlusCollection(this, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\npublic actual operator fun ByteArray.plus(elements: Collection<Byte>): ByteArray {\n return fillFromCollection(this.copyOf(size + elements.size), this.size, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\npublic actual operator fun ShortArray.plus(elements: Collection<Short>): ShortArray {\n return fillFromCollection(this.copyOf(size + elements.size), this.size, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\npublic actual operator fun IntArray.plus(elements: Collection<Int>): IntArray {\n return fillFromCollection(this.copyOf(size + elements.size), this.size, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\npublic actual operator fun LongArray.plus(elements: Collection<Long>): LongArray {\n return arrayPlusCollection(this, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\npublic actual operator fun FloatArray.plus(elements: Collection<Float>): FloatArray {\n return fillFromCollection(this.copyOf(size + elements.size), this.size, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\npublic actual operator fun DoubleArray.plus(elements: Collection<Double>): DoubleArray {\n return fillFromCollection(this.copyOf(size + elements.size), this.size, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\npublic actual operator fun BooleanArray.plus(elements: Collection<Boolean>): BooleanArray {\n return arrayPlusCollection(this, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\npublic actual operator fun CharArray.plus(elements: Collection<Char>): CharArray {\n return fillFromCollection(this.copyOf(size + elements.size), this.size, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\n@Suppress("ACTUAL_WITHOUT_EXPECT", "NOTHING_TO_INLINE")\npublic actual inline operator fun <T> Array<out T>.plus(elements: Array<out T>): Array<T> {\n return this.asDynamic().concat(elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator fun ByteArray.plus(elements: ByteArray): ByteArray {\n return primitiveArrayConcat(this, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator fun ShortArray.plus(elements: ShortArray): ShortArray {\n return primitiveArrayConcat(this, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator fun IntArray.plus(elements: IntArray): IntArray {\n return primitiveArrayConcat(this, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator fun LongArray.plus(elements: LongArray): LongArray {\n return primitiveArrayConcat(this, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator fun FloatArray.plus(elements: FloatArray): FloatArray {\n return primitiveArrayConcat(this, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator fun DoubleArray.plus(elements: DoubleArray): DoubleArray {\n return primitiveArrayConcat(this, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator fun BooleanArray.plus(elements: BooleanArray): BooleanArray {\n return primitiveArrayConcat(this,

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elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the
given [elements] array.\n */\n\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator fun
CharArray.plus(elements: CharArray): CharArray {\n    return primitiveArrayConcat(this, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n
*/\n\n@Suppress("ACTUAL_WITHOUT_EXPECT", "NOTHING_TO_INLINE")\npublic actual inline fun <T>
Array<out T>.plusElement(element: T): Array<T> {\n    return
this.asDynamic().concat(arrayOf(element))\n}\n\n/**\n * Sorts the array in-place.\n */\n\n * @sample
samples.collections.Arrays.Sorting.sortArray\n */\n\n@library("primitiveArraySort")\npublic actual fun
IntArray.sort(): Unit {\n    definedExternally\n}\n\n/**\n
* Sorts the array in-place.\n */\n\n * @sample samples.collections.Arrays.Sorting.sortArray\n */\n\npublic actual fun
LongArray.sort(): Unit {\n    @Suppress("DEPRECATION")\n    if (size > 1) sort { a: Long, b: Long ->
a.compareTo(b) }\n}\n\n/**\n * Sorts the array in-place.\n */\n\n * @sample
samples.collections.Arrays.Sorting.sortArray\n */\n\n@library("primitiveArraySort")\npublic actual fun
ByteArray.sort(): Unit {\n    definedExternally\n}\n\n/**\n * Sorts the array in-place.\n */\n\n * @sample
samples.collections.Arrays.Sorting.sortArray\n */\n\n@library("primitiveArraySort")\npublic actual fun
ShortArray.sort(): Unit {\n    definedExternally\n}\n\n/**\n * Sorts the array in-place.\n */\n\n * @sample
samples.collections.Arrays.Sorting.sortArray\n */\n\n@library("primitiveArraySort")\npublic actual fun
DoubleArray.sort(): Unit {\n    definedExternally\n}\n\n/**\n * Sorts the array in-place.\n */\n\n * @sample
samples.collections.Arrays.Sorting.sortArray\n */\n\n@library("primitiveArraySort")\npublic
actual fun FloatArray.sort(): Unit {\n    definedExternally\n}\n\n/**\n * Sorts the array in-place.\n */\n\n * @sample
samples.collections.Arrays.Sorting.sortArray\n */\n\n@library("primitiveArraySort")\npublic actual fun
CharArray.sort(): Unit {\n    definedExternally\n}\n\n/**\n * Sorts the array in-place according to the natural order
of its elements.\n */\n\n * The sort is _stable_. It means that equal elements preserve their order relative to each other
after sorting.\n */\n\n * @sample samples.collections.Arrays.Sorting.sortArrayOfComparable\n */\n\npublic actual fun
<T : Comparable<T>> Array<out T>.sort(): Unit {\n    if (size > 1) sortArray(this)\n}\n\n/**\n * Sorts the array in-
place according to the order specified by the given [comparison] function.\n */\n\n * The sort is _stable_. It means that
equal elements preserve their order relative to each other after sorting.\n */\n\n@Deprecated("Use sortWith instead",
ReplaceWith("this.sortWith(Comparator(comparison))"))\n@DeprecatedSinceKotlin(warningSince
= "1.6")\npublic fun <T> Array<out T>.sort(comparison: (a: T, b: T) -> Int): Unit {\n    if (size > 1)
sortArrayWith(this, comparison)\n}\n\n/**\n * Sorts a range in the array in-place.\n */\n\n * The sort is _stable_. It
means that equal elements preserve their order relative to each other after sorting.\n */\n\n * @param fromIndex the
start of the range (inclusive) to sort, 0 by default.\n */\n\n * @param toIndex the end of the range (exclusive) to sort, size
of this array by default.\n */\n\n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex]
is greater than the size of this array.\n */\n\n * @throws IllegalArgumentException if [fromIndex] is greater than
[toIndex].\n */\n\n * @sample samples.collections.Arrays.Sorting.sortRangeOfArrayOfComparable\n
*/\n\n@SinceKotlin("1.4")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun <T : Comparable<T>> Array<out T>.sort(fromIndex: Int = 0, toIndex: Int = size):
Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    sortArrayWith(this, fromIndex, toIndex,
naturalOrder())\n}\n\n/**\n * Sorts a range in the array in-place.\n */\n\n * @param fromIndex the start of the range
(inclusive) to sort, 0 by default.\n */\n\n * @param toIndex the end of the range (exclusive) to sort, size of this array by
default.\n */\n\n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than
the size of this array.\n */\n\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n\n *
@sample samples.collections.Arrays.Sorting.sortRangeOfArray\n
*/\n\n@SinceKotlin("1.4")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun ByteArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    val subarray =
this.asDynamic().subarray(fromIndex, toIndex).unsafeCast<ByteArray>()\n    subarray.sort()\n}\n\n/**\n * Sorts a
range

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samples.collections.Arrays.Sorting.sortRangeOfArray\n
*\n@SinceKotlin("1.4")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun CharArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    val subarray =
this.asDynamic().subarray(fromIndex, toIndex).unsafeCast<CharArray>\n    subarray.sort()\n}\n\n/**\n
 * Sorts the array in-place according to the order specified by the given [comparison] function.\n
*\n@Deprecated("Use other sorting functions from the Standard
Library")\n@DeprecatedSinceKotlin(warningSince = "1.6")\n@kotlin.internal.InlineOnly\npublic inline fun
ByteArray.sort(noinline comparison: (a: Byte, b: Byte) -> Int): Unit {\n    asDynamic().sort(comparison)\n}\n\n/**\n
 * Sorts the array in-place according to the order specified by the given [comparison] function.\n
*\n@Deprecated("Use other sorting functions from the Standard
Library")\n@DeprecatedSinceKotlin(warningSince = "1.6")\n@kotlin.internal.InlineOnly\npublic inline fun
ShortArray.sort(noinline comparison: (a: Short, b: Short) -> Int): Unit {\n
asDynamic().sort(comparison)\n}\n\n/**\n
 * Sorts the array in-place according to the order specified by the given
[comparison] function.\n
*\n@Deprecated("Use other sorting functions from the Standard
Library")\n@DeprecatedSinceKotlin(warningSince
= "1.6")\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.sort(noinline comparison: (a: Int, b: Int) -> Int):
Unit {\n    asDynamic().sort(comparison)\n}\n\n/**\n
 * Sorts the array in-place according to the order specified by
the given [comparison] function.\n
*\n@Deprecated("Use other sorting functions from the Standard
Library")\n@DeprecatedSinceKotlin(warningSince = "1.6")\n@kotlin.internal.InlineOnly\npublic inline fun
LongArray.sort(noinline comparison: (a: Long, b: Long) -> Int): Unit {\n
asDynamic().sort(comparison)\n}\n\n/**\n
 * Sorts the array in-place according to the order specified by the given
[comparison] function.\n
*\n@Deprecated("Use other sorting functions from the Standard
Library")\n@DeprecatedSinceKotlin(warningSince = "1.6")\n@kotlin.internal.InlineOnly\npublic inline fun
FloatArray.sort(noinline comparison: (a: Float, b: Float) -> Int): Unit {\n
asDynamic().sort(comparison)\n}\n\n/**\n
 * Sorts the array in-place according to the
order specified by the given [comparison] function.\n
*\n@Deprecated("Use other sorting functions from the
Standard Library")\n@DeprecatedSinceKotlin(warningSince = "1.6")\n@kotlin.internal.InlineOnly\npublic inline
fun DoubleArray.sort(noinline comparison: (a: Double, b: Double) -> Int): Unit {\n
asDynamic().sort(comparison)\n}\n\n/**\n
 * Sorts the array in-place according to the order specified by the given
[comparison] function.\n
*\n@Deprecated("Use other sorting functions from the Standard
Library")\n@DeprecatedSinceKotlin(warningSince = "1.6")\n@kotlin.internal.InlineOnly\npublic inline fun
CharArray.sort(noinline comparison: (a: Char, b: Char) -> Int): Unit {\n
asDynamic().sort(comparison)\n}\n\n/**\n
 * Sorts the array in-place according to the order specified by the given
[comparator].\n
 * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other
after sorting.\n
*\npublic actual fun <T> Array<out T>.sortWith(comparator:
Comparator<in T>): Unit {\n    if (size > 1) sortArrayWith(this, comparator)\n}\n\n/**\n
 * Sorts a range in the array
in-place with the given [comparator].\n
 * \n * The sort is _stable_. It means that equal elements preserve their order
relative to each other after sorting.\n
 * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by
default.\n
 * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n
 * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n
 * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.4")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun <T> Array<out T>.sortWith(comparator: Comparator<in T>, fromIndex: Int = 0, toIndex: Int = size):
Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    sortArrayWith(this, fromIndex, toIndex,
comparator)\n}\n\n/**\n
 * Returns a *typed* object array containing all of the elements of this primitive array.\n
*\npublic actual fun
ByteArray.toTypedArray(): Array<Byte> {\n    return js("[]").slice.call(this)\n}\n\n/**\n
 * Returns a *typed*

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object array containing all of the elements of this primitive array.\n */\npublic actual fun
ShortArray.toArray(): Array<Short> {\n    return js("[\"]).slice.call(this)\n}\n\n/**\n * Returns a *typed*
object array containing all of the elements of this primitive array.\n */\npublic actual fun IntArray.toArray():
Array<Int> {\n    return js("[\"]).slice.call(this)\n}\n\n/**\n * Returns a *typed* object array containing all of the
elements of this primitive array.\n */\npublic actual fun LongArray.toArray(): Array<Long> {\n    return
js("[\"]).slice.call(this)\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive
array.\n */\npublic actual fun FloatArray.toArray(): Array<Float> {\n    return
js("[\"]).slice.call(this)\n}\n\n/**\n
 * Returns a *typed* object array containing all of the elements of this primitive array.\n */\npublic actual fun
DoubleArray.toArray(): Array<Double> {\n    return js("[\"]).slice.call(this)\n}\n\n/**\n * Returns a *typed*
object array containing all of the elements of this primitive array.\n */\npublic actual fun
BooleanArray.toArray(): Array<Boolean> {\n    return js("[\"]).slice.call(this)\n}\n\n/**\n * Returns a
*typed* object array containing all of the elements of this primitive array.\n */\npublic actual fun
CharArray.toArray(): Array<Char> {\n    return Array(size) { index -> this[index] }\n}\n\n"/\n * Copyright
2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n@file:kotlin.jvm.JvmName("\u0027ComparisonsKt\u0027")\n@file:kotlin.jvm.JvmMultifileClass\n\npackage
kotlin.comparisons\n\n/**\n * Compares
two values using the specified functions [selectors] to calculate the result of the comparison.\n * The functions are
called sequentially, receive the given values [a] and [b] and return [Comparable]\n * objects. As soon as the
[Comparable] instances returned by a function for [a] and [b] values do not\n * compare as equal, the result of that
comparison is returned.\n * \n * @sample samples.comparisons.Comparisons.compareValuesByWithSelectors\n
*/\npublic fun <T> compareValuesBy(a: T, b: T, vararg selectors: (T) -> Comparable<*>?): Int {\n
    require(selectors.size > 0)\n    return compareValuesByImpl(a, b, selectors)\n}\n\nprivate fun <T>
compareValuesByImpl(a: T, b: T, selectors: Array<out (T) -> Comparable<*>?): Int {\n    for (fn in selectors) {\n
        val v1 = fn(a)\n        val v2 = fn(b)\n        val diff = compareValues(v1, v2)\n        if (diff != 0) return diff\n    }\n
    return 0\n}\n\n/**\n * Compares two values using the specified [selector] function to calculate the
result of the comparison.\n * The function is applied to the given values [a] and [b] and return [Comparable]
objects.\n * The result of comparison of these [Comparable] instances is returned.\n * \n * @sample
samples.comparisons.Comparisons.compareValuesByWithSingleSelector\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun <T> compareValuesBy(a: T, b: T, selector: (T) -> Comparable<*>?): Int {\n    return
compareValues(selector(a), selector(b))\n}\n\n/**\n * Compares two values using the specified [selector] function to
calculate the result of the comparison.\n * The function is applied to the given values [a] and [b] and return objects
of type K which are then being\n * compared with the given [comparator].\n * \n * @sample
samples.comparisons.Comparisons.compareValuesByWithComparator\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun <T, K> compareValuesBy(a: T, b: T, comparator: Comparator<in K>, selector: (T) -> K): Int {\n    return
comparator.compare(selector(a), selector(b))\n}\n\n///
Not so useful without type inference for receiver of expression\n/// compareValuesWith(v1, v2, compareBy {
it.prop1 } thenByDescending { it.prop2 })\n///\n/**\n * Compares two values using the specified [comparator].\n//
*/\n@Suppress("\u0027NOTHING_TO_INLINE\u0027")\npublic inline fun <T> compareValuesWith(a: T, b: T, comparator:
Comparator<T>): Int = comparator.compare(a, b)\n\n/**\n * Compares two nullable [Comparable] values. Null
is considered less than any value.\n * \n * @sample samples.comparisons.Comparisons.compareValues\n
*/\npublic fun <T : Comparable<*>> compareValues(a: T?, b: T?): Int {\n    if (a === b) return 0\n    if (a == null) return -1\n
    if (b == null) return 1\n    @Suppress("\u0027UNCHECKED_CAST\u0027")\n    return (a as
Comparable<Any>).compareTo(b)\n}\n\n/**\n * Creates a comparator using the sequence of functions to calculate a
result of comparison.\n * The functions are called sequentially, receive the given values `a` and `b` and return
[Comparable]\n

```

* objects. As soon as the [Comparable] instances returned by a function for `a` and `b` values do not compare as equal, the result of that comparison is returned from the [Comparator].

```

samples.comparisons.Comparisons.compareByWithSelectors
    public fun <T> compareBy(vararg selectors: (T) -> Comparable<*>?): Comparator<T> {
        require(selectors.size > 0)
        return Comparator { a, b ->
            compareValuesByImpl(a, b, selectors) }
    }
    * Creates a comparator using the function to transform value to a [Comparable] instance for comparison.
    @sample
samples.comparisons.Comparisons.compareByWithSingleSelector
    @kotlin.internal.InlineOnly
    public inline fun <T> compareBy(crossinline selector: (T) -> Comparable<*>?): Comparator<T> =
        Comparator { a, b ->
            compareValuesBy(a, b, selector) }
    * Creates a comparator using the [selector] function to transform values being compared and then applying the specified [comparator] to compare transformed values.
    @sample
samples.comparisons.Comparisons.compareByWithComparator
    @kotlin.internal.InlineOnly
    public inline fun <T, K> compareBy(comparator: Comparator<in K>, crossinline selector: (T) -> K): Comparator<T> =
        Comparator { a, b -> compareValuesBy(a, b, comparator, selector) }
    * Creates a descending comparator using the function to transform value to a [Comparable] instance for comparison.
    @sample
samples.comparisons.Comparisons.compareByDescendingWithSingleSelector
    @kotlin.internal.InlineOnly
    public inline fun <T> compareByDescending(crossinline selector: (T) -> Comparable<*>?): Comparator<T> =
        Comparator { a, b -> compareValuesBy(b, a, selector) }
    * Creates a descending comparator using the [selector] function to transform values being compared and then applying the specified [comparator] to compare transformed values.
    * Note that an order of [comparator] is reversed by this wrapper.
    @sample
samples.comparisons.Comparisons.compareByDescendingWithComparator
    @kotlin.internal.InlineOnly
    public inline fun <T, K> compareByDescending(comparator: Comparator<in K>, crossinline selector: (T) -> K): Comparator<T> =
        Comparator { a, b -> compareValuesBy(b, a, comparator, selector) }
    * Creates a comparator comparing values after the primary comparator defined them equal. It uses the function to transform value to a [Comparable] instance for comparison.
    @sample
samples.comparisons.Comparisons.thenBy
    @kotlin.internal.InlineOnly
    public inline fun <T> Comparator<T>.thenBy(crossinline selector: (T) -> Comparable<*>?): Comparator<T> =
        Comparator { a, b ->
            val previousCompare = this@thenBy.compare(a, b)
            if (previousCompare != 0) previousCompare else
            compareValuesBy(a, b, selector) }
    * Creates a comparator comparing values after the primary comparator defined them equal. It uses the [selector] function to transform values and then compares them with the given [comparator].
    @sample
samples.comparisons.Comparisons.thenByWithComparator
    @kotlin.internal.InlineOnly
    public inline fun <T, K> Comparator<T>.thenBy(comparator: Comparator<in K>, crossinline selector: (T) -> K): Comparator<T> =
        Comparator { a, b ->
            val previousCompare = this@thenBy.compare(a, b)
            if (previousCompare != 0)
            previousCompare else compareValuesBy(a, b, comparator, selector) }
    * Creates a descending comparator using the primary comparator and the function to transform value to a [Comparable] instance for comparison.
    @sample
samples.comparisons.Comparisons.thenByDescending
    @kotlin.internal.InlineOnly
    public inline fun <T> Comparator<T>.thenByDescending(crossinline selector: (T) -> Comparable<*>?): Comparator<T> =
        Comparator { a, b ->
            val previousCompare =
            this@thenByDescending.compare(a, b)
            if (previousCompare != 0) previousCompare else
            compareValuesBy(b,
            a, selector) }
    * Creates a descending comparator comparing values after the primary comparator defined them equal. It uses the [selector] function to transform values and then compares them with the given [comparator].
    @sample
samples.comparisons.Comparisons.thenByDescendingWithComparator
    @kotlin.internal.InlineOnly
    public inline fun <T, K> Comparator<T>.thenByDescending(comparator:
    Comparator<in K>, crossinline selector: (T) -> K): Comparator<T> =
        Comparator { a, b ->
            val
            previousCompare = this@thenByDescending.compare(a, b)
            if (previousCompare != 0) previousCompare else
            compareValuesBy(b, a, comparator, selector) }
    * Creates a comparator using the primary comparator

```



```

and function to calculate a result of comparison.\n *\n * @sample
samples.comparisons.Comparisons.thenComparator\n *\n@kotlin.internal.InlineOnly\npublic inline fun <T>
Comparator<T>.thenComparator(crossinline comparison: (a: T, b: T) -> Int):
Comparator<T> =\n    Comparator { a, b ->\n        val previousCompare = this@thenComparator.compare(a, b)\n
    if (previousCompare != 0) previousCompare else comparison(a, b)\n    }\n\n/**\n * Combines this comparator and
the given [comparison] such that the latter is applied only\n * when the former considered values equal.\n *\n *
@sample samples.comparisons.Comparisons.then\n *\npublic infix fun <T> Comparator<T>.then(comparator:
Comparator<in T>): Comparator<T> =\n    Comparator { a, b ->\n        val previousCompare =
this@then.compare(a, b)\n        if (previousCompare != 0) previousCompare else comparator.compare(a, b)\n
    }\n\n/**\n * Combines this comparator and the given [comparator] such that the latter is applied only\n * when the
former considered values equal.\n *\n * @sample samples.comparisons.Comparisons.thenDescending\n *\npublic
infix fun <T> Comparator<T>.thenDescending(comparator: Comparator<in T>): Comparator<T> =\n
Comparator<T> { a, b ->\n
    val previousCompare = this@thenDescending.compare(a, b)\n        if (previousCompare != 0) previousCompare
else comparator.compare(b, a)\n    }\n\n// Not so useful without type inference for receiver of expression\n\n/**\n *
Extends the given [comparator] of non-nullable values to a comparator of nullable values\n * considering `null`
value less than any other value.\n *\n * @sample
samples.comparisons.Comparisons.nullsFirstLastWithComparator\n *\npublic fun <T : Any>
nullsFirst(comparator: Comparator<in T>): Comparator<T?> =\n    Comparator { a, b ->\n        when {\n            a
=== b -> 0\n            a == null -> -1\n            b == null -> 1\n            else -> comparator.compare(a, b)\n        }\n
    }\n\n/**\n * Provides a comparator of nullable [Comparable] values\n * considering `null` value less than any other
value.\n *\n * @sample samples.comparisons.Comparisons.nullsFirstLastComparator\n
*\n@kotlin.internal.InlineOnly\npublic inline fun <T : Comparable<T>> nullsFirst():
Comparator<T?> = nullsFirst(naturalOrder())\n\n/**\n * Extends the given [comparator] of non-nullable values to a
comparator of nullable values\n * considering `null` value greater than any other value.\n *\n * @sample
samples.comparisons.Comparisons.nullsFirstLastWithComparator\n *\npublic fun <T : Any>
nullsLast(comparator: Comparator<in T>): Comparator<T?> =\n    Comparator { a, b ->\n        when {\n            a
=== b -> 0\n            a == null -> 1\n            b == null -> -1\n            else -> comparator.compare(a, b)\n        }\n
    }\n\n/**\n * Provides a comparator of nullable [Comparable] values\n * considering `null` value greater than any
other value.\n *\n * @sample samples.comparisons.Comparisons.nullsFirstLastComparator\n
*\n@kotlin.internal.InlineOnly\npublic inline fun <T : Comparable<T>> nullsLast(): Comparator<T?> =
nullsLast(naturalOrder())\n\n/**\n * Returns a comparator that compares [Comparable] objects in natural order.\n\n *\n * @sample samples.comparisons.Comparisons.naturalOrderComparator\n
*\npublic fun <T : Comparable<T>> naturalOrder(): Comparator<T> = @Suppress("UNCHECKED_CAST")
(NaturalOrderComparator as Comparator<T>)\n\n/**\n * Returns a comparator that compares [Comparable] objects
in reversed natural order.\n *\n * @sample samples.comparisons.Comparisons.nullsFirstLastWithComparator\n\n
*\npublic fun <T : Comparable<T>> reverseOrder(): Comparator<T> = @Suppress("UNCHECKED_CAST")
(ReverseOrderComparator as Comparator<T>)\n\n/**\n * Returns a comparator that imposes the reverse ordering
of this comparator.\n *\n * @sample samples.comparisons.Comparisons.reversed\n\n
*\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER")\npublic fun <T> Comparator<T>.reversed():
Comparator<T> = when (this) {\n    is ReversedComparator -> this.comparator\n    NaturalOrderComparator ->
@Suppress("UNCHECKED_CAST") (ReverseOrderComparator as Comparator<T>)\n}\n\nReverseOrderComparator -> @Suppress("UNCHECKED_CAST") (NaturalOrderComparator as
Comparator<T>)\n
    else -> ReversedComparator(this)\n}\n\nprivate class ReversedComparator<T>(public val comparator:
Comparator<T>) : Comparator<T> {\n    override fun compare(a: T, b: T): Int = comparator.compare(b, a)\n
    @Suppress("VIRTUAL_MEMBER_HIDDEN")\n    fun reversed(): Comparator<T> = comparator\n}\n\nprivate
object NaturalOrderComparator : Comparator<Comparable<Any>> {\n    override fun compare(a:

```

```

Comparable<Any>, b: Comparable<Any>): Int = a.compareTo(b)\n
@Suppress(\\"VIRTUAL_MEMBER_HIDDEN\\")\n fun reversed(): Comparator<Comparable<Any>> =
ReverseOrderComparator\n}\n\nprivate object ReverseOrderComparator : Comparator<Comparable<Any>> {\n
override fun compare(a: Comparable<Any>, b: Comparable<Any>): Int = b.compareTo(a)\n
@Suppress(\\"VIRTUAL_MEMBER_HIDDEN\\")\n fun reversed(): Comparator<Comparable<Any>> =
NaturalOrderComparator\n}\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\\"StandardKt\\")\npackage kotlin\n\nimport
kotlin.contracts.*\n\n/**\n * An exception is thrown to indicate that a method body remains to be implemented.\n
*/\n\npublic class NotImplementedError(message: String = \\"An operation is not implemented.\") :
Error(message)\n\n/**\n * Always throws [NotImplementedError] stating that operation is not implemented.\n
*/\n\n\n@kotlin.internal.InlineOnly\npublic inline fun TODO(): Nothing = throw NotImplementedError()\n\n/**\n *
Always throws [NotImplementedError] stating that operation is not implemented.\n * \n * @param reason a string
explaining why the implementation is missing.\n * \n\n@kotlin.internal.InlineOnly\npublic inline fun TODO(reason:
String): Nothing = throw NotImplementedError(\\"An operation is not implemented: $reason\\")\n\n\n\n/**\n * Calls
the specified function [block] and returns its result.\n
*\n * For detailed usage information see the documentation for [scope
functions](https://kotlinlang.org/docs/reference/scope-functions.html#run).\n
*/\n\n@kotlin.internal.InlineOnly\npublic inline fun <R> run(block: () -> R): R {\n contract {\n
callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n } \n return block()\n}\n\n/**\n * Calls the specified
function [block] with `this` value as its receiver and returns its result.\n * \n * For detailed usage information see the
documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#run).\n
*/\n\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> T.run(block: T.() -> R): R {\n contract {\n
callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n } \n return block()\n}\n\n/**\n * Calls the specified
function [block] with the given [receiver] as its receiver and returns its result.\n * \n * For detailed usage information
see the documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#with).\n
*/\n\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> with(receiver: T, block: T.() -> R): R {\n contract {\n
callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n } \n return receiver.block()\n}\n\n/**\n * Calls the
specified function [block] with `this` value as its receiver and returns `this` value.\n * \n * For detailed usage
information see the documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-
functions.html#apply).\n
*/\n\n@kotlin.internal.InlineOnly\npublic inline fun <T> T.apply(block: T.() -> Unit): T {\n contract {\n
callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n } \n block()\n return
this\n}\n\n\n/**\n * Calls the specified function [block] with `this` value as its argument and returns `this` value.\n
*\n * For detailed usage information see the documentation for [scope
functions](https://kotlinlang.org/docs/reference/scope-functions.html#also).\n
*/\n\n@kotlin.internal.InlineOnly\n@SinceKotlin(\\"1.1\\")\npublic
inline fun <T> T.also(block: (T) -> Unit): T {\n contract {\n callsInPlace(block,
InvocationKind.EXACTLY_ONCE)\n } \n block(this)\n return this\n}\n\n/**\n * Calls the specified function
[block] with `this` value as its argument and returns its result.\n * \n * For detailed usage information see the
documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#let).\n
*/\n\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> T.let(block: (T) -> R): R {\n contract {\n
callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n } \n return block(this)\n}\n\n\n/**\n * Returns `this`
value if it satisfies the given [predicate] or `null`, if it doesn't.\n * \n * For detailed usage information see the
documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#takeif-and-
takeunless).\n
*/\n\n@kotlin.internal.InlineOnly\n@SinceKotlin(\\"1.1\\")\npublic inline fun
<T> T.takeIf(predicate: (T) -> Boolean): T? {\n contract {\n callsInPlace(predicate,
InvocationKind.EXACTLY_ONCE)\n } \n return if (predicate(this)) this else null\n}\n\n\n\n/**\n * Returns `this`

```

value if it `_does not_` satisfy the given [predicate] or ``null``, if it does.

```

    * For detailed usage information see the
    documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#takeif-and-
    takeunless).
    * @kotlin.internal.InlineOnly
    * @SinceKotlin("1.1")
    * public inline fun <T>
    T.takeUnless(predicate: (T) -> Boolean): T? {
    contract {
    callsInPlace(predicate,
    InvocationKind.EXACTLY_ONCE)
    }
    return if (!predicate(this)) this else null
    }
    * Executes the
    given function [action] specified number of [times].
    * A zero-based index of current iteration is passed as a
    parameter to [action].
    * @sample samples.misc.ControlFlow.repeat
    * @kotlin.internal.InlineOnly
    * public
    inline fun repeat(times: Int, action:
    (Int) -> Unit) {
    contract {
    callsInPlace(action)
    }
    for (index in 0 until times) {
    action(index)
    }
    }
    * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.
    * Use of
    this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.
    * @npackage kotlin.comparisons
    * @n/n/
    * // NOTE: THIS FILE IS AUTO-GENERATED by the
    GenerateStandardLib.kt
    * // See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib
    * @n/n
    * import
    kotlin.js.
    * @n/n
    * * Returns the greater of two values.
    * * If values are equal, returns the first one.
    * @SinceKotlin("1.1")
    * public actual fun <T : Comparable<T>> maxOf(a: T, b: T): T {
    return if (a >= b) a
    else b
    }
    * Returns the greater of two values.
    * @SinceKotlin("1.1")
    * @kotlin.internal.InlineOnly
    * public actual inline fun maxOf(a: Byte, b: Byte): Byte {
    return maxOf(a.toInt(), b.toInt()).unsafeCast<Byte>()
    }
    * Returns the greater of two values.
    * @SinceKotlin("1.1")
    * @kotlin.internal.InlineOnly
    * public actual inline
    fun maxOf(a: Short, b: Short): Short {
    return maxOf(a.toInt(), b.toInt()).unsafeCast<Short>()
    }
    * Returns the greater of two values.
    * @SinceKotlin("1.1")
    * @kotlin.internal.InlineOnly
    * public actual inline
    fun maxOf(a: Int, b: Int): Int {
    return JsMath.max(a, b)
    }
    * Returns the greater of two values.
    * @SinceKotlin("1.1")
    * @Suppress("NOTHING_TO_INLINE")
    * public actual inline fun maxOf(a: Long, b:
    Long): Long {
    return if (a >= b) a else b
    }
    * Returns the greater of two values.
    * * If either value
    is `NaN`, returns `NaN`.
    * @SinceKotlin("1.1")
    * @kotlin.internal.InlineOnly
    * public actual inline fun
    maxOf(a: Float, b: Float): Float {
    return JsMath.max(a, b)
    }
    * Returns the greater of two values.
    * * If either value
    is `NaN`, returns `NaN`.
    * @SinceKotlin("1.1")
    * @kotlin.internal.InlineOnly
    * public
    actual inline fun maxOf(a: Double, b: Double): Double {
    return JsMath.max(a, b)
    }
    * Returns the
    greater of three values.
    * * If there are multiple equal maximal values, returns the first of them.
    * @SinceKotlin("1.1")
    * public actual fun <T : Comparable<T>> maxOf(a: T, b: T, c: T): T {
    return
    maxOf(a, maxOf(b, c))
    }
    * Returns the greater of three values.
    * @SinceKotlin("1.1")
    * @kotlin.internal.InlineOnly
    * public actual inline fun maxOf(a: Byte, b: Byte, c: Byte):
    Byte {
    return JsMath.max(a.toInt(), b.toInt(), c.toInt()).unsafeCast<Byte>()
    }
    * Returns the greater of
    three values.
    * @SinceKotlin("1.1")
    * @kotlin.internal.InlineOnly
    * public actual inline fun maxOf(a: Short, b:
    Short, c: Short): Short {
    return JsMath.max(a.toInt(), b.toInt(), c.toInt()).unsafeCast<Short>()
    }
    * Returns the greater of three values.
    * @SinceKotlin("1.1")
    * @kotlin.internal.InlineOnly
    * public actual
    inline fun maxOf(a: Int, b: Int, c: Int): Int {
    return JsMath.max(a, b, c)
    }
    * Returns the greater of three
    values.
    * @SinceKotlin("1.1")
    * @kotlin.internal.InlineOnly
    * public actual inline fun maxOf(a: Long, b: Long,
    c: Long): Long {
    return maxOf(a, maxOf(b, c))
    }
    * Returns the greater of three values.
    * * If any
    value is `NaN`, returns `NaN`.
    * @SinceKotlin("1.1")
    * @kotlin.internal.InlineOnly
    * public actual inline fun
    maxOf(a: Float, b: Float, c: Float): Float {
    return JsMath.max(a, b, c)
    }
    * Returns the greater of three
    values.
    * * If any value
    is `NaN`, returns `NaN`.
    * @SinceKotlin("1.1")
    * @kotlin.internal.InlineOnly
    * public actual inline fun maxOf(a: Double, b: Double, c:
    Double): Double {
    return JsMath.max(a, b, c)
    }
    * Returns the greater of the given values.
    * * If
    there are multiple equal maximal values, returns the first of them.
    * @SinceKotlin("1.4")
    * public actual fun <T
    : Comparable<T>>
    maxOf(a: T, vararg other: T): T {
    var max = a
    for (e in other) max = maxOf(max, e)
    return
    max
    }
    * Returns the greater of the given values.
    * @SinceKotlin("1.4")
    * public actual fun maxOf(a:

```

```

Byte, vararg other: Byte): Byte {
    var max = a
    for (e in other) max = maxOf(max, e)
    return max
}

Returns the greater of the given values.

@SinceKotlin("1.4")
public actual fun maxOf(a: Short, vararg other: Short): Short {
    var max = a
    for (e in other) max = maxOf(max, e)
    return max
}

Returns the greater of the given values.

@SinceKotlin("1.4")
public actual fun maxOf(a: Int, vararg other: Int): Int {
    var max = a
    for (e in other) max = maxOf(max, e)
    return max
}

Returns the greater of the given values.

@SinceKotlin("1.4")
public actual fun maxOf(a: Long, vararg other: Long): Long {
    var max = a
    for (e in other) max = maxOf(max, e)
    return max
}

Returns the greater of the given values.

* If any value is `NaN`, returns `NaN`.

@SinceKotlin("1.4")
public actual fun maxOf(a: Float, vararg other: Float): Float {
    var max = a
    for (e in other) max = maxOf(max, e)
    return max
}

Returns the greater of the given values.

* If any value is `NaN`, returns `NaN`.

@SinceKotlin("1.4")
public actual fun maxOf(a: Double, vararg other: Double): Double {
    var max = a
    for (e in other) max = maxOf(max, e)
    return max
}

Returns the smaller of two values.

* If values are equal, returns the first one.

@SinceKotlin("1.1")
public actual fun <T : Comparable<T>> minOf(a: T, b: T): T {
    return if (a <= b) a else b
}

Returns the smaller of two values.

@SinceKotlin("1.1")
@kotlin.internal.InlineOnly
public actual inline fun minOf(a: Byte, b: Byte): Byte {
    return minOf(a.toInt(), b.toInt()).unsafeCast<Byte>()
}

Returns the smaller of two values.

@SinceKotlin("1.1")
@kotlin.internal.InlineOnly
public actual inline fun minOf(a: Short, b: Short): Short {
    return minOf(a.toInt(), b.toInt()).unsafeCast<Short>()
}

Returns the smaller of two values.

@SinceKotlin("1.1")
@kotlin.internal.InlineOnly
public actual inline fun minOf(a: Int, b: Int): Int {
    return JsMath.min(a, b)
}

Returns the smaller of two values.

@SinceKotlin("1.1")
@Suppress("NOTHING_TO_INLINE")
public actual inline fun minOf(a: Long, b: Long): Long {
    return if (a <= b) a else b
}

Returns the smaller of two values.

* If either value is `NaN`, returns `NaN`.

@SinceKotlin("1.1")
@kotlin.internal.InlineOnly
public actual inline fun minOf(a: Float, b: Float): Float {
    return JsMath.min(a, b)
}

Returns the smaller of two values.

* If either value is `NaN`, returns `NaN`.

@SinceKotlin("1.1")
@kotlin.internal.InlineOnly
public actual inline fun minOf(a: Double, b: Double): Double {
    return JsMath.min(a, b)
}

Returns the smaller of two values.

* If there are multiple equal minimal values, returns the first of them.

@SinceKotlin("1.1")
public actual fun <T : Comparable<T>> minOf(a: T, b: T, c: T): T {
    return minOf(a, minOf(b, c))
}

Returns the smaller of three values.

@SinceKotlin("1.1")
@kotlin.internal.InlineOnly
public actual inline fun minOf(a: Byte, b: Byte, c: Byte): Byte {
    return JsMath.min(a.toInt(), b.toInt(), c.toInt()).unsafeCast<Byte>()
}

Returns the smaller of three values.

@SinceKotlin("1.1")
@kotlin.internal.InlineOnly
public actual inline fun minOf(a: Short, b: Short, c: Short): Short {
    return JsMath.min(a.toInt(), b.toInt(), c.toInt()).unsafeCast<Short>()
}

Returns the smaller of three values.

@SinceKotlin("1.1")
@kotlin.internal.InlineOnly
public actual inline fun minOf(a: Int, b: Int, c: Int): Int {
    return JsMath.min(a, b, c)
}

Returns the smaller of three values.

@SinceKotlin("1.1")
@kotlin.internal.InlineOnly
public actual inline fun minOf(a: Long, b: Long, c: Long): Long {
    return minOf(a, minOf(b, c))
}

Returns the smaller of three values.

* If any value is `NaN`, returns `NaN`.

@SinceKotlin("1.1")
@kotlin.internal.InlineOnly
public actual inline fun minOf(a: Float, b: Float, c: Float): Float {
    return JsMath.min(a, b, c)
}

Returns the smaller of three values.

* If any value is `NaN`, returns `NaN`.

@SinceKotlin("1.1")
@kotlin.internal.InlineOnly
public actual inline fun minOf(a: Double, b: Double, c: Double): Double {
    return JsMath.min(a, b, c)
}

Returns the smaller of the given values.

* If there are multiple equal minimal values, returns the first of them.

@SinceKotlin("1.4")
public actual fun <T : Comparable<T>> minOf(a: T, vararg other: T): T {
    var min = a
    for (e in other) min = minOf(min, e)
    return min
}

Returns the smaller of the given values.

@SinceKotlin("1.4")
public actual fun minOf(a: Byte, vararg other: Byte): Byte {
    var min = a
    for (e in other) min = minOf(min, e)
    return min
}

Returns the smaller of the given values.

@SinceKotlin("1.4")
public actual fun minOf(a: Short, vararg

```

```

other: Short): Short {
    var min = a
    for (e in other) min = minOf(min, e)
    return min
}

/**
 * Returns the smaller of the given values.
 */
@SinceKotlin("1.4")
public actual fun minOf(a: Int, vararg other: Int): Int {
    var min = a
    for (e in other) min = minOf(min, e)
    return min
}

/**
 * Returns the smaller of the given values.
 */
@SinceKotlin("1.4")
public actual fun minOf(a: Long, vararg other: Long): Long {
    var min = a
    for (e in other) min = minOf(min, e)
    return min
}

/**
 * Returns the smaller of the given values.
 */
 * If any value is `NaN`, returns `NaN`.
}

@SinceKotlin("1.4")
public actual fun minOf(a: Float, vararg other: Float): Float {
    var min = a
    for (e in other) min = minOf(min, e)
    return min
}

/**
 * Returns the smaller of the given values.
 */
 * If any value is `NaN`, returns `NaN`.
}

@SinceKotlin("1.4")
public actual fun minOf(a: Double, vararg other: Double): Double {
    var min = a
    for (e in other) min = minOf(min, e)
    return min
}

"/

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package kotlin
import kotlin.experimental.*
import kotlin.jvm.*
@SinceKotlin("1.5")
@WasExperimental(ExperimentalUnsignedTypes::class)
@JvmInline
public value class ULong @PublishedApi

internal constructor(@PublishedApi internal val data: Long) : Comparable<ULong> {
    companion object {
        /**
         * A constant holding the minimum value an instance of ULong can have.
         */
        public const val MIN_VALUE: ULong = ULong(0)

        /**
         * A constant holding the maximum value an instance of ULong can have.
         */
        public const val MAX_VALUE: ULong = ULong(-1)

        /**
         * The number of bytes used to represent an instance of ULong in a binary form.
         */
        public const val SIZE_BYTES: Int = 8

        /**
         * The number of bits used to represent an instance of ULong in a binary form.
         */
        public const val SIZE_BITS: Int = 64
    }

    /**
     * Compares this value with the specified value for order.
     * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,
     * or a positive number if it's greater than other.
     */
    @kotlin.internal.InlineOnly
    public inline operator fun compareTo(other: UByte): Int = this.compareTo(other.toULong())

    /**
     * Compares this value with the specified value for order.
     * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,
     * or a positive number if it's greater than other.
     */
    @kotlin.internal.InlineOnly
    public inline operator fun compareTo(other: UShort): Int = this.compareTo(other.toULong())

    /**
     * Compares this value with the specified value for order.
     * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,
     * or a positive number if it's greater than other.
     */
    @kotlin.internal.InlineOnly
    public inline operator fun compareTo(other: UInt): Int = this.compareTo(other.toULong())

    /**
     * Compares this value with the specified value for order.
     * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,
     * or a positive number if it's greater than other.
     */
    @kotlin.internal.InlineOnly
    public override inline operator fun compareTo(other: ULong): Int = ulongCompare(this.data, other.data)

    /**
     * Adds the other value to this value.
     */
    @kotlin.internal.InlineOnly
    public inline operator fun plus(other: UByte): ULong = this.plus(other.toULong())

    /**
     * Adds the other value to this value.
     */
    @kotlin.internal.InlineOnly
    public inline operator fun plus(other: UShort): ULong = this.plus(other.toULong())

    /**
     * Adds the other value to this value.
     */
    @kotlin.internal.InlineOnly
    public inline operator fun plus(other: UInt): ULong = this.plus(other.toULong())

    /**
     * Adds the other value to this value.
     */
    @kotlin.internal.InlineOnly
    public inline operator fun plus(other: ULong): ULong = ULong(this.data.plus(other.data))

    /**
     * Subtracts the other value from this value.
     */
    @kotlin.internal.InlineOnly
    public inline operator fun minus(other: UByte): ULong = this.minus(other.toULong())

    /**
     * Subtracts the other value from this value.
     */
    @kotlin.internal.InlineOnly
    public inline operator fun minus(other: UShort): ULong = this.minus(other.toULong())

    /**
     * Subtracts the other value from this value.
     */
    @kotlin.internal.InlineOnly
    public inline operator fun minus(other: UInt): ULong =

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this.minus(other.toULong())\n /** Subtracts the other value from this value. *\n @kotlin.internal.InlineOnly\n
public inline operator fun minus(other: ULong): ULong = ULong(this.data.minus(other.data))\n /** Multiplies
this value by the other value. *\n @kotlin.internal.InlineOnly\n public inline operator fun times(other: UByte):
ULong = this.times(other.toULong())\n /** Multiplies this value by the other value. *\n
@kotlin.internal.InlineOnly\n
public inline operator fun times(other: UShort): ULong = this.times(other.toULong())\n /** Multiplies this
value by the other value. *\n @kotlin.internal.InlineOnly\n public inline operator fun times(other: UInt): ULong
= this.times(other.toULong())\n /** Multiplies this value by the other value. *\n @kotlin.internal.InlineOnly\n
public inline operator fun times(other: ULong): ULong = ULong(this.data.times(other.data))\n /** Divides this
value by the other value, truncating the result to an integer that is closer to zero. *\n @kotlin.internal.InlineOnly\n
public inline operator fun div(other: UByte): ULong = this.div(other.toULong())\n /** Divides this value by the
other value, truncating the result to an integer that is closer to zero. *\n @kotlin.internal.InlineOnly\n public
inline operator fun div(other: UShort): ULong = this.div(other.toULong())\n /** Divides this value by the other
value, truncating the result
to an integer that is closer to zero. *\n @kotlin.internal.InlineOnly\n public inline operator fun div(other: UInt):
ULong = this.div(other.toULong())\n /** Divides this value by the other value, truncating the result to an integer
that is closer to zero. *\n @kotlin.internal.InlineOnly\n public inline operator fun div(other: ULong): ULong =
ulongDivide(this, other)\n /**\n * Calculates the remainder of truncating division of this value by the other
value.\n * \n * The result is always less than the divisor.\n *\n @kotlin.internal.InlineOnly\n public
inline operator fun rem(other: UByte): ULong = this.rem(other.toULong())\n /**\n * Calculates the remainder
of truncating division of this value by the other value.\n * \n * The result is always less than the divisor.\n
*\n @kotlin.internal.InlineOnly\n public inline operator fun rem(other: UShort): ULong =
this.rem(other.toULong())\n /**\n * Calculates the remainder
of truncating division of this value by the other value.\n * \n * The result is always less than the divisor.\n
*\n @kotlin.internal.InlineOnly\n public inline operator fun rem(other: UInt): ULong =
this.rem(other.toULong())\n /**\n * Calculates the remainder of truncating division of this value by the other
value.\n * \n * The result is always less than the divisor.\n *\n @kotlin.internal.InlineOnly\n public
inline operator fun rem(other: ULong): ULong = ulongRemainder(this, other)\n /**\n * Divides this value by
the other value, flooring the result to an integer that is closer to negative infinity.\n * \n * For unsigned types,
the results of flooring division and truncating division are the same.\n *\n @kotlin.internal.InlineOnly\n
public inline fun floorDiv(other: UByte): ULong = this.floorDiv(other.toULong())\n /**\n * Divides this value
by the other value, flooring the result to an integer that is
closer to negative infinity.\n * \n * For unsigned types, the results of flooring division and truncating division
are the same.\n *\n @kotlin.internal.InlineOnly\n public inline fun floorDiv(other: UShort): ULong =
this.floorDiv(other.toULong())\n /**\n * Divides this value by the other value, flooring the result to an integer
that is closer to negative infinity.\n * \n * For unsigned types, the results of flooring division and truncating
division are the same.\n *\n @kotlin.internal.InlineOnly\n public inline fun floorDiv(other: UInt): ULong =
this.floorDiv(other.toULong())\n /**\n * Divides this value by the other value, flooring the result to an integer
that is closer to negative infinity.\n * \n * For unsigned types, the results of flooring division and truncating
division are the same.\n *\n @kotlin.internal.InlineOnly\n public inline fun floorDiv(other: ULong): ULong =
div(other)\n /**\n * Calculates
the remainder of flooring division of this value by the other value.\n * \n * The result is always less than the
divisor.\n * \n * For unsigned types, the remainders of flooring division and truncating division are the same.\n
*\n @kotlin.internal.InlineOnly\n public inline fun mod(other: UByte): UByte =
this.mod(other.toULong()).toUByte()\n /**\n * Calculates the remainder of flooring division of this value by the
other value.\n * \n * The result is always less than the divisor.\n * \n * For unsigned types, the remainders
of flooring division and truncating division are the same.\n *\n @kotlin.internal.InlineOnly\n public inline
fun mod(other: UShort): UShort = this.mod(other.toULong()).toUShort()\n /**\n * Calculates the remainder of

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flooring division of this value by the other value.\n * \n * The result is always less than the divisor.\n * \n
* For unsigned types, the remainders of flooring division
and truncating division are the same.\n * \n @kotlin.internal.InlineOnly\n public inline fun mod(other: UInt):
UInt = this.mod(other.toULong()).toUInt()\n /**\n * Calculates the remainder of flooring division of this value
by the other value.\n * \n * The result is always less than the divisor.\n * \n * For unsigned types, the
remainders of flooring division and truncating division are the same.\n * \n @kotlin.internal.InlineOnly\n
public inline fun mod(other: ULong): ULong = rem(other)\n\n /**\n * Returns this value incremented by one.\n
*\n * @sample samples.misc.Builtins.inc\n * \n @kotlin.internal.InlineOnly\n public inline operator fun
inc(): ULong = ULong(data.inc())\n\n /**\n * Returns this value decremented by one.\n * \n * @sample
samples.misc.Builtins.dec\n * \n @kotlin.internal.InlineOnly\n public inline operator fun dec(): ULong =
ULong(data.dec())\n\n /**\n * Creates a range from
this value to the specified [other] value. * \n @kotlin.internal.InlineOnly\n public inline operator fun
rangeTo(other: ULong): ULongRange = ULongRange(this, other)\n\n /**\n * Shifts this value left by the
[bitCount] number of bits.\n * \n * Note that only the six lowest-order bits of the [bitCount] are used as the shift
distance.\n * The shift distance actually used is therefore always in the range `0..63`.\n * \n
@\kotlin.internal.InlineOnly\n public inline infix fun shl(bitCount: Int): ULong = ULong(data shl bitCount)\n\n
/**\n * Shifts this value right by the [bitCount] number of bits, filling the leftmost bits with zeros.\n * \n *
Note that only the six lowest-order bits of the [bitCount] are used as the shift distance.\n * The shift distance
actually used is therefore always in the range `0..63`.\n * \n @kotlin.internal.InlineOnly\n public inline infix
fun shr(bitCount: Int): ULong = ULong(data ushr bitCount)\n\n /**
Performs a bitwise AND operation between the two values. * \n @kotlin.internal.InlineOnly\n public inline
infix fun and(other: ULong): ULong = ULong(this.data and other.data)\n\n /**\n * Performs a bitwise OR operation
between the two values. * \n @kotlin.internal.InlineOnly\n public inline infix fun or(other: ULong): ULong =
ULong(this.data or other.data)\n\n /**\n * Performs a bitwise XOR operation between the two values. * \n
@\kotlin.internal.InlineOnly\n public inline infix fun xor(other: ULong): ULong = ULong(this.data xor
other.data)\n\n /**\n * Inverts the bits in this value. * \n @kotlin.internal.InlineOnly\n public inline fun inv():
ULong = ULong(data.inv())\n\n /**\n * Converts this [ULong] value to [Byte].\n * \n * If this value is less
than or equals to [Byte.MAX_VALUE], the resulting `Byte` value represents\n * the same numerical value as this
`ULong`.\n * \n * The resulting `Byte` value is represented by the least significant 8 bits
of this `ULong` value.\n * Note that the resulting `Byte` value may be negative.\n * \n
@\kotlin.internal.InlineOnly\n public inline fun toByte(): Byte = data.toByte()\n\n /**\n * Converts this [ULong]
value to [Short].\n * \n * If this value is less than or equals to [Short.MAX_VALUE], the resulting `Short` value
represents\n * the same numerical value as this `ULong`.\n * \n * The resulting `Short` value is represented
by the least significant 16 bits of this `ULong` value.\n * Note that the resulting `Short` value may be negative.\n
*\n * \n @kotlin.internal.InlineOnly\n public inline fun toShort(): Short = data.toShort()\n\n /**\n * Converts this
[ULong] value to [Int].\n * \n * If this value is less than or equals to [Int.MAX_VALUE], the resulting `Int`
value represents\n * the same numerical value as this `ULong`.\n * \n * The resulting `Int` value is
represented by the least significant 32 bits of this `ULong`
value.\n * Note that the resulting `Int` value may be negative.\n * \n @kotlin.internal.InlineOnly\n public
inline fun toInt(): Int = data.toInt()\n\n /**\n * Converts this [ULong] value to [Long].\n * \n * If this value is
less than or equals to [Long.MAX_VALUE], the resulting `Long` value represents\n * the same numerical value
as this `ULong`. Otherwise the result is negative.\n * \n * The resulting `Long` value has the same binary
representation as this `ULong` value.\n * \n @kotlin.internal.InlineOnly\n public inline fun toLong(): Long =
data\n\n /**\n * Converts this [ULong] value to [UByte].\n * \n * If this value is less than or equals to
[UByte.MAX_VALUE], the resulting `UByte` value represents\n * the same numerical value as this `ULong`.\n
*\n * The resulting `UByte` value is represented by the least significant 8 bits of this `ULong` value.\n * \n
@\kotlin.internal.InlineOnly\n public inline

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fun toUByte(): UByte = data.toUByte()\n /**\n * Converts this [ULong] value to [UShort].\n *\n * If this value is less than or equals to [UShort.MAX_VALUE], the resulting `UShort` value represents\n * the same numerical value as this `ULong`.\n *\n * The resulting `UShort` value is represented by the least significant 16 bits of this `ULong` value.\n */\n @kotlin.internal.InlineOnly\n public inline fun toUShort(): UShort = data.toUShort()\n /**\n * Converts this [ULong] value to [UInt].\n *\n * If this value is less than or equals to [UInt.MAX_VALUE], the resulting `UInt` value represents\n * the same numerical value as this `ULong`.\n *\n * The resulting `UInt` value is represented by the least significant 32 bits of this `ULong` value.\n */\n @kotlin.internal.InlineOnly\n public inline fun toUInt(): UInt = data.toUInt()\n /** Returns this value. */\n @kotlin.internal.InlineOnly\n public inline fun toULong(): ULong = this\n\n /**\n * Converts this [ULong] value to [Float].\n *\n * The resulting value is the closest `Float` to this `ULong` value.\n *\n * In case when this `ULong` value is exactly between two `Float`s,\n * the one with zero at least significant bit of mantissa is selected.\n */\n @kotlin.internal.InlineOnly\n public inline fun toFloat(): Float = this.toDouble().toFloat()\n /**\n * Converts this [ULong] value to [Double].\n *\n * The resulting value is the closest `Double` to this `ULong` value.\n *\n * In case when this `ULong` value is exactly between two `Double`s,\n * the one with zero at least significant bit of mantissa is selected.\n */\n @kotlin.internal.InlineOnly\n public inline fun toDouble(): Double = ulongToDouble(data)\n\n public override fun toString(): String = ulongToString(data)\n\n\n /**\n * Converts this [Byte] value to [ULong].\n *\n * If this value is positive, the resulting `ULong` value represents the same numerical value as this `Byte`.\n *\n * The least significant 8 bits of the resulting `ULong` value are the same as the bits of this `Byte` value,\n * whereas the most significant 56 bits are filled with the sign bit of this value.\n */\n @kotlin.internal.InlineOnly\n @WasExperimental(ExperimentalUnsignedTypes::class)\n @kotlin.internal.InlineOnly\n public inline fun Byte.toULong(): ULong = ULong(this.toLong())\n\n /**\n * Converts this [Short] value to [ULong].\n *\n * If this value is positive, the resulting `ULong` value represents the same numerical value as this `Short`.\n *\n * The least significant 16 bits of the resulting `ULong` value are the same as the bits of this `Short` value,\n * whereas the most significant 48 bits are filled with the sign bit of this value.\n */\n @kotlin.internal.InlineOnly\n @WasExperimental(ExperimentalUnsignedTypes::class)\n @kotlin.internal.InlineOnly\n public inline fun Short.toULong(): ULong = ULong(this.toLong())\n\n /**\n * Converts this [Int] value to [ULong].\n *\n * If this value is positive, the resulting `ULong` value represents the same numerical value as this `Int`.\n *\n * The least significant 32 bits of the resulting `ULong` value are the same as the bits of this `Int` value,\n * whereas the most significant 32 bits are filled with the sign bit of this value.\n */\n @kotlin.internal.InlineOnly\n @WasExperimental(ExperimentalUnsignedTypes::class)\n @kotlin.internal.InlineOnly\n public inline fun Int.toULong(): ULong = ULong(this.toLong())\n\n /**\n * Converts this [Long] value to [ULong].\n *\n * If this value is positive, the resulting `ULong` value represents the same numerical value as this `Long`.\n *\n * The resulting `ULong` value has the same binary representation as this `Long` value.\n */\n @kotlin.internal.InlineOnly\n @WasExperimental(ExperimentalUnsignedTypes::class)\n @kotlin.internal.InlineOnly\n public inline fun Long.toULong(): ULong = ULong(this)\n\n /**\n * Converts this [Float] value to [ULong].\n *\n * The fractional part, if any, is rounded down towards zero.\n * Returns zero if this `Float` value is negative or `NaN`, [ULong.MAX_VALUE] if it's bigger than `ULong.MAX_VALUE`.\n */\n @kotlin.internal.InlineOnly\n @WasExperimental(ExperimentalUnsignedTypes::class)\n @kotlin.internal.InlineOnly\n public inline fun Float.toULong(): ULong = doubleToULong(this.toDouble())\n\n /**\n * Converts this [Double] value to [ULong].\n *\n * The fractional part, if any, is rounded down towards zero.\n * Returns zero if this `Double` value is negative or `NaN`, [ULong.MAX_VALUE] if it's bigger than `ULong.MAX_VALUE`.\n */\n @kotlin.internal.InlineOnly\n @WasExperimental(ExperimentalUnsignedTypes::class)\n @kotlin.internal.InlineOnly\n public inline fun Double.toULong(): ULong = doubleToULong(this)\n\n\n", "\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
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* \n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("CollectionsKt")\n\npackage
kotlin.collections\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.random.*\nimport
kotlin.ranges.contains\nimport kotlin.ranges.reversed\n\n/**\n * Returns 1st *element* from the list.\n * \n *
Throws an [IndexOutOfBoundsException] if the size of this list is less than 1.\n
*\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> List<T>.component1(): T {\n    return
get(0)\n}\n\n/**\n * Returns 2nd *element* from the list.\n * \n * Throws an [IndexOutOfBoundsException] if the
size of this list is less than 2.\n *\n@kotlin.internal.InlineOnly\npublic inline operator fun <T>
List<T>.component2(): T {\n    return get(1)\n}\n\n/**\n * Returns 3rd *element* from the list.\n * \n * Throws an
[IndexOutOfBoundsException] if the size of this list is less than 3.\n *\n@kotlin.internal.InlineOnly\npublic
inline operator fun <T> List<T>.component3(): T {\n    return get(2)\n}\n\n/**\n * Returns 4th *element* from the
list.\n * \n * Throws an [IndexOutOfBoundsException] if the size of this list is less than 4.\n
*\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> List<T>.component4(): T {\n    return
get(3)\n}\n\n/**\n * Returns 5th *element* from the list.\n * \n * Throws an [IndexOutOfBoundsException] if the
size of this list is less than 5.\n *\n@kotlin.internal.InlineOnly\npublic inline operator fun <T>
List<T>.component5(): T {\n    return get(4)\n}\n\n/**\n * Returns `true` if [element] is found in the collection.\n
*\npublic operator fun <@kotlin.internal.OnlyInputTypes T> Iterable<T>.contains(element: T): Boolean {\n    if
(this is Collection)\n        return contains(element)\n        return indexOf(element) >= 0\n}\n\n/**\n * Returns an
element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this
collection.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n *\npublic fun <T> Iterable<T>.elementAt(index: Int): T {\n
if (this is List)\n    return get(index)\n    return elementAtOrElse(index) { throw
IndexOutOfBoundsException("Collection doesn't contain element at index $index.") }\n}\n\n/**\n * Returns an
element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this list.\n
*\n * @sample samples.collections.Collections.Elements.elementAt\n *\n@kotlin.internal.InlineOnly\npublic
inline fun <T> List<T>.elementAt(index: Int): T {\n    return get(index)\n}\n\n/**\n * Returns an element at the
given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this collection.\n
*\n * @sample samples.collections.Collections.Elements.elementAtOrElse\n *\npublic fun <T>
Iterable<T>.elementAtOrElse(index: Int, defaultValue: (Int) -> T): T {\n    if (this is List)\n        return
this.getOrElse(index,
defaultValue)\n        if (index < 0)\n            return defaultValue(index)\n        val iterator = iterator()\n        var count = 0\n
while (iterator.hasNext()) {\n            val element = iterator.next()\n            if (index == count++)\n                return
element\n        }\n        return defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of
calling the [defaultValue] function if the [index] is out of bounds of this list.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n *\n@kotlin.internal.InlineOnly\npublic inline fun
<T> List<T>.elementAtOrElse(index: Int, defaultValue: (Int) -> T): T {\n    return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the
[index] is out of bounds of this collection.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n *\npublic fun <T>
Iterable<T>.elementAtOrNull(index: Int): T? {\n    if (this
is List)\n        return this.getOrNull(index)\n        if (index < 0)\n            return null\n        val iterator = iterator()\n        var
count = 0\n        while (iterator.hasNext()) {\n            val element = iterator.next()\n            if (index == count++)\n
return element\n        }\n        return null\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is
out of bounds of this list.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrNull\n
*\n@kotlin.internal.InlineOnly\npublic inline fun <T> List<T>.elementAtOrNull(index: Int): T? {\n    return
this.getOrNull(index)\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if no such
element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n
*\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.find(predicate: (T) -> Boolean): T? {\n    return

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firstOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate],
or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.findLast(predicate: (T) -> Boolean): T? {\n
return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no
such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun <T> List<T>.findLast(predicate: (T) -> Boolean): T? {\n
return
lastOrNull(predicate)\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException] if the collection
is empty.\n * \npublic fun <T> Iterable<T>.first(): T {\n
when (this) {\n
is List -> return this.first()\n
else
-> {\n
val iterator = iterator()\n
if (!iterator.hasNext())\n
throw
NoSuchElementException("Collection is empty.")\n
return iterator.next()\n
}\n
}\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException] if the list is empty.\n * \npublic fun <T>
List<T>.first(): T {\n
if (isEmpty())\n
throw NoSuchElementException("List is empty.")\n
return
this[0]\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws
[NoSuchElementException] if no such element is found.\n * \npublic inline fun <T> Iterable<T>.first(predicate: (T)
-> Boolean): T {\n
for (element in this) if (predicate(element)) return element\n
throw
NoSuchElementException("Collection contains no element matching the predicate.")\n}\n\n/**\n * Returns the
first non-null value produced by [transform] function being applied to elements of this collection in iteration order,\n
* or throws [NoSuchElementException] if no non-null value was produced.\n * \n * @sample
samples.collections.Collections.Transformations.firstNotNullOf\n
*/\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Any>
Iterable<T>.firstNotNullOf(transform:
(T) -> R?): R {\n
return firstNotNullOfOrNull(transform) ?: throw NoSuchElementException("No element of the
collection was transformed to a non-null value.")\n}\n\n/**\n * Returns the first non-null value produced by
[transform] function being applied to elements of this collection in iteration order,\n * or `null` if no non-null value
was produced.\n * \n * @sample samples.collections.Collections.Transformations.firstNotNullOf\n
*/\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Any>
Iterable<T>.firstNotNullOfOrNull(transform: (T) -> R?): R? {\n
for (element in this) {\n
val result =
transform(element)\n
if (result != null) {\n
return result\n
}\n
}\n
return null\n}\n\n/**\n * Returns the first element, or `null` if the collection is empty.\n * \npublic fun <T> Iterable<T>.firstOrNull(): T? {\n
when (this) {\n
is List -> {\n
if (isEmpty())\n
return null\n
else\n
return this[0]\n
}\n
else -> {\n
val iterator = iterator()\n
if (!iterator.hasNext())\n
return null\n
return iterator.next()\n
}\n
}\n}\n\n/**\n * Returns the
first element, or `null` if the list is empty.\n * \npublic fun <T> List<T>.firstOrNull(): T? {\n
return if (isEmpty())
null else this[0]\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if element was not
found.\n * \npublic inline fun <T> Iterable<T>.firstOrNull(predicate: (T) -> Boolean): T? {\n
for (element in this)
if (predicate(element)) return element\n
return null\n}\n\n/**\n * Returns an element at the given [index] or the
result of calling the [defaultValue] function if the [index] is out of bounds of this list.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun <T> List<T>.getOrNull(index: Int, defaultValue: (Int) -> T): T
{\n
return if (index >= 0 && index
<= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if
the [index] is out of bounds of this list.\n * \n * @sample samples.collections.Collections.Elements.getOrNull\n
*/\npublic fun <T> List<T>.getOrNull(index: Int): T? {\n
return if (index >= 0 && index <= lastIndex) get(index)
else null\n}\n\n/**\n * Returns first index of [element], or -1 if the collection does not contain element.\n * \npublic
fun <@kotlin.internal.OnlyInputTypes T> Iterable<T>.indexOf(element: T): Int {\n
if (this is List) return
this.indexOf(element)\n
var index = 0\n
for (item in this) {\n
checkIndexOverflow(index)\n
if (element
== item)\n
return index\n
index++\n
}\n
return -1\n}\n\n/**\n * Returns first index of [element], or -1
if the list does not contain element.\n * \n@Suppress("EXTENSION_SHADOWED_BY_MEMBER") // false
warning, extension takes precedence in some cases\npublic fun <@kotlin.internal.OnlyInputTypes

```

```

T> List<T>.indexOf(element: T): Int {
    return indexOf(element)
}
/**
 * Returns index of the first element
matching the given [predicate], or -1 if the collection does not contain such element.
 */
public inline fun <T>
Iterable<T>.indexOfFirst(predicate: (T) -> Boolean): Int {
    var index = 0
    for (item in this) {
        checkIndexOverflow(index)
        if (predicate(item))
            return index
        index++
    }
    return -1
}
/**
 * Returns index of the first element matching the given [predicate], or -1 if the list does not contain
such element.
 */
public inline fun <T> List<T>.indexOfFirst(predicate: (T) -> Boolean): Int {
    var index = 0
    for (item in this) {
        if (predicate(item))
            return index
        index++
    }
    return -1
}
/**
 * Returns index of the last element matching the given [predicate], or -1 if the collection does not contain such
element.
 */
public inline fun
<T> Iterable<T>.indexOfLast(predicate: (T) -> Boolean): Int {
    var lastIndex = -1
    var index = 0
    for (item
in this) {
        checkIndexOverflow(index)
        if (predicate(item))
            lastIndex = index
        index++
    }
    return lastIndex
}
/**
 * Returns index of the last element matching the given [predicate], or -1 if the list
does not contain such element.
 */
public inline fun <T> List<T>.indexOfLast(predicate: (T) -> Boolean): Int {
    val iterator = this.listIterator(size)
    while (iterator.hasPrevious()) {
        if (predicate(iterator.previous())) {
            return iterator.nextIndex()
        }
    }
    return -1
}
/**
 * Returns the last element.
 */
@throws
NoSuchElementException if the collection is empty.
@sample
samples.collections.Collections.Elements.last
public fun <T> Iterable<T>.last(): T {
    when (this) {
        is
List -> return this.last()
        else -> {
            val iterator
= iterator()
            if (!iterator.hasNext())
                throw NoSuchElementException("Collection is empty.")
            var last = iterator.next()
            while (iterator.hasNext())
                last = iterator.next()
            return
last
        }
    }
}
/**
 * Returns the last element.
 */
@throws NoSuchElementException if the list is
empty.
@sample
samples.collections.Collections.Elements.last
public fun <T> List<T>.last(): T {
    if (isEmpty())
        throw NoSuchElementException("List is empty.")
    return this[lastIndex]
}
/**
 * Returns the last element matching the given [predicate].
 */
@throws NoSuchElementException if no such
element is found.
@sample
samples.collections.Collections.Elements.last
public inline fun <T>
Iterable<T>.last(predicate: (T) -> Boolean): T {
    var last: T? = null
    var found = false
    for (element in this) {
        if (predicate(element)) {
            last = element
            found = true
        }
    }
    if (!found) throw
NoSuchElementException("Collection contains no element matching the predicate.")
    @Suppress("UNCHECKED_CAST")
    return last as T
}
/**
 * Returns the last element matching the
given [predicate].
 */
@throws NoSuchElementException if no such element is found.
@sample
samples.collections.Collections.Elements.last
public inline fun <T> List<T>.last(predicate: (T) -> Boolean): T {
    val iterator = this.listIterator(size)
    while (iterator.hasPrevious()) {
        val element = iterator.previous()
        if (predicate(element)) return element
    }
    throw NoSuchElementException("List contains no element
matching the predicate.")
}
/**
 * Returns last index of [element], or -1 if the collection does not contain
element.
 */
public fun <@kotlin.internal.OnlyInputTypes T> Iterable<T>.lastIndexOf(element: T): Int {
    if
(this is List) return this.lastIndexOf(element)
    var lastIndex = -1
    var index = 0
    for (item in this) {
        checkIndexOverflow(index)
        if (element
== item)
            lastIndex = index
        index++
    }
    return lastIndex
}
/**
 * Returns last index of
[element], or -1 if the list does not contain element.
 */
@Suppress("EXTENSION_SHADOWED_BY_MEMBER") // false warning, extension takes precedence in
some cases
public fun <@kotlin.internal.OnlyInputTypes T> List<T>.lastIndexOf(element: T): Int {
    return
lastIndexOf(element)
}
/**
 * Returns the last element, or `null` if the collection is empty.
 */
@sample
samples.collections.Collections.Elements.last
public fun <T> Iterable<T>.lastOrNull(): T? {
    when (this)
{
        is List -> return if (isEmpty()) null else this[size - 1]
        else -> {
            val iterator = iterator()
            if (!iterator.hasNext())
                return null
            var last = iterator.next()
            while (iterator.hasNext())
                last = iterator.next()
            return last
        }
    }
}
/**
 * Returns the last element, or `null` if the list is empty.
 */
@sample

```

```

samples.collections.Collections.Elements.last\n *\npublic fun <T> List<T>.lastOrNull(): T? {\n    return if
(isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if
no such element was found.\n *\n * @sample samples.collections.Collections.Elements.last\n *\npublic inline fun
<T> Iterable<T>.lastOrNull(predicate: (T) -> Boolean): T? {\n    var last: T? = null\n    for (element in this) {\n
if (predicate(element)) {\n        last = element\n    }\n    } return last\n}\n\n/**\n * Returns the last element
matching the given [predicate], or `null` if no such element was found.\n *\n * @sample
samples.collections.Collections.Elements.last\n *\npublic inline fun <T> List<T>.lastOrNull(predicate: (T)
-> Boolean): T? {\n    val iterator = this.listIterator(size)\n    while (iterator.hasPrevious()) {\n        val element =
iterator.previous()\n        if (predicate(element)) return element\n    }\n    return null\n}\n\n/**\n * Returns a random
element from this collection.\n *\n * @throws NoSuchElementException if this collection is empty.\n
*\n * @SinceKotlin("1.3")\n * @kotlin.internal.InlineOnly\n * public inline fun <T> Collection<T>.random(): T {\n
return random(Random)\n}\n\n/**\n * Returns a random element from this collection using the specified source of
randomness.\n *\n * @throws NoSuchElementException if this collection is empty.\n
*\n * @SinceKotlin("1.3")\n * @kotlin.internal.InlineOnly\n * public inline fun <T> Collection<T>.random(random: Random): T {\n
if (isEmpty())\n    throw NoSuchElementException("Collection is empty.")\n    return elementAt(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this collection, or `null` if this collection is empty.\n
*\n * @SinceKotlin("1.4")\n * @WasExperimental(ExperimentalStdlibApi::class)\n * @kotlin.internal.InlineOnly\n * publi
c
inline fun <T> Collection<T>.randomOrNull(): T? {\n    return randomOrNull(Random)\n}\n\n/**\n * Returns a
random element from this collection using the specified source of randomness, or `null` if this collection is empty.\n
*\n * @SinceKotlin("1.4")\n * @WasExperimental(ExperimentalStdlibApi::class)\n * public fun <T>
Collection<T>.randomOrNull(random: Random): T? {\n    if (isEmpty())\n        return null\n    return
elementAt(random.nextInt(size))\n}\n\n/**\n * Returns the single element, or throws an exception if the collection is
empty or has more than one element.\n *\n * @public fun <T> Iterable<T>.single(): T {\n    when (this) {\n        is List -
> return this.single()\n        else -> {\n            val iterator = iterator()\n            if (!iterator.hasNext())\n                throw NoSuchElementException("Collection is empty.")\n            val single = iterator.next()\n            if
(iterator.hasNext())\n                throw IllegalArgumentException("Collection has more than one element.")\n            return single\n        }\n    }\n}\n\n/**\n * Returns the single element, or throws an exception if the list is empty or has more than one
element.\n *\n * @public fun <T> List<T>.single(): T {\n    return when (size) {\n        0 -> throw
NoSuchElementException("List is empty.")\n        1 -> this[0]\n        else -> throw
IllegalArgumentException("List has more than one element.")\n    }\n}\n\n/**\n * Returns the single element
matching the given [predicate], or throws exception if there is no or more than one matching element.\n *\n * @public inline fun <T> Iterable<T>.single(predicate: (T) -> Boolean): T {\n    var single: T? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) throw
IllegalArgumentException("Collection contains more than one matching element.")\n            single = element\n            found
= true\n        }\n    }\n    if (!found) throw NoSuchElementException("Collection contains no element matching the
predicate.")\n    @Suppress("UNCHECKED_CAST")\n    return single as T\n}\n\n/**\n * Returns single element,
or `null` if the collection is empty or has more than one element.\n *\n * @public fun <T> Iterable<T>.singleOrNull():
T? {\n    when (this) {\n        is List -> return if (size == 1) this[0] else null\n        else -> {\n            val iterator =
iterator()\n            if (!iterator.hasNext())\n                return null\n            val single = iterator.next()\n            if
(iterator.hasNext())\n                return null\n            return single\n        }\n    }\n}\n\n/**\n * Returns single element,
or `null` if the list is empty or has more than one element.\n *\n * @public fun <T> List<T>.singleOrNull(): T? {\n
return if (size == 1) this[0] else null\n}\n\n/**\n * Returns the single element matching the given [predicate], or
`null` if element was
not found or more than one element was found.\n *\n * @public inline fun <T> Iterable<T>.singleOrNull(predicate: (T)
-> Boolean): T? {\n    var single: T? = null\n    var found = false\n    for (element in this) {\n        if

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(predicate(element)) {\n      if (found) return null\n      single = element\n      found = true\n    }\n  }\n  if (!found) return null\n  return single\n}\n\n/**\n * Returns a list containing all elements except first [n]\n * elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample\n * samples.collections.Collections.Transformations.drop\n */\npublic fun <T> Iterable<T>.drop(n: Int): List<T> {\n  require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  if (n == 0) return toList()\n  val list:\n  ArrayList<T>\n  if (this is Collection<*>) {\n    val resultSize = size - n\n    if (resultSize <= 0)\n      return\n    emptyList()\n    if (resultSize == 1)\n      return listOf(last())\n    list = ArrayList<T>(resultSize)\n    if (this is List<T>) {\n      if (this is RandomAccess) {\n        for\n        (index in n until size)\n          list.add(this[index])\n      } else {\n        for (item in listIterator(n))\n          list.add(item)\n      }\n    }\n    return list\n  }\n  }\n  }\n  else {\n    list = ArrayList<T>()\n  }\n  var\n  count = 0\n  for (item in this) {\n    if (count >= n) list.add(item) else ++count\n  }\n  return\n  list.optimizeReadOnlyList()\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample\n * samples.collections.Collections.Transformations.drop\n */\npublic fun <T> List<T>.dropLast(n: Int): List<T> {\n  require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  return take((size -\n  n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements\n * except last elements that satisfy the given [predicate].\n * \n * @sample\n * samples.collections.Collections.Transformations.drop\n */\npublic inline fun <T>\nList<T>.dropLastWhile(predicate: (T) -> Boolean): List<T> {\n  if (!isEmpty()) {\n    val iterator =\n    listIterator(size)\n    while (iterator.hasPrevious()) {\n      if (!predicate(iterator.previous()))\n        return\n      take(iterator.nextIndex() + 1)\n    }\n  }\n  }\n  return emptyList()\n}\n\n/**\n * Returns a list containing\n * all elements except first elements that satisfy the given [predicate].\n * \n * @sample\n * samples.collections.Collections.Transformations.drop\n */\npublic inline fun <T> Iterable<T>.dropWhile(predicate:\n(T) -> Boolean): List<T> {\n  var yielding = false\n  val list = ArrayList<T>()\n  for (item in this)\n    if\n    (yielding)\n      list.add(item)\n    else if (!predicate(item)) {\n      list.add(item)\n      yielding = true\n    }\n  }\n  return list\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @sample\n * samples.collections.Collections.Filtering.filter\n */\npublic inline fun <T> Iterable<T>.filter(predicate: (T) ->\nBoolean): List<T> {\n  return filterTo(ArrayList<T>(), predicate)\n}\n\n/**\n * Returns a list containing only\n * elements matching the given [predicate].\n * \n * @param [predicate] function that takes the index of an element and the\n * element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample\n * samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun <T>\nIterable<T>.filterIndexed(predicate: (index: Int, T) -> Boolean): List<T> {\n  return\n  filterIndexedTo(ArrayList<T>(), predicate)\n}\n\n/**\n * Appends all elements matching the given [predicate] to\n * the given [destination].\n * \n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate\n * evaluation on the element.\n * \n * @sample\n * samples.collections.Collections.Filtering.filterIndexedTo\n */\npublic inline fun <T, C : MutableCollection<in T>> Iterable<T>.filterIndexedTo(destination: C, predicate: (index: Int, T) -\n> Boolean): C {\n  forEachIndexed { index, element ->\n    if (predicate(index, element))\n      destination.add(element)\n  }\n  return destination\n}\n\n/**\n * Returns a list containing all elements that are\n * instances of specified type parameter R.\n * \n * @sample\n * samples.collections.Collections.Filtering.filterIsInstance\n */\npublic inline fun <reified R>\nIterable<*>.filterIsInstance(): List<@kotlin.internal.NoInfer R> {\n  return\n  filterIsInstanceTo(ArrayList<R>())\n}\n\n/**\n * Appends all elements that are instances of specified type\n * parameter R to the given [destination].\n * \n * @sample\n * samples.collections.Collections.Filtering.filterIsInstanceTo\n */\npublic inline fun <reified R, C : MutableCollection<in R>> Iterable<*>.filterIsInstanceTo(destination:

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C): C { \n for (element in this) if (element is R) destination.add(element)\n return destination\n}\n\n/**\n *
Returns a list containing all elements not matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n */\npublic inline fun <T> Iterable<T>.filterNot(predicate: (T) ->
Boolean): List<T> { \n return filterNotTo(ArrayList<T>(), predicate)\n}\n\n/**\n * Returns a list containing all
elements that are not `null`.\n * \n * @sample samples.collections.Collections.Filtering.filterNotNull\n */\npublic
fun <T : Any> Iterable<T?>.filterNotNull(): List<T> { \n return filterNotNullTo(ArrayList<T>())\n}\n\n/**\n *
Appends all elements that are not `null` to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterNotNullTo\n */\npublic fun <C : MutableCollection<in T>, T : Any>
Iterable<T?>.filterNotNullTo(destination: C): C { \n for (element in this) if (element != null)
destination.add(element)\n
return destination\n}\n\n/**\n * Appends all elements not matching the given [predicate] to the given
[destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <T, C :
MutableCollection<in T>> Iterable<T>.filterNotTo(destination: C, predicate: (T) -> Boolean): C { \n for (element
in this) if (!predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends all elements
matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <T, C : MutableCollection<in T>>
Iterable<T>.filterTo(destination: C, predicate: (T) -> Boolean): C { \n for (element in this) if (predicate(element))
destination.add(element)\n return destination\n}\n\n/**\n * Returns a list containing elements at indices in the
specified [indices] range.\n */\npublic fun <T> List<T>.slice(indices: IntRange): List<T> { \n if
(indices.isEmpty()) return
listOf()\n return this.subList(indices.start, indices.endInclusive + 1).toList()\n}\n\n/**\n * Returns a list
containing elements at specified [indices].\n */\npublic fun <T> List<T>.slice(indices: Iterable<Int>): List<T> { \n
val size = indices.collectionSizeOrDefault(10)\n if (size == 0) return emptyList()\n val list =
ArrayList<T>(size)\n for (index in indices) { \n list.add(get(index))\n }\n return list\n}\n\n/**\n * Returns
a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n */\npublic fun <T> Iterable<T>.take(n: Int): List<T> { \n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n if (this
is Collection<T>) { \n if (n >= size) return toList()\n if (n == 1) return listOf(first())\n }\n var count = 0\n
val list = ArrayList<T>(n)\n for (item in this)
{ \n list.add(item)\n if (++count == n)\n break\n }\n return
list.optimizeReadOnlyList()\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n */\npublic fun <T> List<T>.takeLast(n: Int): List<T> { \n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val size =
size\n if (n >= size) return toList()\n if (n == 1) return listOf(last())\n val list = ArrayList<T>(n)\n if (this
is RandomAccess) { \n for (index in size - n until size)\n list.add(this[index])\n } else { \n for (item in
listIterator(size - n))\n list.add(item)\n }\n return list\n}\n\n/**\n * Returns a list containing last elements
satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic
inline fun <T> List<T>.takeLastWhile(predicate: (T) -> Boolean): List<T> { \n if (isEmpty())\n return
emptyList()\n val iterator = listIterator(size)\n while (iterator.hasPrevious()) { \n if
(!predicate(iterator.previous())) { \n iterator.next()\n val expectedSize = size - iterator.nextIndex()\n
if (expectedSize == 0) return emptyList()\n return ArrayList<T>(expectedSize).apply { \n while
(iterator.hasNext())\n add(iterator.next())\n }\n }\n }\n return toList()\n}\n\n/**\n *
Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n */\npublic inline fun <T> Iterable<T>.takeWhile(predicate:
(T) -> Boolean): List<T> { \n val list = ArrayList<T>()\n for (item in this) { \n if (!predicate(item))\n
break\n list.add(item)\n }\n return list\n}\n\n/**\n

```

* Reverses elements in the list in-place.\n */\npublic expect fun <T> MutableList<T>.reverse(): Unit\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun <T> Iterable<T>.reversed(): List<T> {\n if (this is Collection && size <= 1) return toList()\n val list = toMutableList()\n list.reverse()\n return list\n}\n\n/**\n * Randomly shuffles elements in this list in-place using the specified [random] instance as the source of randomness.\n */\n * See: https://en.wikipedia.org/wiki/Fisher%20%80%93Yates_shuffle#The_modern_algorithm\n\n*/\n@SinceKotlin("1.3")\npublic fun <T> MutableList<T>.shuffle(random: Random): Unit {\n for (i in lastIndex downTo 1) {\n val j = random.nextInt(i + 1)\n this[j] = this.set(i, this[j])\n }\n}\n\n/**\n * Sorts elements in the list in-place according to natural sort order of the value returned by specified [selector] function.\n */\n * The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic inline fun <T, R : Comparable<R>> MutableList<T>.sortBy(crossinline selector: (T) -> R?): Unit {\n if (size > 1) sortBy(compareBy(selector))\n}\n\n/**\n * Sorts elements in the list in-place descending according to natural sort order of the value returned by specified [selector] function.\n */\n * The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic inline fun <T, R : Comparable<R>> MutableList<T>.sortByDescending(crossinline selector: (T) -> R?): Unit {\n if (size > 1) sortByDescending(compareByDescending(selector))\n}\n\n/**\n * Sorts elements in the list in-place descending according to their natural sort order.\n */\n * The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic fun <T : Comparable<T>> MutableList<T>.sortDescending(): Unit {\n sortByDescending(reverseOrder())\n}\n\n/**\n * Returns a list of all elements sorted according to their natural sort order.\n */\n * The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic fun <T : Comparable<T>> Iterable<T>.sorted(): List<T> {\n if (this is Collection) {\n if (size <= 1) return this.toList()\n @Suppress("UNCHECKED_CAST")\n return (toTypedArray<Comparable<T>>() as Array<T>).apply { sort() }.asList()\n }\n return toMutableList().apply { sort() }\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order of the value returned by specified [selector] function.\n */\n * The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.\n */\n * @sample samples.collections.Collections.Sorting.sortedBy\n */\npublic inline fun <T, R : Comparable<R>> Iterable<T>.sortedBy(crossinline selector: (T) -> R?): List<T> {\n return sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.\n */\n * The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic inline fun <T, R : Comparable<R>> Iterable<T>.sortedByDescending(crossinline selector: (T) -> R?): List<T> {\n return sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to their natural sort order.\n */\n * The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic fun <T : Comparable<T>> Iterable<T>.sortedDescending(): List<T> {\n return sortedWith(reverseOrder())\n}\n\n/**\n * Returns a list of all elements sorted according to the specified [comparator].\n */\n * The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic fun <T> Iterable<T>.sortedWith(comparator: Comparator<in T>): List<T> {\n if (this is Collection) {\n if (size <= 1) return this.toList()\n @Suppress("UNCHECKED_CAST")\n return (toTypedArray<Any?>() as Array<T>).apply { sortWith(comparator) }.asList()\n }\n return toMutableList().apply { sortWith(comparator) }\n}\n\n/**\n * Returns an array of Boolean containing all of the elements of this collection.\n */\npublic fun Collection<Boolean>.toBooleanArray(): BooleanArray {\n val result = BooleanArray(size)\n var index = 0\n for (element in this)\n result[index++] = element\n return result\n}\n\n/**\n * Returns an array of Byte containing all of the elements of this collection.\n */\npublic fun Collection<Byte>.toByteArray(): ByteArray {\n val result = ByteArray(size)\n var index = 0\n for (element in this)\n result[index++] = element\n return result\n}\n\n/**\n * Returns an array of Char containing all of the elements of this

```

collection.\n *\npublic fun Collection<Char>.toCharArray(): CharArray {\n  val result = CharArray(size)\n  var index = 0\n  for (element in this)\n    result[index++] = element\n  return result\n}\n\n/**\n * Returns an array of Double containing all of the elements of this collection.\n *\npublic fun Collection<Double>.toDoubleArray(): DoubleArray {\n  val result = DoubleArray(size)\n  var index = 0\n  for (element in this)\n    result[index++] = element\n  return result\n}\n\n/**\n * Returns an array of Float containing all of the elements of this collection.\n *\npublic fun Collection<Float>.toFloatArray(): FloatArray {\n  val result = FloatArray(size)\n  var index = 0\n  for (element in this)\n    result[index++] = element\n  return result\n}\n\n/**\n * Returns an array of Int containing all of the elements of this collection.\n *\npublic fun Collection<Int>.toIntArray(): IntArray {\n  val result = IntArray(size)\n  var index = 0\n  for (element in this)\n    result[index++] = element\n  return result\n}\n\n/**\n * Returns an array of Long containing all of the elements of this collection.\n *\npublic fun Collection<Long>.toLongArray(): LongArray {\n  val result = LongArray(size)\n  var index = 0\n  for (element in this)\n    result[index++] = element\n  return result\n}\n\n/**\n * Returns an array of Short containing all of the elements of this collection.\n *\npublic fun Collection<Short>.toShortArray(): ShortArray {\n  val result = ShortArray(size)\n  var index = 0\n  for (element in this)\n    result[index++] = element\n  return result\n}\n\n/**\n * Returns a [Map] containing key-value pairs provided by [transform] function\n * applied to elements of the given collection.\n * \n * If any of two pairs would have the same key the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original collection.\n * \n * @sample samples.collections.Collections.Transformations.associate\n *\npublic inline fun <T, K, V> Iterable<T>.associate(transform: (T) -> Pair<K, V>): Map<K, V> {\n  val capacity = mapCapacity(collectionSizeOrDefault(10)).coerceAtLeast(16)\n  return associateTo(LinkedHashMap<K, V>(capacity), transform)\n}\n\n/**\n * Returns a [Map] containing the elements from the given collection indexed by the key\n * returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original collection.\n * \n * @sample samples.collections.Collections.Transformations.associateBy\n *\npublic inline fun <T, K> Iterable<T>.associateBy(keySelector: (T) -> K): Map<K, T> {\n  val capacity = mapCapacity(collectionSizeOrDefault(10)).coerceAtLeast(16)\n  return associateByTo(LinkedHashMap<K, T>(capacity), keySelector)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform] and indexed by [keySelector] functions applied to elements of the given collection.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original collection.\n * \n * @sample samples.collections.Collections.Transformations.associateByWithValueTransform\n *\npublic inline fun <T, K, V> Iterable<T>.associateBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, V> {\n  val capacity = mapCapacity(collectionSizeOrDefault(10)).coerceAtLeast(16)\n  return associateByTo(LinkedHashMap<K, V>(capacity), keySelector, valueTransform)\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to each element of the given collection\n * and value is the element itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample samples.collections.Collections.Transformations.associateByTo\n *\npublic inline fun <T, K, M : MutableMap<in K, in T>> Iterable<T>.associateByTo(destination: M, keySelector: (T) -> K): M {\n  for (element in this) {\n    destination.put(keySelector(element), element)\n  }\n  return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * value is provided by the [valueTransform] function applied to elements of the given collection.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample samples.collections.Collections.Transformations.associateByToWithValueTransform\n *\npublic inline fun <T, K, V, M : MutableMap<in K, in V>> Iterable<T>.associateByTo(destination: M, keySelector: (T) -> K, valueTransform: (T)

```



```

-> V): M {
    for (element in this) {
        destination.put(keySelector(element), valueTransform(element))
    }
    return destination
}

Populates and returns the [destination] mutable map with key-value pairs
provided by [transform] function applied to each element of the given collection.
If any of two pairs would have the same key the last one gets added to the map.
@sample
samples.collections.Collections.Transformations.associateTo

public inline fun <T, K, V, M : MutableMap<in K, in V>> Iterable<T>.associateTo(
    destination: M, transform: (T) -> Pair<K, V>): M {
    for (element in this) {
        destination += transform(element)
    }
    return destination
}

Returns a [Map] where keys are elements from the given collection and values are
produced by the [valueSelector] function applied to each element.
If any two elements are equal, the last one gets added to the map.
The returned map preserves the entry iteration order of the original collection.
@sample
samples.collections.Collections.Transformations.associateWith

@SinceKotlin("1.3")
public inline fun <K, V> Iterable<K>.associateWith(
    valueSelector: (K) -> V): Map<K, V> {
    val result = LinkedHashMap<K, V>(mapCapacity(collectionSizeOrDefault(10)).coerceAtLeast(16))
    return associateWithTo(result, valueSelector)
}

Populates and returns the [destination] mutable map with key-value pairs for each
element of the given collection, where key is the element itself and value is provided by the [valueSelector]
function applied to that key.
If any two elements are equal, the last one overwrites the former value in the map.
@sample
samples.collections.Collections.Transformations.associateWithTo

@SinceKotlin("1.3")
public inline fun <K, V, M : MutableMap<in K, in V>> Iterable<K>.associateWithTo(
    destination: M, valueSelector: (K) -> V): M {
    for (element in this) {
        destination.put(element, valueSelector(element))
    }
    return destination
}

Appends all elements to the given [destination] collection.
public fun <T, C : MutableCollection<in T>> Iterable<T>.toCollection(
    destination: C): C {
    for (item in this) {
        destination.add(item)
    }
    return destination
}

Returns a new [HashSet] of all elements.
public fun <T> Iterable<T>.toHashSet(): HashSet<T> {
    return toCollection(HashSet<T>(mapCapacity(collectionSizeOrDefault(12))))
}

Returns a [List] containing all elements.
public fun <T> Iterable<T>.toList(): List<T> {
    if (this is Collection) {
        return when (size) {
            0 -> emptyList()
            1 -> listOf(if (this is List) get(0) else iterator().next())
            else -> this.toMutableList()
        }
    }
    return this.toMutableList().optimizeReadOnlyList()
}

Returns a new [MutableList] filled with all elements of this
collection.
public fun <T> Iterable<T>.toMutableList(): MutableList<T> {
    if (this is Collection<T>) {
        return this.toMutableList()
    }
    return toCollection(ArrayList<T>())
}

Returns a new [MutableList] filled with all elements of this collection.
public fun <T> Collection<T>.toMutableList(): MutableList<T> {
    return ArrayList(this)
}

Returns a [Set] of all elements.
The returned set preserves the element iteration order of the original collection.
public fun <T> Iterable<T>.toSet(): Set<T> {
    if (this is Collection) {
        return when (size) {
            0 -> emptySet()
            1 -> setOf(if (this is List) this[0] else iterator().next())
            else -> toCollection(LinkedHashSet<T>(mapCapacity(size)))
        }
    }
    return toCollection(LinkedHashSet<T>()).optimizeReadOnlySet()
}

Returns a single list of all elements yielded from results of [transform] function being invoked on
each element of original collection.
@sample
samples.collections.Collections.Transformations.flatMap

public inline fun <T, R> Iterable<T>.flatMap(
    transform: (T) -> Iterable<R>): List<R> {
    return flatMapTo(ArrayList<R>(), transform)
}

Returns a single list of all elements yielded from results of [transform] function being invoked on each element of original collection.
@sample
samples.collections.Collections.Transformations.flatMap

@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.jvm.JvmName("flatMapSequence")
public inline fun <T, R> Iterable<T>.flatMap(
    transform: (T) -> Sequence<R>): List<R> {
    return flatMapTo(ArrayList<R>(), transform)
}

Returns a single list of all elements yielded from results of [transform] function being

```

invoked on each element\n * and its index in the original collection.\n * \n * @sample
samples.collections.Collections.Transformations.flatMapIndexed\n

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution  
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterable")\n@kotlin.internal.InlineOnly\npublic  
inline fun <T, R> Iterable<T>.flatMapIndexed(transform: (index: Int, T) -> Iterable<R>): List<R> {\n    return  
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from  
results of [transform] function being invoked on each element\n * and its index in the original collection.\n * \n *  
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution  
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedSequence")\n@kotlin.internal.InlineOnly\npubli  
c inline fun <T, R> Iterable<T>.flatMapIndexed(transform: (index: Int, T) -> Sequence<R>): List<R> {\n    return  
flatMapIndexedTo(ArrayList<R>(),  
transform)\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each  
element\n * and its index in the original collection, to the given [destination].\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution  
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npubli  
c inline fun <T, R, C : MutableCollection<in R>> Iterable<T>.flatMapIndexedTo(destination: C, transform: (index:  
Int, T) -> Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list =  
transform(checkIndexOverflow(index++), element)\n        destination.addAll(list)\n    }\n    return  
destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each  
element\n * and its index in the original collection, to the given [destination].\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution  
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedSequenceTo")\n@kotlin.internal.InlineOnly\npub  
blic  
inline fun <T, R, C : MutableCollection<in R>> Iterable<T>.flatMapIndexedTo(destination: C, transform: (index:  
Int, T) -> Sequence<R>): C {\n    var index = 0\n    for (element in this) {\n        val list =  
transform(checkIndexOverflow(index++), element)\n        destination.addAll(list)\n    }\n    return  
destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each  
element of original collection, to the given [destination].\n *\npublic inline fun <T, R, C : MutableCollection<in  
R>> Iterable<T>.flatMapTo(destination: C, transform: (T) -> Iterable<R>): C {\n    for (element in this) {\n        val  
list = transform(element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all  
elements yielded from results of [transform] function being invoked on  
each element of original collection, to the given [destination].\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution  
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapSequenceTo")\npublic inline fun <T, R, C :  
MutableCollection<in R>> Iterable<T>.flatMapTo(destination: C, transform: (T) -> Sequence<R>): C {\n    for  
(element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return  
destination\n}\n\n/**\n * Groups elements of the original collection by the key returned by the given [keySelector]  
function\n * applied to each element and returns a map where each group key is associated with a list of  
corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the  
original collection.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n *\npublic inline  
fun <T, K> Iterable<T>.groupBy(keySelector: (T) -> K): Map<K,  
List<T>> {\n    return groupByTo(LinkedHashMap<K, MutableList<T>>(), keySelector)\n}\n\n/**\n * Groups  
values returned by the [valueTransform] function applied to each element of the original collection\n * by the key  
returned by the given [keySelector] function applied to the element\n * and returns a map where each group key is  
associated with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the  
keys produced from the original collection.\n * \n * @sample  
samples.collections.Collections.Transformations.groupByKeysAndValues\n *\npublic inline fun <T, K, V>
```

```

Iterable<T>.groupBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, List<V>> {\n  return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups elements
of the original collection by the key returned by the given [keySelector] function\n * applied to each element and
puts to the [destination] map each group key associated with a list
of corresponding elements.\n * \n * @return The [destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <T, K, M : MutableMap<in K,
MutableList<T>>> Iterable<T>.groupByTo(destination: M, keySelector: (T) -> K): M {\n  for (element in this) {\n
    val key = keySelector(element)\n    val list = destination.getOrPut(key) { ArrayList<T>() }\n
list.add(element)\n  }\n  return destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function
applied to each element of the original collection\n * by the key returned by the given [keySelector] function applied
to the element\n * and puts to the [destination] map each group key associated with a list of corresponding values.\n
*\n * @return The [destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <T, K, V, M :
MutableMap<in K, MutableList<V>>> Iterable<T>.groupByTo(destination:
M, keySelector: (T) -> K, valueTransform: (T) -> V): M {\n  for (element in this) {\n    val key =
keySelector(element)\n    val list = destination.getOrPut(key) { ArrayList<V>() }\n
list.add(valueTransform(element))\n  }\n  return destination\n}\n\n/**\n * Creates a [Grouping] source from a
collection to be used later with one of group-and-fold operations\n * using the specified [keySelector] function to
extract a key from each element.\n * \n * @sample samples.collections.Grouping.groupingByEachCount\n */\n@SinceKotlin("1.1")\npublic inline fun <T, K> Iterable<T>.groupingBy(crossinline keySelector: (T) -> K):
Grouping<T, K> {\n  return object : Grouping<T, K> {\n    override fun sourceIterator(): Iterator<T> =
this@groupingBy.iterator()\n    override fun keyOf(element: T): K = keySelector(element)\n  }\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each element in the original
collection.\n * \n * @sample samples.collections.Collections.Transformations.map\n */\npublic inline fun <T, R>
Iterable<T>.map(transform: (T) -> R): List<R> {\n  return mapTo(ArrayList<R>(collectionSizeOrDefault(10)),
transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each
element and its index in the original collection.\n * @param [transform] function that takes the index of an element
and the element itself\n * and returns the result of the transform applied to the element.\n */\npublic inline fun <T,
R> Iterable<T>.mapIndexed(transform: (index: Int, T) -> R): List<R> {\n  return
mapIndexedTo(ArrayList<R>(collectionSizeOrDefault(10)), transform)\n}\n\n/**\n * Returns a list containing only
the non-null results of applying the given [transform] function\n * to each element and its index in the original
collection.\n * @param [transform] function that takes the index of an element and the element itself\n * and returns
the result
of the transform applied to the element.\n */\npublic inline fun <T, R : Any>
Iterable<T>.mapIndexedNotNull(transform: (index: Int, T) -> R?): List<R> {\n  return
mapIndexedNotNullTo(ArrayList<R>(), transform)\n}\n\n/**\n * Applies the given [transform] function to each
element and its index in the original collection\n * and appends only the non-null results to the given [destination].\n
*\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of
the transform applied to the element.\n */\npublic inline fun <T, R : Any, C : MutableCollection<in R>>
Iterable<T>.mapIndexedNotNullTo(destination: C, transform: (index: Int, T) -> R?): C {\n  forEachIndexed {
index, element -> transform(index, element)?.let { destination.add(it) } }\n  return destination\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original collection\n * and appends the
results to the given [destination].\n * @param
[transform] function that takes the index of an element and the element itself\n * and returns the result of the
transform applied to the element.\n */\npublic inline fun <T, R, C : MutableCollection<in R>>
Iterable<T>.mapIndexedTo(destination: C, transform: (index: Int, T) -> R): C {\n  var index = 0\n  for (item in
this)\n    destination.add(transform(checkIndexOverflow(index++), item))\n  return destination\n}\n\n/**\n *

```

Returns a list containing only the non-null results of applying the given [transform] function to each element in the original collection.

```

@sample samples.collections.Collections.Transformations.mapNotNull
public inline fun <T, R : Any> Iterable<T>.mapNotNull(transform: (T) -> R?): List<R> {
    return mapNotNullTo(ArrayList<R>(), transform)
}

```

Applies the given [transform] function to each element in the original collection and appends only the non-null results to the given [destination].

```

public inline fun <T, R : Any, C : MutableCollection<in R>> Iterable<T>.mapNotNullTo(
    destination: C, transform: (T) -> R?): C {
    for (element in this) {
        destination.add(transform(element))
    }
    return destination
}

```

Applies the given [transform] function to each element of the original collection and appends the results to the given [destination].

```

public inline fun <T, R, C : MutableCollection<in R>> Iterable<T>.mapTo(
    destination: C, transform: (T) -> R): C {
    for (item in this) {
        destination.add(transform(item))
    }
    return destination
}

```

Returns a lazy [Iterable] that wraps each element of the original collection into an [IndexedValue] containing the index of that element and the element itself.

```

public fun <T> Iterable<T>.withIndex(): Iterable<IndexedValue<T>> {
    return IndexingIterable { iterator() }
}

```

Returns a list containing only distinct elements from the given collection. Among equal elements of the given collection, only the first one will be present in the resulting list. The elements in the resulting list are in the same order as they were in the source collection.

```

@sample samples.collections.Collections.Transformations.distinctAndDistinctBy
public fun <T> Iterable<T>.distinct(): List<T> {
    return this.toMutableSet().toList()
}

```

Returns a list containing only elements from the given collection having distinct keys returned by the given [selector] function. Among elements of the given collection with equal keys, only the first one will be present in the resulting list. The elements in the resulting list are in the same order as they were in the source collection.

```

@sample samples.collections.Collections.Transformations.distinctAndDistinctBy
public inline fun <T, K> Iterable<T>.distinctBy(selector: (T) -> K): List<T> {
    val set = HashSet<K>()
    val list = ArrayList<T>()
    for (e in this) {
        val key = selector(e)
        if (set.add(key)) {
            list.add(e)
        }
    }
    return list
}

```

Returns a set containing all elements that are contained by both this collection and the specified collection. The returned set preserves the element iteration order of the original collection. To get a set containing all elements that are contained at least in one of these collections use [union].

```

public infix fun <T> Iterable<T>.intersect(other: Iterable<T>): Set<T> {
    val set = this.toMutableSet()
    set.retainAll(other)
    return set
}

```

Returns a set containing all elements that are contained by this collection and not contained by the specified collection. The returned set preserves the element iteration order of the original collection.

```

public infix fun <T> Iterable<T>.subtract(other: Iterable<T>): Set<T> {
    val set = this.toMutableSet()
    set.removeAll(other)
    return set
}

```

Returns a new [MutableSet] containing all distinct elements from the given collection. The returned set preserves the element iteration order of the original collection.

```

public fun <T> Iterable<T>.toMutableSet(): MutableSet<T> {
    return when (this) {
        is Collection<T> -> LinkedHashSet(this)
        else -> toCollection(LinkedHashSet<T>())
    }
}

```

Returns a set containing all distinct elements from both collections. The returned set preserves the element iteration order of the original collection. Those elements of the [other] collection that are unique are iterated in the end in the order of the [other] collection.

```

public infix fun <T> Iterable<T>.union(other: Iterable<T>): Set<T> {
    val set = this.toMutableSet()
    set.addAll(other)
    return set
}

```

Returns `true` if all elements match the given [predicate].

```

@sample samples.collections.Collections.Aggregates.all
public inline fun <T> Iterable<T>.all(predicate: (T) -> Boolean): Boolean {
    if (this is Collection && isEmpty()) return true
    for (element in this) if (!predicate(element)) return false
    return true
}

```

Returns `true` if collection has at least one element.

```

@sample samples.collections.Collections.Aggregates.any
public fun <T> Iterable<T>.any(): Boolean {
    if (this is

```

```

Collection) return isEmpty()\n    return iterator().hasNext()\n}\n\n/**\n * Returns `true` if at least one element
matches the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n
*/\npublic inline fun <T> Iterable<T>.any(predicate: (T) -> Boolean): Boolean {\n    if (this is Collection &&
isEmpty()) return false\n    for (element in this) if (predicate(element)) return true\n    return false\n}\n\n/**\n *
Returns the number of elements in this collection.\n */\npublic fun <T> Iterable<T>.count():
Int {\n    if (this is Collection) return size\n    var count = 0\n    for (element in this)
checkCountOverflow(++count)\n    return count\n}\n\n/**\n * Returns the number of elements in this collection.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun <T> Collection<T>.count(): Int {\n    return size\n}\n\n/**\n *
Returns the number of elements matching the given [predicate].\n */\npublic inline fun <T>
Iterable<T>.count(predicate: (T) -> Boolean): Int {\n    if (this is Collection && isEmpty()) return 0\n    var count =
0\n    for (element in this) if (predicate(element)) checkCountOverflow(++count)\n    return count\n}\n\n/**\n *
Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator
value and each element.\n * \n * Returns the specified [initial] value if the collection is empty.\n * \n * @param
[operation] function that takes current accumulator value and an element, and calculates the next accumulator
value.\n
*/\npublic inline fun <T, R> Iterable<T>.fold(initial: R, operation: (acc: R, T) -> R): R {\n    var accumulator =
initial\n    for (element in this) accumulator = operation(accumulator, element)\n    return accumulator\n}\n\n/**\n *
Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator
value and each element with its index in the original collection.\n * \n * Returns the specified [initial] value if the
collection is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator
value\n * and the element itself, and calculates the next accumulator value.\n */\npublic inline fun <T, R>
Iterable<T>.foldIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): R {\n    var index = 0\n    var
accumulator = initial\n    for (element in this) accumulator = operation(checkIndexOverflow(index++), accumulator,
element)\n    return accumulator\n}\n\n/**\n * Accumulates value starting with
[initial] value and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n *
Returns the specified [initial] value if the list is empty.\n * \n * @param [operation] function that takes an element
and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <T, R>
List<T>.foldRight(initial: R, operation: (T, acc: R) -> R): R {\n    var accumulator = initial\n    if (!isEmpty()) {\n
val iterator = listIterator(size)\n        while (iterator.hasPrevious()) {\n            accumulator =
operation(iterator.previous(), accumulator)\n        }\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value
starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the
original list and current accumulator value.\n * \n * Returns the specified [initial] value if the list is empty.\n * \n *
@param [operation] function that takes the index of an element, the
element itself\n * and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun
<T, R> List<T>.foldRightIndexed(initial: R, operation: (index: Int, T, acc: R) -> R): R {\n    var accumulator =
initial\n    if (!isEmpty()) {\n        val iterator = listIterator(size)\n        while (iterator.hasPrevious()) {\n
val index = iterator.previousIndex()\n            accumulator = operation(index, iterator.previous(), accumulator)\n
        }\n    }\n    return accumulator\n}\n\n/**\n * Performs the given [action] on each element.\n
*/\n@kotlin.internal.HidesMembers\npublic inline fun <T> Iterable<T>.forEach(action: (T) -> Unit): Unit {\n    for
(element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential
index with the element.\n * \n * @param [action] function that takes the index of an element and the element itself\n *
and performs the action on the element.\n */\npublic inline fun <T> Iterable<T>.forEachIndexed(action:
(index: Int, T) -> Unit): Unit {\n    var index = 0\n    for (item in this) action(checkIndexOverflow(index++),
item)\n}\n\n@Deprecated("Use maxOrNull instead.")
ReplaceWith("this.maxOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\n@SinceKotlin("1.1")\npublic fun Iterable<Double>.max(): Double? {\n    return
maxOrNull()\n}\n\n@Deprecated("Use maxOrNull instead.")
ReplaceWith("this.maxOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",

```

```

hiddenSince = `1.6`)@SinceKotlin("1.1")public fun Iterable<Float>.max(): Float? {
    return
    maxOrNull()
}
@Deprecated("Use maxOrNull instead.",
ReplaceWith("this.maxOrNull()"))@DeprecatedSinceKotlin(warningSince = `1.4`, errorSince = `1.5`,
hiddenSince = `1.6`)public fun <T : Comparable<T>> Iterable<T>.max(): T? {
    return
    maxOrNull()
}
@Deprecated("Use maxByOrNull instead.",
ReplaceWith("this.maxByOrNull(selector)"))@DeprecatedSinceKotlin(warningSince
= `1.4`, errorSince = `1.5`, hiddenSince = `1.6`)public inline fun <T, R : Comparable<R>>
Iterable<T>.maxBy(selector: (T) -> R): T? {
    return maxByOrNull(selector)
}
/**
 * Returns the first
 * element yielding the largest value of the given function or `null` if there are no elements.
 * @sample
 * samples.collections.Collections.Aggregates.maxByOrNull
 */
@SinceKotlin("1.4")public inline fun <T, R :
Comparable<R>> Iterable<T>.maxByOrNull(selector: (T) -> R): T? {
    val iterator = iterator()
    if
    (!iterator.hasNext()) return null
    var maxElem = iterator.next()
    if (!iterator.hasNext()) return maxElem
    var
    maxV = selector(maxElem)
    do {
        val e = iterator.next()
        val v = selector(e)
        if (maxV <
        v) {
            maxElem = e
            maxV = v
        }
    } while (iterator.hasNext())
    return
    maxElem
}
/**
 * Returns the largest value
 * among all values produced by [selector] function
 * applied to each element in the collection.
 * If any of
 * values produced by [selector] function is `NaN`, the returned result is `NaN`.
 * @throws
 * NoSuchElementException if the collection is empty.
 */
@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolution
ByLambdaReturnType@kotlin.internal.InlineOnlypublic inline fun <T> Iterable<T>.maxOf(selector: (T) ->
Double): Double {
    val iterator = iterator()
    if (!iterator.hasNext()) throw NoSuchElementException()
    var
    maxV = selector(iterator.next())
    while (iterator.hasNext()) {
        val v = selector(iterator.next())
        maxV = maxOf(maxV, v)
    }
    return maxV
}
/**
 * Returns the largest value among all
 * values produced by [selector] function
 * applied to each element in the collection.
 * If any of values
 * produced by [selector] function is `NaN`, the returned result
 * is `NaN`.
 * @throws NoSuchElementException if the collection is empty.
 */
@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolution
ByLambdaReturnType@kotlin.internal.InlineOnlypublic inline fun <T> Iterable<T>.maxOf(selector: (T) ->
Float): Float {
    val iterator = iterator()
    if (!iterator.hasNext()) throw NoSuchElementException()
    var
    maxV = selector(iterator.next())
    while (iterator.hasNext()) {
        val v = selector(iterator.next())
        maxV = maxOf(maxV, v)
    }
    return maxV
}
/**
 * Returns the largest value among all
 * values produced by [selector] function
 * applied to each element in the collection.
 * @throws
 * NoSuchElementException if the collection is empty.
 */
@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolution
ByLambdaReturnType@kotlin.internal.InlineOnlypublic inline fun <T, R : Comparable<R>>
Iterable<T>.maxOf(selector:
(T) -> R): R {
    val iterator = iterator()
    if (!iterator.hasNext()) throw NoSuchElementException()
    var
    maxV = selector(iterator.next())
    while (iterator.hasNext()) {
        val v = selector(iterator.next())
        if
        (maxV < v) {
            maxV = v
        }
    }
    return maxV
}
/**
 * Returns the largest value
 * among all values produced by [selector] function
 * applied to each element in the collection or `null` if there are
 * no elements.
 * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.
 */
@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolution
ByLambdaReturnType@kotlin.internal.InlineOnlypublic inline fun <T> Iterable<T>.maxOfOrNull(selector: (T)
-> Double): Double? {
    val iterator = iterator()
    if (!iterator.hasNext()) return null
    var maxV =
    selector(iterator.next())
    while (iterator.hasNext())
    {
        val v = selector(iterator.next())
        maxV = maxOf(maxV, v)
    }
    return
    maxV
}
/**
 * Returns the largest value among all values produced by [selector] function
 * applied to
 * each element in the collection or `null` if there are no elements.
 * If any of values produced by [selector]
 */

```

function is `NaN`, the returned result is `NaN`.\n

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.maxOrNull(selector: (T)\n-> Float): Float? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var max = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n        max =\n        maxOf(max, v)\n    }\n    return max\n}\n\n/**\n * Returns the largest value among all values produced\n * by [selector] function\n * applied to each\n * element in the collection or `null` if there are no elements.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>>\nIterable<T>.maxOrNull(selector: (T) -> R): R? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return\n    null\n    var max = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v =\n        selector(iterator.next())\n        if (max < v) {\n            max = v\n        }\n    }\n    return\n    max\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values\n * produced by [selector] function applied to each element in the collection.\n * @throws\n * NoSuchElementException if the collection is empty.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic\n    inline fun <T, R> Iterable<T>.maxOfWith(comparator: Comparator<in R>, selector: (T) -> R): R {\n        val iterator\n        = iterator()\n        if (!iterator.hasNext()) throw NoSuchElementException()\n        var max =\n        selector(iterator.next())\n        while (iterator.hasNext()) {\n            val v = selector(iterator.next())\n            if\n            (comparator.compare(max, v) < 0) {\n                max = v\n            }\n        }\n        return max\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]\n * function applied to each element in the collection or `null` if there are no elements.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R>\nIterable<T>.maxOfWithOrNull(comparator: Comparator<in R>, selector: (T) -> R): R? {\n    val iterator =\n    iterator()\n    if (!iterator.hasNext()) return null\n    var\n    max = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n        if\n        (comparator.compare(max, v) < 0) {\n            max = v\n        }\n    }\n    return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n * * If any of elements is `NaN` returns `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\npublic fun Iterable<Double>.maxOrNull(): Double? {\n    val iterator = iterator()\n    if\n    (!iterator.hasNext()) return null\n    var max = iterator.next()\n    while (iterator.hasNext()) {\n        val e =\n        iterator.next()\n        max = maxOf(max, e)\n    }\n    return max\n}\n\n/**\n * Returns the largest element or `null` if\n * there are no elements.\n * * If any of elements is `NaN` returns `NaN`.\n *\n@SinceKotlin("1.4")\npublic fun\n    Iterable<Float>.maxOrNull(): Float? {\n        val iterator = iterator()\n        if (!iterator.hasNext()) return null\n        var max\n        = iterator.next()\n        while (iterator.hasNext())\n
```

```
{\n    val e = iterator.next()\n    max = maxOf(max, e)\n}\n    return max\n}\n\n/**\n * Returns the largest\n * element or `null` if there are no elements.\n
```

```
*\n@SinceKotlin("1.4")\npublic fun <T : Comparable<T>>\nIterable<T>.maxOrNull(): T? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var max =\n    iterator.next()\n    while (iterator.hasNext()) {\n        val e = iterator.next()\n        if (max < e) max = e\n    }\n    return max\n}\n\n@Deprecated("Use maxWithOrNull instead.")\n
```

```
ReplaceWith("this.maxWithOrNull(comparator)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince\n= "1.5", hiddenSince = "1.6")\npublic fun <T> Iterable<T>.maxWith(comparator: Comparator<in T>): T? {\n    return maxWithOrNull(comparator)\n}\n\n/**\n * Returns the first element having the largest value according to the\n * provided [comparator] or `null` if there are no elements.\n *\n@SinceKotlin("1.4")\npublic fun <T>\n
```

```
Iterable<T>.maxWithOrNull(comparator:\n
```

```

Comparator<in T>): T? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var max =
iterator.next()\n    while (iterator.hasNext()) {\n        val e = iterator.next()\n        if (comparator.compare(max, e) <
0) max = e\n    }\n    return max\n}\n\n@Deprecated("Use minOrNull instead."),
ReplaceWith("this.minOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\n@SinceKotlin("1.1")\npublic fun Iterable<Double>.min(): Double? {\n    return
minOrNull()\n}\n\n@Deprecated("Use minOrNull instead."),
ReplaceWith("this.minOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\n@SinceKotlin("1.1")\npublic fun Iterable<Float>.min(): Float? {\n    return
minOrNull()\n}\n\n@Deprecated("Use minOrNull instead."),
ReplaceWith("this.minOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\npublic fun
<T : Comparable<T>> Iterable<T>.min(): T? {\n    return minOrNull()\n}\n\n@Deprecated("Use minByOrNull
instead."), ReplaceWith("this.minByOrNull(selector)")\n@DeprecatedSinceKotlin(warningSince = "1.4",
errorSince = "1.5", hiddenSince = "1.6")\npublic inline fun <T, R : Comparable<R>>
Iterable<T>.minBy(selector: (T) -> R): T? {\n    return minByOrNull(selector)\n}\n\n/**\n * Returns the first
element yielding the smallest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minByOrNull\n * \n * @SinceKotlin("1.4")\n * \n * @public inline fun <T, R :
Comparable<R>> Iterable<T>.minByOrNull(selector: (T) -> R): T? {\n    val iterator = iterator()\n    if
(!iterator.hasNext()) return null\n    var minElem = iterator.next()\n    if (!iterator.hasNext()) return minElem\n    var
minValue = selector(minElem)\n    do {\n        val e = iterator.next()\n        val v = selector(e)\n        if (minValue >
v) {\n            minElem
= e\n            minValue = v\n        }\n    } while (iterator.hasNext())\n    return minElem\n}\n\n/**\n * Returns the
smallest value among all values produced by [selector] function\n * applied to each element in the collection.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws
NoSuchElementException if the collection is empty.\n * \n * @SinceKotlin("1.4")\n * \n * @OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n * \n * @OverloadResolution
ByLambdaReturnType\n * \n * @kotlin.internal.InlineOnly\n * \n * @public inline fun <T> Iterable<T>.minOf(selector: (T) ->
Double): Double {\n    val iterator = iterator()\n    if (!iterator.hasNext()) throw NoSuchElementException()\n    var
minValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n
minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all
values produced by [selector]
function\n * applied to each element in the collection.\n * \n * If any of values produced by [selector] function is
`NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the collection is empty.\n * \n * @SinceKotlin("1.4")\n * \n * @OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n * \n * @OverloadResolution
ByLambdaReturnType\n * \n * @kotlin.internal.InlineOnly\n * \n * @public inline fun <T> Iterable<T>.minOf(selector: (T) ->
Float): Float {\n    val iterator = iterator()\n    if (!iterator.hasNext()) throw NoSuchElementException()\n    var
minValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n
minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all
values produced by [selector] function\n * applied to each element in the collection.\n * \n * @throws
NoSuchElementException if the collection is empty.\n * \n * @SinceKotlin("1.4")\n * \n * @OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n * \n * @OverloadResolution
ByLambdaReturnType\n * \n * @kotlin.internal.InlineOnly\n * \n * @public
inline fun <T, R : Comparable<R>> Iterable<T>.minOf(selector: (T) -> R): R {\n    val iterator = iterator()\n    if
(!iterator.hasNext()) throw NoSuchElementException()\n    var minValue = selector(iterator.next())\n    while
(iterator.hasNext()) {\n        val v = selector(iterator.next())\n        if (minValue > v) {\n            minValue = v\n
        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector]
function\n * applied to each element in the collection or `null` if there are no elements.\n * \n * If any of values
produced by [selector] function is `NaN`, the returned result is `NaN`.\n

```



```

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.minOfOrNull(selector: (T)
-> Double): Double?
    {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var minValue = selector(iterator.next())\n
while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n        minValue = minOf(minValue, v)\n    }\n
return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n *
applied to each element in the collection or `null` if there are no elements.\n * \n * If any of values produced by
[selector] function is `NaN`, the returned result is `NaN`.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.minOfOrNull(selector: (T)
-> Float): Float? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var minValue =
selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n        minValue =
minOf(minValue,
v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector]
function\n * applied to each element in the collection or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>>
Iterable<T>.minOfOrNull(selector: (T) -> R): R? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return
null\n    var minValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v =
selector(iterator.next())\n        if (minValue > v) {\n            minValue = v\n        }\n    }\n    return
minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values
produced by [selector] function applied to each element in the collection.\n * \n * @throws
NoSuchElementException if the collection is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun <T, R> Iterable<T>.minOfWith(comparator: Comparator<in R>, selector: (T) -> R): R {\n    val iterator
= iterator()\n    if (!iterator.hasNext()) throw NoSuchElementException()\n    var minValue =
selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n        if
(comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n *
Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the collection or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R>
Iterable<T>.minOfWithOrNull(comparator:
Comparator<in R>, selector: (T) -> R): R? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n
var minValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n
if (comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n *
Returns the smallest element or `null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n
*\n@SinceKotlin("1.4")\npublic fun Iterable<Double>.minOrNull(): Double? {\n    val iterator = iterator()\n    if
(!iterator.hasNext()) return null\n    var min = iterator.next()\n    while (iterator.hasNext()) {\n        val e =
iterator.next()\n        min = minOf(min, e)\n    }\n    return min\n}\n\n/**\n * Returns the smallest element or `null` if
there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n
*\n@SinceKotlin("1.4")\npublic fun
Iterable<Float>.minOrNull():
Float? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var min = iterator.next()\n    while
(iterator.hasNext()) {\n        val e = iterator.next()\n        min = minOf(min, e)\n    }\n    return min\n}\n\n/**\n *
Returns the smallest element or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\npublic fun <T :
Comparable<T>> Iterable<T>.minOrNull(): T? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n
var min = iterator.next()\n    while (iterator.hasNext()) {\n        val e = iterator.next()\n        if (min > e) min = e\n
}
}

```

```

}
return min
}
@Deprecated("Use minOrNull instead.",
ReplaceWith("this.minOrNull(comparator)"))
@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")
public fun <T> Iterable<T>.minWith(comparator: Comparator<in T>): T? {
return minOrNull(comparator)
}
/**
 * Returns the first element having the smallest
value according to the provided [comparator] or `null` if there are no elements.
*/
@SinceKotlin("1.4")
public fun <T> Iterable<T>.minOrNull(comparator: Comparator<in T>): T? {
val iterator = iterator()
if (!iterator.hasNext()) return null
var min = iterator.next()
while (iterator.hasNext()) {
val e =
iterator.next()
if (comparator.compare(min, e) > 0) min = e
}
return min
}
/**
 * Returns `true` if
the collection has no elements.
*/
@sample samples.collections.Collections.Aggregates.none
*/
public fun
<T> Iterable<T>.none(): Boolean {
if (this is Collection) return isEmpty()
return
!iterator().hasNext()
}
/**
 * Returns `true` if no elements match the given [predicate].
*/
@sample
samples.collections.Collections.Aggregates.noneWithPredicate
*/
public inline fun <T>
Iterable<T>.none(predicate: (T) -> Boolean): Boolean {
if (this is Collection && isEmpty()) return true
for
(element
in this) if (predicate(element)) return false
return true
}
/**
 * Performs the given [action] on each element
and returns the collection itself afterwards.
*/
@SinceKotlin("1.1")
public inline fun <T, C : Iterable<T>>
C.onEach(action: (T) -> Unit): C {
return apply { for (element in this) action(element) }
}
/**
 * Performs
the given [action] on each element, providing sequential index with the element,
and returns the collection itself
afterwards.
*/
@sample [action] function that takes the index of an element and the element itself
and performs
the action on the element.
*/
@SinceKotlin("1.4")
public inline fun <T, C : Iterable<T>>
C.onEachIndexed(action: (index: Int, T) -> Unit): C {
return apply { forEachIndexed(action) }
}
/**
 * Accumulates value starting with the first element and applying [operation] from left to right
to current
accumulator value and each element.
*/
* Throws an exception if this collection is empty.
If the collection can be empty in an expected way,
please use [reduceOrNull] instead. It returns `null` when its
receiver is empty.
*/
@sample [operation] function that takes current accumulator value and an element,
and calculates the next accumulator value.
*/
@sample samples.collections.Collections.Aggregates.reduce
*/
public inline fun <S, T : S> Iterable<T>.reduce(operation: (acc: S, T) -> S): S {
val iterator = this.iterator()
if (!iterator.hasNext()) throw UnsupportedOperationException("Empty collection can't be reduced.")
var
accumulator: S = iterator.next()
while (iterator.hasNext()) {
accumulator = operation(accumulator,
iterator.next())
}
return accumulator
}
/**
 * Accumulates value starting with the first element and
applying [operation] from left to right
to current accumulator value and each element with its index in the
original collection.
*/
* Throws an exception if this collection is empty.
If the collection can be empty in an expected way,
please use [reduceIndexedOrNull] instead. It returns `null`
when its receiver is empty.
*/
@sample [operation] function that takes the index of an element, current
accumulator value and the element itself,
and calculates the next accumulator value.
*/
@sample
samples.collections.Collections.Aggregates.reduce
*/
public inline fun <S, T : S>
Iterable<T>.reduceIndexed(operation: (index: Int, acc: S, T) -> S): S {
val iterator = this.iterator()
if
(!iterator.hasNext()) throw UnsupportedOperationException("Empty collection can't be reduced.")
var index =
1
var accumulator: S = iterator.next()
while (iterator.hasNext()) {
accumulator =
operation(checkIndexOverflow(index++), accumulator, iterator.next())
}
return accumulator
}
/**
 * Accumulates value starting with the first element and applying [operation] from left to right
to current
accumulator value and each element
with its index in the original collection.
*/
* Returns `null` if the collection is empty.
*/
@sample
[operation] function that takes the index of an element, current accumulator value and the element itself,
and calculates the next accumulator value.
*/
@sample samples.collections.Collections.Aggregates.reduceOrNull
*/
@SinceKotlin("1.4")
public inline fun <S, T : S> Iterable<T>.reduceIndexedOrNull(operation: (index: Int,
acc: S, T) -> S): S? {
val iterator = this.iterator()
if (!iterator.hasNext()) return null
var index = 1
var
accumulator: S = iterator.next()
while (iterator.hasNext()) {
accumulator =

```


* Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n * \n @SinceKotlin("1.4")\n public inline fun <T, R> Iterable<T>.runningFold(initial: R, operation: (acc: R, T) -> R): List<R> {\n val estimatedSize = collectionSizeOrDefault(9)\n if (estimatedSize == 0) return listOf(initial)\n val result = ArrayList<R>(estimatedSize + 1).apply { add(initial) }\n var accumulator = initial\n for (element in this) {\n accumulator = operation(accumulator, element)\n result.add(accumulator)\n }\n return result\n }\n\n /**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original collection and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFoldIndexed\n * \n @SinceKotlin("1.4")\n public inline fun <T, R> Iterable<T>.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): List<R> {\n val estimatedSize = collectionSizeOrDefault(9)\n if (estimatedSize == 0) return listOf(initial)\n val result = ArrayList<R>(estimatedSize + 1).apply { add(initial) }\n var index = 0\n var accumulator = initial\n for (element in this) {\n accumulator = operation(index++, accumulator, element)\n result.add(accumulator)\n }\n return result\n }\n\n /**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with the first element of this collection.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and the element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n * \n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n public inline fun <S, T : S> Iterable<T>.runningReduce(operation: (acc: S, T) -> S): List<S> {\n val iterator = this.iterator()\n if (!iterator.hasNext()) return emptyList()\n var accumulator: S = iterator.next()\n val result = ArrayList<S>(collectionSizeOrDefault(10)).apply { add(accumulator) }\n while (iterator.hasNext()) {\n accumulator = operation(accumulator, iterator.next())\n result.add(accumulator)\n }\n return result\n }\n\n /**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original collection and current accumulator value that starts with the first element of this collection.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n * \n @SinceKotlin("1.4")\n public inline fun <S, T : S> Iterable<T>.runningReduceIndexed(operation: (index: Int, acc: S, T) -> S): List<S> {\n val iterator = this.iterator()\n if (!iterator.hasNext()) return emptyList()\n var accumulator: S = iterator.next()\n val result = ArrayList<S>(collectionSizeOrDefault(10)).apply { add(accumulator) }\n var index = 1\n while (iterator.hasNext()) {\n accumulator = operation(index++, accumulator, iterator.next())\n result.add(accumulator)\n }\n return result\n }\n\n /**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n * \n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n public inline fun <T, R>

```

Iterable<T>.scan(initial: R, operation: (acc: R, T) -> R): List<R> {\n  return runningFold(initial,
operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation]
from left to right\n * to each element,
its index in the original collection and current accumulator value that starts with [initial] value.\n * \n * Note that
`acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in
resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n *
and the element itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <T, R>
Iterable<T>.scanIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): List<R> {\n  return
runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the collection.\n * \n@Deprecated("Use sumOf instead."),
ReplaceWith("this.sumOf(selector)")\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun <T>
Iterable<T>.sumBy(selector: (T) -> Int): Int {\n  var sum: Int = 0\n  for (element in this) {\n    sum +=
selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the collection.\n * \n@Deprecated("Use sumOf instead."),
ReplaceWith("this.sumOf(selector)")\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun <T>
Iterable<T>.sumByDouble(selector: (T) -> Double): Double {\n  var sum: Double = 0.0\n  for (element in this)
{\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the collection.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfDouble")\n@kotlin.internal.InlineOnly\npublic inline fun
<T> Iterable<T>.sumOf(selector: (T) -> Double): Double {\n  var
sum: Double = 0.toDouble()\n  for (element in this) {\n    sum += selector(element)\n  }\n  return
sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the
collection.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfInt")\n@kotlin.internal.InlineOnly\npublic inline fun <T>
Iterable<T>.sumOf(selector: (T) -> Int): Int {\n  var sum: Int = 0.toInt()\n  for (element in this) {\n    sum +=
selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the collection.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfLong")\n@kotlin.internal.InlineOnly\npublic inline fun
<T> Iterable<T>.sumOf(selector: (T) -> Long): Long {\n
var sum: Long = 0.toLong()\n  for (element in this) {\n    sum += selector(element)\n  }\n  return
sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the
collection.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.sumOf(selector: (T) -> UInt): UInt {\n
var sum: UInt = 0.toUInt()\n  for (element in this) {\n    sum += selector(element)\n  }\n  return
sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the
collection.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedTy
pes::class)\n@kotlin.internal.InlineOnly\npublic
inline fun <T> Iterable<T>.sumOf(selector: (T) -> ULong): ULong {\n  var sum: ULong = 0.toULong()\n  for
(element in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns an original collection

```

containing all the non-`null` elements, throwing an [IllegalArgumentException] if there are any `null` elements.

```

*^public fun <T : Any> Iterable<T?>.requireNoNulls(): Iterable<T> {
    for (element in this) {
        if (element == null) {
            throw IllegalArgumentException("null element found in $this.")
        }
    }
    @Suppress("UNCHECKED_CAST")
    return this as Iterable<T>
}

```

Returns an original collection containing all the non-`null` elements, throwing an [IllegalArgumentException] if there are any `null` elements.

```

*^public fun <T : Any> List<T?>.requireNoNulls(): List<T> {
    for (element in this) {
        if (element == null) {
            throw IllegalArgumentException("null element found in $this.")
        }
    }
    @Suppress("UNCHECKED_CAST")
    return this as List<T>
}

```

Splits this collection into a list of lists each not exceeding the given [size].

The last list in the resulting list may have fewer elements than the given [size].

@param size the number of elements to take in each list, must be positive and can be greater than the number of elements in this collection.

```

@sample samples.collections.Collections.Transformations.chunked
*^@SinceKotlin("1.2")^public fun <T> Iterable<T>.chunked(size: Int): List<List<T>> {
    return windowed(size, size, partialWindows = true)
}

```

Splits this collection into several lists each not exceeding the given [size] and applies the given [transform] function to an each.

@return list of results of the [transform] applied to an each list.

Note that the list passed to the [transform] function is ephemeral and is valid only inside that function.

You should not store it or allow it to escape in some way, unless you made a snapshot of it.

The last list may have fewer elements than the given [size].

@param size the number of elements to take in each list, must be positive and can be greater than the number of elements in this collection.

```

@sample samples.text.Strings.chunkedTransform
*^@SinceKotlin("1.2")^public fun <T, R> Iterable<T>.chunked(size: Int, transform: (List<T>) -> R): List<R> {
    return windowed(size, size, partialWindows = true, transform = transform)
}

```

Returns a list containing all elements of the original collection without the first occurrence of the given [element].

```

*^public operator fun <T> Iterable<T>.minus(element: T): List<T> {
    val result = ArrayList<T>(collectionSizeOrDefault(10))
    var removed = false
    return this.filterTo(result) { if (!removed && it == element) { removed = true; false } else true }
}

```

Returns a list containing all elements of the original collection except the elements contained in the given [elements] array.

Before Kotlin 1.6, the [elements] array may have been converted to a [HashSet] to speed up the operation, thus the elements were required to have a correct and stable implementation of `hashCode()` that didn't change between successive invocations.

On JVM, you can enable this behavior back with the system property `kotlin.collections.convert_arg_to_set_in_removeAll` set to `true`.

```

*^public operator fun <T> Iterable<T>.minus(elements: Array<out T>): List<T> {
    if (elements.isEmpty()) return this.toList()
    val other = elements.convertToSetForSetOperation()
    return this.filterNot { it in other }
}

```

Returns a list containing all elements of the original collection except the elements contained in the given [elements] collection.

Before Kotlin 1.6, the [elements] collection may have been converted to a [HashSet] to speed up the operation, thus the elements were required to have a correct and stable implementation of `hashCode()` that didn't change between successive invocations.

On JVM, you can enable this behavior back with the system property `kotlin.collections.convert_arg_to_set_in_removeAll` set to `true`.

```

*^public operator fun <T> Iterable<T>.minus(elements: Iterable<T>): List<T> {
    val other = elements.convertToSetForSetOperationWith(this)
    if (other.isEmpty()) return this.toList()
    return this.filterNot { it in other }
}

```

Returns a list containing all elements of the original collection except the elements contained in the given [elements] sequence.

Before Kotlin 1.6, the [elements] sequence may have been converted to a [HashSet] to speed up the operation, thus the elements were required to have a correct and stable implementation of `hashCode()` that didn't change between successive invocations.

On JVM, you can enable this behavior back with the system property `kotlin.collections.convert_arg_to_set_in_removeAll` set to `true`.

```

*^public operator fun <T> Iterable<T>.minus(elements: Sequence<T>): List<T> {
    val other = elements.convertToSetForSetOperation()
    if (other.isEmpty()) return this.toList()
    return this.filterNot {

```



```

= false): List<List<T>> {\n  checkWindowSizeStep(size, step)\n  if (this is RandomAccess && this is List) {\n
  val thisSize = this.size\n  val resultCapacity = thisSize / step + if (thisSize % step == 0) 0 else 1\n  val result
= ArrayList<List<T>>(resultCapacity)\n  var index = 0\n  while (index in 0 until thisSize) {\n  val
windowSize = size.coerceAtMost(thisSize - index)\n  if (windowSize < size && !partialWindows)
break\n  result.add(List(windowSize) { this[it + index] })\n  index += step\n  }\n  return result\n
}\n  val result = ArrayList<List<T>>()\n  windowedIterator(iterator(), size, step, partialWindows, reuseBuffer =
false).forEach {\n  result.add(it)\n  }\n  return result\n}\n\n/**\n * Returns a list of results of applying the
given [transform] function to\n * an each list representing a view over the window of the given [size]\n * sliding
along this collection with the given [step].\n * \n * Note that the list passed to the [transform] function is ephemeral
and is valid only inside that function.\n * You should not store it or allow it to escape in some way, unless you made
a snapshot of it.\n * Several last lists may have fewer elements than the given [size].\n * \n * Both [size] and [step]
must be positive and can be greater than the number of elements in this collection.\n * @param size the number of
elements to take in each
window\n * @param step the number of elements to move the window forward by on an each step, by default 1\n *
@param partialWindows controls whether or not to keep partial windows in the end if any,\n * by default `false`
which means partial windows won't be preserved\n * \n * @sample
samples.collections.Sequences.Transformations.averageWindows\n * \n @SinceKotlin("1.2")\n public fun <T, R>
Iterable<T>.windowed(size: Int, step: Int = 1, partialWindows: Boolean = false, transform: (List<T>) -> R):
List<R> {\n  checkWindowSizeStep(size, step)\n  if (this is RandomAccess && this is List) {\n  val thisSize =
this.size\n  val resultCapacity = thisSize / step + if (thisSize % step == 0) 0 else 1\n  val result =
ArrayList<R>(resultCapacity)\n  val window = MovingSubList(this)\n  var index = 0\n  while (index in 0
until thisSize) {\n  val windowSize = size.coerceAtMost(thisSize - index)\n  if (!partialWindows &&
windowSize < size) break\n
window.move(index, index + windowSize)\n  result.add(transform(window))\n  index += step\n
}\n  return result\n }\n  val result = ArrayList<R>()\n  windowedIterator(iterator(), size, step,
partialWindows, reuseBuffer = true).forEach {\n  result.add(transform(it))\n  }\n  return result\n}\n\n/**\n *
Returns a list of pairs built from the elements of `this` collection and the [other] array with the same index.\n * The
returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n * \n public infix fun <T, R> Iterable<T>.zip(other: Array<out
R>): List<Pair<T, R>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of values built from
the elements of `this` collection and the [other] array with the same index\n * using the provided [transform]
function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n
* \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n * \n public inline fun <T, R,
V> Iterable<T>.zip(other: Array<out R>, transform: (a: T, b: R) -> V): List<V> {\n  val arraySize = other.size\n
val list = ArrayList<V>(minOf(collectionSizeOrDefault(10), arraySize))\n  var i = 0\n  for (element in this) {\n
if (i >= arraySize) break\n  list.add(transform(element, other[i++]))\n  }\n  return list\n}\n\n/**\n * Returns a
list of pairs built from the elements of `this` collection and [other] collection with the same index.\n * The returned
list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
* \n public infix fun <T, R> Iterable<T>.zip(other: Iterable<R>): List<Pair<T, R>> {\n  return zip(other) { t1, t2 ->
t1 to t2 }\n}\n\n/**\n * Returns a list of values built from the elements of `this` collection and the [other] collection
with the same index\n * using the provided
[transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n
* \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n * \n public inline fun <T, R, V>
Iterable<T>.zip(other: Iterable<R>, transform: (a: T, b: R) -> V): List<V> {\n  val first = iterator()\n  val second
= other.iterator()\n  val list = ArrayList<V>(minOf(collectionSizeOrDefault(10),
other.collectionSizeOrDefault(10)))\n  while (first.hasNext() && second.hasNext()) {\n
list.add(transform(first.next(), second.next()))\n  }\n  return list\n}\n\n/**\n * Returns a list of pairs of each two
adjacent elements in this collection.\n * \n * The returned list is empty if this collection contains less than two

```



```

Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n  }\n  checkCountOverflow(++count)\n  }\n  return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the collection.\n */\n@kotlin.jvm.JvmName("averageOfDouble")\npublic fun Iterable<Double>.average(): Double {\n  var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n    checkCountOverflow(++count)\n  }\n  return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns the sum of all elements in the collection.\n */\n@kotlin.jvm.JvmName("sumOfByte")\npublic fun Iterable<Byte>.sum(): Int {\n  var sum: Int = 0\n  for (element in this) {\n    sum += element\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n */\n@kotlin.jvm.JvmName("sumOfShort")\npublic fun Iterable<Short>.sum(): Int {\n  var sum: Int = 0\n  for (element in this) {\n    sum += element\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n */\n@kotlin.jvm.JvmName("sumOfInt")\npublic fun Iterable<Int>.sum(): Int {\n  var sum: Int = 0\n  for (element in this) {\n    sum += element\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n */\n@kotlin.jvm.JvmName("sumOfLong")\npublic fun Iterable<Long>.sum(): Long {\n  var sum: Long = 0L\n  for (element in this) {\n    sum += element\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n */\n@kotlin.jvm.JvmName("sumOfFloat")\npublic fun Iterable<Float>.sum(): Float {\n  var sum: Float = 0.0f\n  for (element in this) {\n    sum += element\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n */\n@kotlin.jvm.JvmName("sumOfDouble")\npublic fun Iterable<Double>.sum(): Double {\n  var sum: Double = 0.0\n  for (element in this) {\n    sum += element\n  }\n  return sum\n}\n}\n\n"/\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage\n\nkotlin.collections\n\nimport kotlin.comparisons.naturalOrder\nimport kotlin.random.Random\n\n/**\n * Returns the array if it's not `null`, or an empty array otherwise.\n */\n@sample\nsamples.collections.Arrays.Usage.arrayOrEmpty\n\n@kotlin.internal.InlineOnly\npublic actual inline fun <T> Array<out T>?.orEmpty(): Array<out T> = this ?: emptyArray<T>()\n\n/**\n * Returns a *typed* array containing all of the elements of this collection.\n */\n\n/**\n * Allocates an array of runtime type `T` having its size equal to the size of this collection\n * and populates the array with the elements of this collection.\n */\n@sample\nsamples.collections.Collections.Collections.collectionToTypedArray\n\n@kotlin.internal.InlineOnly\npublic actual inline fun <T> Collection<T>.toArray(): Array<T> =\n  copyToArray(this)\n\n@JsName("copyToArray")\n@PublishedApi\ninternal fun <T> copyToArray(collection: Collection<T>): Array<T> {\n  return if (collection.asDynamic().toArray !== undefined)\n    collection.asDynamic().toArray().unsafeCast<Array<T>>()\n  else\n    copyToArrayImpl(collection).unsafeCast<Array<T>>()\n}\n\n@JsName("copyToArrayImpl")\ninternal actual fun copyToArrayImpl(collection: Collection<*>): Array<Any?> {\n  val array = emptyArray<Any?>()\n  val iterator = collection.iterator()\n  while (iterator.hasNext())\n    array.asDynamic().push(iterator.next())\n  return array\n}\n\n@JsName("copyToExistingArrayImpl")\ninternal actual fun <T> copyToArrayImpl(collection: Collection<*>, array: Array<T>): Array<T> {\n  if (array.size < collection.size)\n    return copyToArrayImpl(collection).unsafeCast<Array<T>>()\n  val iterator = collection.iterator()\n  var index = 0\n  while (iterator.hasNext()) {\n    array[index++] = iterator.next().unsafeCast<T>()\n  }\n  if (index < array.size)\n    array[index] = null.unsafeCast<T>()\n  return array\n}\n\n/**\n * Returns an immutable list containing only the specified object [element].\n */\n\npublic fun <T> listOf(element: T): List<T> =\n  arrayOf(element)\n\n@PublishedApi\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\ninternal actual inline fun <E> buildListInternal(builderAction: MutableList<E>().->Unit): List<E> {\n  return\n  ArrayList<E>().apply(builderAction).build()\n}\n\n@PublishedApi\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\ninternal actual inline fun <E> buildListInternal(capacity: Int, builderAction: MutableList<E>().->Unit): List<E> {\n  checkBuilderCapacity(capacity)\n  return

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ArrayList<E>(capacity).apply(builderAction).build()\n\n\n/**\n * Returns an immutable set containing only the
specified object [element].\n */\npublic fun <T> setOf(element: T): Set<T> =
hashSetOf(element)\n\n@PublishedApi\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\ninternal actual inline
fun <E> buildSetInternal(builderAction: MutableSet<E>().->Unit): Set<E> {\n    return
LinkedHashSet<E>().apply(builderAction).build()\n\n\n@PublishedApi\n@SinceKotlin("1.3")\n@kotlin.internal.
InlineOnly\ninternal
    actual inline fun <E> buildSetInternal(capacity: Int, builderAction: MutableSet<E>().->Unit): Set<E> {\n    return
LinkedHashSet<E>(capacity).apply(builderAction).build()\n\n\n/**\n * Returns an immutable map, mapping
only the specified key to the\n * specified value.\n */\npublic fun <K, V> mapOf(pair: Pair<K, V>): Map<K, V> =
hashMapOf(pair)\n\n\n@PublishedApi\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\ninternal actual inline
fun <K, V> buildMapInternal(builderAction: MutableMap<K, V>().->Unit): Map<K, V> {\n    return
LinkedHashMap<K,
V>().apply(builderAction).build()\n\n\n@PublishedApi\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\ninte
rnal actual inline fun <K, V> buildMapInternal(capacity: Int, builderAction: MutableMap<K, V>().->Unit):
Map<K, V> {\n    return LinkedHashMap<K, V>(capacity).apply(builderAction).build()\n\n\n/**\n * Fills the
list with the provided [value].\n */\n * See:
https://en.wikipedia.org/wiki/Fisher%20%80%93Yates\_shuffle#The\_modern\_algorithm\n
*\n@SinceKotlin("1.2")\npublic actual fun <T> MutableList<T>.shuffle(): Unit = shuffle(Random)\n\n/**\n *
Returns a new list with the elements of this list randomly shuffled.\n */\n@SinceKotlin("1.2")\npublic actual fun
<T> Iterable<T>.shuffled(): List<T> = toMutableList().apply { shuffle() }\n\n/**\n * Sorts elements in the list in-
place according to their natural sort order.\n * The sort is _stable_. It means that equal elements preserve their
order relative to each other after sorting.\n * @sample samples.collections.Collections.Sorting.sortMutableList\n
*/\npublic actual fun <T : Comparable<T>> MutableList<T>.sort():
Unit {\n    collectionsSort(this, naturalOrder())\n\n\n/**\n * Sorts elements in the list in-place according to the
order specified with [comparator].\n * The sort is _stable_. It means that equal elements preserve their order
relative to each other after sorting.\n * @sample samples.collections.Collections.Sorting.sortMutableListWith\n
*/\npublic actual fun <T> MutableList<T>.sortWith(comparator: Comparator<in T>): Unit {\n
collectionsSort(this, comparator)\n\n\nprivate fun <T> collectionsSort(list: MutableList<T>, comparator:
Comparator<in T>) {\n    if (list.size <= 1) return\n\n    val array = copyToArray(list)\n    sortArrayWith(array,
comparator)\n\n    for (i in 0 until array.size) {\n        list[i] = array[i]\n    }\n\n\ninternal actual fun <T>
arrayOfNulls(reference: Array<T>, size: Int): Array<T> {\n    return
arrayOfNulls<Any>(size).unsafeCast<Array<T>>()\n\n\n@SinceKotlin("1.3")\n@PublishedApi\n@JsName("arrayCopy")\ninternal fun <T> arrayCopy(source:
Array<out T>, destination: Array<in T>, destinationOffset: Int, startIndex: Int, endIndex: Int) {\n
AbstractList.checkRangeIndexes(startIndex, endIndex, source.size)\n    val rangeSize = endIndex - startIndex\n
AbstractList.checkRangeIndexes(destinationOffset, destinationOffset + rangeSize, destination.size)\n\n    if
(js("ArrayBuffer").isView(destination) && js("ArrayBuffer").isView(source)) {\n        val subrange =
source.asDynamic().subarray(startIndex, endIndex)\n        destination.asDynamic().set(subrange,
destinationOffset)\n    } else {\n        if (source !== destination || destinationOffset <= startIndex) {\n            for
(index in 0 until rangeSize) {\n                destination[destinationOffset + index] = source[startIndex + index]\n
            }\n        } else {\n            for (index in rangeSize - 1 downTo 0) {\n                destination[destinationOffset + index] =
source[startIndex + index]\n            }\n        }\n    }\n\n\n// no singleton
map implementation in js, return map as is\n@Suppress("NOTHING_TO_INLINE")\ninternal actual inline fun
<K, V> Map<K, V>.toSingletonMapOrSelf(): Map<K, V> =
this\n\n@Suppress("NOTHING_TO_INLINE")\ninternal actual inline fun <K, V> Map<out K,

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V>.toSingletonMap(): Map<K, V> = this.toMutableMap()\n\n\n@Suppress("NOTHING_TO_INLINE")\n\ninternal
actual inline fun <T> Array<out T>.copyToArrayOfAny(isVarargs: Boolean): Array<out Any?> =\n if
(isVarargs)\n // no need to copy vararg array in JS\n this\n else\n
this.copyOfOf()\n\n\n\n@PublishedApi\n\ninternal actual fun checkIndexOverflow(index: Int): Int {\n if (index < 0)
{\n throwIndexOverflow()\n }\n return index\n}\n\n@PublishedApi\n\ninternal actual fun
checkCountOverflow(count: Int): Int {\n if (count < 0) {\n throwCountOverflow()\n }\n return
count\n}\n\n\n/**\n * JS map and set implementations do not make use of capacities or load factors.\n
*\n*\n@PublishedApi\n\ninternal actual fun mapCapacity(expectedSize:
Int) = expectedSize\n\n\n/**\n * Checks a collection builder function capacity argument.\n * In JS no validation is
made in Map/Set constructor yet.\n *\n*\n@SinceKotlin("1.3")\n\n@PublishedApi\n\ninternal fun
checkBuilderCapacity(capacity: Int) {\n require(capacity >= 0) { "capacity must be non-negative.\n"
}\n}\n\n\ninternal actual fun brittleContainsOptimizationEnabled(): Boolean = false","/*\n * Copyright 2010-2018
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n*\n@file:kotlin.jvm.JvmMultifileClass\n\n@file:kotlin.jvm.JvmName("CollectionsKt")\n\n\npackage
kotlin.collections\n\n\n/**\n * Returns the given iterator itself. This allows to use an instance of iterator in a `for`
loop.\n * @sample samples.collections.Iterators.iterator\n *\n*\n@kotlin.internal.InlineOnly\n\npublic inline operator
fun <T> Iterator<T>.iterator(): Iterator<T> =
this\n\n\n/**\n * Returns an [Iterator] that wraps each element produced by the original iterator\n * into an
[IndexValue] containing the index of that element and the element itself.\n *\n*\n * @sample
samples.collections.Iterators.withIndexIterator\n *\n*\npublic fun <T> Iterator<T>.withIndex():
Iterator<IndexedValue<T>> = IndexingIterator(this)\n\n\n/**\n * Performs the given [operation] on each element of
this [Iterator].\n * @sample samples.collections.Iterators.forEachIterator\n *\n*\npublic inline fun <T>
Iterator<T>.forEach(operation: (T) -> Unit): Unit {\n for (element in this) operation(element)\n}\n\n\n/**\n *
Iterator transforming original `iterator` into iterator of [IndexedValue], counting index from zero.\n *\n*\n\ninternal class
IndexingIterator<out T>(private val iterator: Iterator<T>) : Iterator<IndexedValue<T>> {\n private var index =
0\n final override fun hasNext(): Boolean = iterator.hasNext()\n final override fun next(): IndexedValue<T> =
IndexedValue(checkIndexOverflow(index++),
iterator.next())\n}\n","/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*\n*\n@file:kotlin.jvm.JvmMultifileClass\n\n@file:kotlin.jvm.JvmName("ComparisonsKt")\n\n\npackage
kotlin.comparisons\n\n\n/\n\nNOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n\nimport kotlin.random.*\n\n\n/**\n * Returns the
greater of two values.\n * \n * If values are equal, returns the first one.\n *\n*\n@SinceKotlin("1.1")\n\npublic expect
fun <T : Comparable<T>> maxOf(a: T, b: T): T\n\n\n/**\n * Returns the greater of two values.\n
*\n*\n@SinceKotlin("1.1")\n\n@kotlin.internal.InlineOnly\n\npublic expect inline fun maxOf(a: Byte, b: Byte):
Byte\n\n\n/**\n * Returns the greater of two values.\n *\n*\n@SinceKotlin("1.1")\n\n@kotlin.internal.InlineOnly\n\npublic
expect inline fun maxOf(a: Short, b: Short): Short\n\n\n/**\n * Returns the greater of two values.\n
*\n*\n@SinceKotlin("1.1")\n\n@kotlin.internal.InlineOnly\n\npublic expect inline fun maxOf(a: Int, b: Int): Int\n\n\n
*\n * Returns the greater of two values.\n *\n*\n@SinceKotlin("1.1")\n\n@kotlin.internal.InlineOnly\n\npublic expect inline
fun maxOf(a: Long, b: Long): Long\n\n\n/**\n * Returns the greater of two values.\n * \n * If either value is `NaN`,
returns `NaN`.\n *\n*\n@SinceKotlin("1.1")\n\n@kotlin.internal.InlineOnly\n\npublic expect inline fun maxOf(a: Float,
b: Float): Float\n\n\n/**\n * Returns the greater of two values.\n * \n * If either value is `NaN`, returns `NaN`.\n
*\n*\n@SinceKotlin("1.1")\n\n@kotlin.internal.InlineOnly\n\npublic expect inline fun maxOf(a: Double, b: Double):
Double\n\n\n/**\n * Returns the greater of three values.\n * \n * If there are multiple equal maximal values, returns the
first of them.\n *\n*\n@SinceKotlin("1.1")\n\npublic expect fun <T : Comparable<T>> maxOf(a: T,

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b: T, c: T): T\n\n/**\n * Returns the greater of three values.\n

*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Byte, b: Byte, c: Byte): Byte\n\n/**\n * Returns the greater of three values.\n

*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Short, b: Short, c: Short): Short\n\n/**\n * Returns the greater of three values.\n

*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Int, b: Int, c: Int): Int\n\n/**\n * Returns the greater of three values.\n *\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Long, b: Long, c: Long): Long\n\n/**\n * Returns the greater of three values.\n *\n * If any value is `NaN`, returns `NaN`.\n *\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Float, b: Float, c: Float): Float\n\n/**\n * Returns the greater of three values.\n *\n * If any value is `NaN`, returns `NaN`.\n *\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Double, b: Double, c: Double): Double\n\n/**\n * Returns the greater of three values according to the order specified by the given [comparator].\n *\n * If there are multiple equal maximal values, returns the first of them.\n

*\n@SinceKotlin("1.1")\npublic fun <T> maxOf(a: T, b: T, c: T, comparator: Comparator<in T>): T {\n return maxOf(a, maxOf(b, c, comparator), comparator)\n}\n\n/**\n * Returns the greater of two values according to the order specified by the given [comparator].\n *\n * If values are equal, returns the first one.\n

*\n@SinceKotlin("1.1")\npublic fun <T> maxOf(a: T, b: T, comparator: Comparator<in T>): T {\n return if (comparator.compare(a, b) >= 0) a else b\n}\n\n/**\n * Returns the greater of the given values.\n *\n * If there are multiple equal maximal values, returns the first of them.\n *\n@SinceKotlin("1.4")\npublic expect fun <T : Comparable<T>>

maxOf(a: T, vararg other: T): T\n\n/**\n * Returns the greater of the given values.\n

*\n@SinceKotlin("1.4")\npublic expect fun maxOf(a: Byte, vararg other: Byte): Byte\n\n/**\n * Returns the greater of the given values.\n *\n@SinceKotlin("1.4")\npublic expect fun maxOf(a: Short, vararg other: Short): Short\n\n/**\n * Returns the greater of the given values.\n *\n@SinceKotlin("1.4")\npublic expect fun maxOf(a: Int, vararg other: Int): Int\n\n/**\n * Returns the greater of the given values.\n *\n@SinceKotlin("1.4")\npublic expect fun maxOf(a: Long, vararg other: Long): Long\n\n/**\n * Returns the greater of the given values.\n *\n * If any value is `NaN`, returns `NaN`.\n *\n@SinceKotlin("1.4")\npublic expect fun maxOf(a: Float, vararg other: Float): Float\n\n/**\n * Returns the greater of the given values.\n *\n * If any value is `NaN`, returns `NaN`.\n *\n@SinceKotlin("1.4")\npublic expect fun maxOf(a: Double, vararg other: Double): Double\n\n/**\n * Returns the greater of the given values according to the order specified by the given [comparator].\n *\n * If there are multiple equal maximal values, returns the first of them.\n *\n@SinceKotlin("1.4")\npublic fun <T> maxOf(a: T, vararg other: T, comparator: Comparator<in T>): T {\n var max = a\n for (e in other) if (comparator.compare(max, e) < 0) max = e\n return max\n}\n\n/**\n * Returns the smaller of two values.\n *\n * If values are equal, returns the first one.\n *\n@SinceKotlin("1.1")\npublic expect fun <T : Comparable<T>> minOf(a: T, b: T): T\n\n/**\n * Returns the smaller of two values.\n *\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Byte, b: Byte): Byte\n\n/**\n * Returns the smaller of two values.\n

*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Short, b: Short): Short\n\n/**\n * Returns the smaller of two values.\n

*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Int, b: Int): Int\n\n/**\n * Returns the smaller of two values.\n

*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Long, b: Long): Long\n\n/**\n * Returns the smaller of two values.\n *\n * If either value is `NaN`, returns `NaN`.\n

*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Float, b: Float): Float\n\n/**\n * Returns the smaller of two values.\n *\n * If either value is `NaN`, returns `NaN`.\n

*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Double, b: Double): Double\n\n/**\n * Returns the smaller of three values.\n *\n * If there are multiple equal minimal values, returns the

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first of them.\n *\n@SinceKotlin("1.1")\npublic expect fun <T : Comparable<T>> minOf(a: T, b: T, c: T):
T\n\n/**\n * Returns the smaller of three values.\n *\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic
expect inline fun minOf(a: Byte, b:
Byte, c: Byte): Byte\n\n/**\n * Returns the smaller of three values.\n
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Short, b: Short, c:
Short): Short\n\n/**\n * Returns the smaller of three values.\n
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Int, b: Int, c: Int):
Int\n\n/**\n * Returns the smaller of three values.\n *\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic
expect inline fun minOf(a: Long, b: Long, c: Long): Long\n\n/**\n * Returns the smaller of three values.\n *\n * If
any value is `NaN`, returns `NaN`.\n *\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline
fun minOf(a: Float, b: Float, c: Float): Float\n\n/**\n * Returns the smaller of three values.\n *\n * If any value is
`NaN`, returns `NaN`.\n *\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a:
Double, b: Double, c: Double): Double\n\n/**\n * Returns the
smaller of three values according to the order specified by the given [comparator].\n *\n * If there are multiple
equal minimal values, returns the first of them.\n *\n@SinceKotlin("1.1")\npublic fun <T> minOf(a: T, b: T, c: T,
comparator: Comparator<in T>): T {\n    return minOf(a, minOf(b, c, comparator), comparator)\n}\n\n/**\n *
Returns the smaller of two values according to the order specified by the given [comparator].\n *\n * If values are
equal, returns the first one.\n *\n@SinceKotlin("1.1")\npublic fun <T> minOf(a: T, b: T, comparator:
Comparator<in T>): T {\n    return if (comparator.compare(a, b) <= 0) a else b\n}\n\n/**\n * Returns the smaller of
the given values.\n *\n * If there are multiple equal minimal values, returns the first of them.\n
*\n@SinceKotlin("1.4")\npublic expect fun <T : Comparable<T>> minOf(a: T, vararg other: T): T\n\n/**\n *
Returns the smaller of the given values.\n *\n@SinceKotlin("1.4")\npublic expect fun minOf(a: Byte, vararg
other:
Byte): Byte\n\n/**\n * Returns the smaller of the given values.\n *\n@SinceKotlin("1.4")\npublic expect fun
minOf(a: Short, vararg other: Short): Short\n\n/**\n * Returns the smaller of the given values.\n
*\n@SinceKotlin("1.4")\npublic expect fun minOf(a: Int, vararg other: Int): Int\n\n/**\n * Returns the smaller of
the given values.\n *\n@SinceKotlin("1.4")\npublic expect fun minOf(a: Long, vararg other: Long):
Long\n\n/**\n * Returns the smaller of the given values.\n *\n * If any value is `NaN`, returns `NaN`.\n
*\n@SinceKotlin("1.4")\npublic expect fun minOf(a: Float, vararg other: Float): Float\n\n/**\n * Returns the
smaller of the given values.\n *\n * If any value is `NaN`, returns `NaN`.\n *\n@SinceKotlin("1.4")\npublic
expect fun minOf(a: Double, vararg other: Double): Double\n\n/**\n * Returns the smaller of the given values
according to the order specified by the given [comparator].\n *\n * If there are multiple equal minimal values,
returns the first
of them.\n *\n@SinceKotlin("1.4")\npublic fun <T> minOf(a: T, vararg other: T, comparator: Comparator<in
T>): T {\n    var min = a\n    for (e in other) if (comparator.compare(min, e) > 0) min = e\n    return
min\n}\n\n"/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use
of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("MapsKt")\n\npackage
kotlin.collections\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.random.*\nimport
kotlin.ranges.contains\nimport kotlin.ranges.reversed\n\n/**\n * Returns the first non-null value produced by
[transform] function being applied to entries of this map in iteration order,\n * or throws
[NoSuchElementException] if no non-null value was produced.\n *\n *\n *
@sample samples.collections.Collections.Transformations.firstNotNullOf\n
*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R : Any> Map<out K,
V>.firstNotNullOf(transform: (Map.Entry<K, V>) -> R?): R {\n    return firstNotNullOfOrNull(transform) ?: throw
NoSuchElementException("No element of the map was transformed to a non-null value.")\n}\n\n/**\n * Returns
the first non-null value produced by [transform] function being applied to entries of this map in iteration order,\n *

```

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or `null` if no non-null value was produced.\n * \n * @sample
samples.collections.Collections.Transformations.firstNotNullOf\n
*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R : Any> Map<out K,
V>.firstNotNullOfOrNull(transform: (Map.Entry<K, V>) -> R?): R? {\n for (element in this) {\n val result =
transform(element)\n if (result != null) {\n return result\n }\n }\n return null\n}\n\n/**\n *
Returns a [List]
containing all key-value pairs.\n *\npublic fun <K, V> Map<out K, V>.toList(): List<Pair<K, V>> {\n if (size
== 0)\n return emptyList()\n val iterator = entries.iterator()\n if (!iterator.hasNext())\n return
emptyList()\n val first = iterator.next()\n if (!iterator.hasNext())\n return listOf(first.toPair())\n val result =
ArrayList<Pair<K, V>>(size)\n result.add(first.toPair())\n do {\n result.add(iterator.next().toPair())\n }
while (iterator.hasNext())\n return result\n}\n\n/**\n * Returns a single list of all elements yielded from results of
[transform] function being invoked on each entry of original map.\n * \n * @sample
samples.collections.Maps.Transformations.flatMap\n *\npublic inline fun <K, V, R> Map<out K,
V>.flatMap(transform: (Map.Entry<K, V>) -> Iterable<R>): List<R> {\n return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function
being invoked on each entry of original map.\n * \n * @sample
samples.collections.Collections.Transformations.flatMap\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapSequence")\npublic inline fun <K, V, R> Map<out K,
V>.flatMap(transform: (Map.Entry<K, V>) -> Sequence<R>): List<R> {\n return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each
entry of original map, to the given [destination].\n *\npublic inline fun <K, V, R, C : MutableCollection<in R>>
Map<out K, V>.flatMapTo(destination: C, transform: (Map.Entry<K, V>) -> Iterable<R>): C {\n for (element in
this) {\n val list = transform(element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each entry of original
map, to the given [destination].\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapSequenceTo")\npublic inline fun <K, V, R, C :
MutableCollection<in R>> Map<out K, V>.flatMapTo(destination: C, transform: (Map.Entry<K, V>) ->
Sequence<R>): C {\n for (element in this) {\n val list = transform(element)\n destination.addAll(list)\n
}\n return destination\n}\n\n/**\n * Returns a list containing the results of applying the given [transform]
function\n * to each entry in the original map.\n * \n * @sample
samples.collections.Maps.Transformations.mapToList\n *\npublic inline fun <K, V, R> Map<out K,
V>.map(transform: (Map.Entry<K, V>) -> R): List<R> {\n return mapTo(ArrayList<R>(size),
transform)\n}\n\n/**\n * Returns a list containing only the non-null results of applying the given [transform]
function\n * to each entry in the original map.\n * \n * @sample
samples.collections.Maps.Transformations.mapNotNull\n *\npublic inline fun <K, V, R : Any> Map<out K,
V>.mapNotNull(transform: (Map.Entry<K, V>) -> R?): List<R> {\n return mapNotNullTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Applies the given [transform] function to each entry in the original map\n * and appends
only the non-null results to the given [destination].\n *\npublic inline fun <K, V, R : Any, C : MutableCollection<in
R>> Map<out K, V>.mapNotNullTo(destination: C, transform: (Map.Entry<K, V>) -> R?): C {\n forEach {
element -> transform(element)?.let { destination.add(it) } }\n return destination\n}\n\n/**\n * Applies the given
[transform] function to each entry of the original map\n * and appends the results to the given [destination].\n
*\npublic inline fun <K, V, R, C : MutableCollection<in R>> Map<out K, V>.mapTo(destination: C, transform:
(Map.Entry<K, V>) -> R): C {\n for (item in this)\n destination.add(transform(item))\n return
destination\n}\n\n/**\n * Returns `true` if all entries match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.all\n *\npublic inline fun <K, V> Map<out K, V>.all(predicate:

```

```

(Map.Entry<K, V> -> Boolean): Boolean {
    if (isEmpty()) return true
    for (element in this) if
    (!predicate(element)) return false
    return true
}

Returns `true` if map has at least one entry.

@sample samples.collections.Collections.Aggregates.any
public fun <K, V> Map<out K, V>.any(): Boolean
{
    return !isEmpty()
}

Returns `true` if at least one entry matches the given [predicate].

@sample samples.collections.Collections.Aggregates.anyWithPredicate
public inline fun <K, V> Map<out K,
V>.any(predicate: (Map.Entry<K, V> -> Boolean): Boolean {
    if (isEmpty()) return false
    for (element in
this) if (predicate(element)) return true
    return false
}

Returns the number of entries in this map.

@kotlin.internal.InlineOnly
public
inline fun <K, V> Map<out K, V>.count(): Int {
    return size
}

Returns the number of entries
matching the given [predicate].

public inline fun <K, V> Map<out K, V>.count(predicate: (Map.Entry<K, V>
-> Boolean): Int {
    if (isEmpty()) return 0
    var count = 0
    for (element in this) if (predicate(element))
    ++count
    return count
}

Performs the given [action] on each entry.

@kotlin.internal.HidesMembers
public inline fun <K, V> Map<out K, V>.forEach(action: (Map.Entry<K, V>
-> Unit): Unit {
    for (element in this) action(element)
}

@Deprecated("Use maxByOrNull instead.",
ReplaceWith("this.maxByOrNull(selector)"))
@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince = "1.6")
@kotlin.internal.InlineOnly
public inline fun <K, V, R : Comparable<R>>
Map<out K, V>.maxBy(selector: (Map.Entry<K, V> -> R): Map.Entry<K, V>? {
    return
maxByOrNull(selector)
}

Returns the first entry yielding the largest value of the given function or `null` if there are no entries.

@sample samples.collections.Collections.Aggregates.maxByOrNull
@kotlin.SinceKotlin("1.4")
@kotlin.internal.InlineOnly
public inline fun <K, V, R : Comparable<R>> Map<out
K, V>.maxByOrNull(selector: (Map.Entry<K, V> -> R): Map.Entry<K, V>? {
    return
entries.maxByOrNull(selector)
}

Returns the largest value among all values produced by [selector]
function
* applied to each entry in the map.
* If any of values produced by [selector] function is `NaN`, the
returned result is `NaN`.
* @throws NoSuchElementException if the map is empty.

@kotlin.SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <K, V> Map<out K, V>.maxOf(selector:
(Map.Entry<K, V> -> Double): Double {
    return entries.maxOf(selector)
}

Returns
the largest value among all values produced by [selector] function
* applied to each entry in the map.
* If
any of values produced by [selector] function is `NaN`, the returned result is `NaN`.
* @throws
NoSuchElementException if the map is empty.

@kotlin.SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <K, V> Map<out K, V>.maxOf(selector:
(Map.Entry<K, V> -> Float): Float {
    return entries.maxOf(selector)
}

Returns the largest value
among all values produced by [selector] function
* applied to each entry in the map.
* @throws
NoSuchElementException if the map is empty.

@kotlin.SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <K, V, R : Comparable<R>> Map<out K,
V>.maxOf(selector: (Map.Entry<K, V> -> R):
R {
    return entries.maxOf(selector)
}

Returns the largest value among all values produced by
[selector] function
* applied to each entry in the map or `null` if there are no entries.
* If any of values
produced by [selector] function is `NaN`, the returned result is `NaN`.

@kotlin.SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <K, V> Map<out K,
V>.maxOfOrNull(selector: (Map.Entry<K, V> -> Double): Double? {
    return
entries.maxOfOrNull(selector)
}

Returns the largest value among all values produced by [selector]
function
* applied to each entry in the map or `null` if there are no entries.
* If any of values produced by
[selector] function is `NaN`, the returned result is `NaN`.

```



```

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun <K, V> Map<out K, V>.maxOfOrNull(selector: (Map.Entry<K, V>) -> Float): Float? {\n return
entries.maxOfOrNull(selector)\n}\n\n/**\n * Returns the largest value among all values produced by [selector]
function\n * applied to each entry in the map or `null` if there are no entries.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R : Comparable<R>> Map<out K,
V>.maxOfOrNull(selector: (Map.Entry<K, V>) -> R): R? {\n return entries.maxOfOrNull(selector)\n}\n\n/**\n *
Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each entry in the map.\n * \n * @throws NoSuchElementException if the map is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun <K, V, R> Map<out K, V>.maxOfWith(comparator: Comparator<in R>, selector: (Map.Entry<K, V>) ->
R): R {\n return entries.maxOfWith(comparator, selector)\n}\n\n/**\n * Returns the largest value according to the
provided [comparator]\n * among all values produced by [selector] function applied to each entry in the map or
`null` if there are no entries.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R> Map<out K,
V>.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Map.Entry<K, V>) -> R): R? {\n return
entries.maxOfWithOrNull(comparator, selector)\n}\n\n@Deprecated("Use maxWithOrNull instead.",
ReplaceWith("this.maxWithOrNull(comparator)"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K,
V>.maxWith(comparator:
Comparator<in Map.Entry<K, V>>): Map.Entry<K, V>? {\n return maxWithOrNull(comparator)\n}\n\n/**\n *
Returns the first entry having the largest value according to the provided [comparator] or `null` if there are no
entries.\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K,
V>.maxWithOrNull(comparator: Comparator<in Map.Entry<K, V>>): Map.Entry<K, V>? {\n return
entries.maxWithOrNull(comparator)\n}\n\n@Deprecated("Use minByOrNull instead.",
ReplaceWith("this.minByOrNull(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince = "1.6")\npublic inline fun <K, V, R : Comparable<R>> Map<out K, V>.minBy(selector:
(Map.Entry<K, V>) -> R): Map.Entry<K, V>? {\n return minByOrNull(selector)\n}\n\n/**\n * Returns the first
entry yielding the smallest value of the given function or `null` if there are no entries.\n * \n * @sample
samples.collections.Collections.Aggregates.minByOrNull\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R : Comparable<R>> Map<out
K, V>.minByOrNull(selector: (Map.Entry<K, V>) -> R): Map.Entry<K, V>? {\n return
entries.minByOrNull(selector)\n}\n\n/**\n * Returns the smallest value among all values produced by [selector]
function\n * applied to each entry in the map.\n * \n * If any of values produced by [selector] function is `NaN`, the
returned result is `NaN`.\n * \n * @throws NoSuchElementException if the map is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K, V>.minOf(selector:
(Map.Entry<K, V>) -> Double): Double {\n return entries.minOf(selector)\n}\n\n/**\n * Returns the smallest
value among all values produced by [selector] function\n * applied to each entry in the map.\n * \n * If any of values
produced by [selector] function is `NaN`, the
returned result is `NaN`.\n * \n * @throws NoSuchElementException if the map is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K, V>.minOf(selector:
(Map.Entry<K, V>) -> Float): Float {\n return entries.minOf(selector)\n}\n\n/**\n * Returns the smallest value
among all values produced by [selector] function\n * applied to each entry in the map.\n * \n * @throws

```

NoSuchElementException if the map is empty.\n

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R : Comparable<R>> Map<out K,\nV>.minOf(selector: (Map.Entry<K, V>) -> R): R {\n    return entries.minOf(selector)\n}\n\n/**\n * Returns the\n smallest value among all values produced by [selector] function\n * applied to each entry in the map or `null` if\n there are no entries.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is\n `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K,\nV>.minOfOrNull(selector: (Map.Entry<K, V>) -> Double): Double? {\n    return\n entries.minOfOrNull(selector)\n}\n\n/**\n * Returns the smallest value among all values produced by [selector]\n function\n * applied to each entry in the map or `null` if there are no entries.\n * \n * If any of values produced by\n [selector] function is `NaN`, the returned result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K,\nV>.minOfOrNull(selector: (Map.Entry<K, V>) -> Float): Float? {\n    return\n entries.minOfOrNull(selector)\n}\n\n/**\n * Returns\n the smallest value among all values produced by [selector] function\n * applied to each entry in the map or `null` if\n there are no entries.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R : Comparable<R>> Map<out K,\nV>.minOfOrNull(selector: (Map.Entry<K, V>) -> R): R? {\n    return entries.minOfOrNull(selector)\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]\n function applied to each entry in the map.\n * \n * @throws NoSuchElementException if the map is empty.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R> Map<out K,\nV>.minOfWith(comparator: Comparator<in R>, selector: (Map.Entry<K, V>) -> R): R {\n    return\n entries.minOfWith(comparator,\n selector)\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values\n produced by [selector] function applied to each entry in the map or `null` if there are no entries.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R> Map<out K,\nV>.minOfWithOrNull(comparator: Comparator<in R>, selector: (Map.Entry<K, V>) -> R): R? {\n    return\n entries.minOfWithOrNull(comparator, selector)\n}\n\n@Deprecated("Use minWithOrNull instead.")\nReplaceWith("this.minWithOrNull(comparator)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince\n = "1.5", hiddenSince = "1.6")\npublic fun <K, V> Map<out K, V>.minWith(comparator: Comparator<in\nMap.Entry<K, V>>): Map.Entry<K, V>? {\n    return minWithOrNull(comparator)\n}\n\n/**\n * Returns the first\n entry having the smallest value according to the provided [comparator]\n
```

```
or `null` if there are no entries.\n *\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V>\nMap<out K, V>.minWithOrNull(comparator: Comparator<in Map.Entry<K, V>>): Map.Entry<K, V>? {\n    return\n entries.minWithOrNull(comparator)\n}\n\n/**\n * Returns `true` if the map has no entries.\n * \n * @sample\n samples.collections.Collections.Aggregates.none\n *\n@public fun <K, V> Map<out K, V>.none(): Boolean {\n    return isEmpty()\n}\n\n/**\n * Returns `true` if no entries match the given [predicate].\n * \n * @sample\n samples.collections.Collections.Aggregates.noneWithPredicate\n *\n@public inline fun <K, V> Map<out K,\nV>.none(predicate: (Map.Entry<K, V>) -> Boolean): Boolean {\n    if (isEmpty()) return true\n    for (element in\n this) if (predicate(element)) return false\n    return true\n}\n\n/**\n * Performs the given [action] on each entry and\n returns the map itself afterwards.\n *\n@SinceKotlin("1.1")\n@public inline fun <K, V, M : Map<out K, V>>\nM.onEach(action:\n
```


greater than one.\n * For example, ``\u0046\u0046'.uppercase()` returns ``\u0046\u0046'`,\n * where ``\u0046\u0046'` is the LATIN SMALL LIGATURE FF character (`\u0046\u0046`).\n * If this character has no upper case mapping, the result of ``toString()` of this char is returned.\n * @sample

```
samples.text.Chars.uppercase\n
```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic actual inline fun Char.uppercase(): String = toString().asDynamic().toUpperCase().unsafeCast<String>()\n\n/**\n
```

* Converts this character to title case using Unicode mapping rules of the invariant locale.\n * This function performs one-to-one character mapping.\n * To support one-to-many character mapping use the `[titlecase]` function.\n * If this character has no mapping equivalent, the result of calling `[uppercaseChar]` is returned.\n * @sample `samples.text.Chars.titlecase`\n * @\n@SinceKotlin("1.5")\npublic actual fun Char.titlecaseChar(): Char = titlecaseCharImpl()\n\n/**\n

* Returns ``true`` if this character is a Unicode high-surrogate code unit (also known as leading-surrogate code unit).\n * @\n@SinceKotlin("1.5")\npublic actual fun Char.isHighSurrogate(): Boolean = this in Char.MIN_HIGH_SURROGATE..Char.MAX_HIGH_SURROGATE\n\n/**\n

* Returns ``true`` if this character is a Unicode low-surrogate code unit (also known as trailing-surrogate code unit).\n * @\n@SinceKotlin("1.5")\npublic actual fun Char.isLowSurrogate(): Boolean = this in Char.MIN_LOW_SURROGATE..Char.MAX_LOW_SURROGATE\n\n/**\n

* Returns the Unicode general category of this character.\n * @\n@SinceKotlin("1.5")\npublic actual val Char.category: CharCategory\n get() = CharCategory.valueOf(getCategoryValue())\n\n/**\n

* Returns ``true`` if this character (Unicode code point) is defined in Unicode.\n * A character is considered to be defined in Unicode if its `[category]` is not `[CharCategory.UNASSIGNED]`.
@\n@SinceKotlin("1.5")\npublic actual fun Char.isDefined(): Boolean {\n if (this < '\u0080') {\n return true\n }\n return getCategoryValue() != CharCategory.UNASSIGNED.value\n}\n\n/**\n

* Returns ``true`` if this character is a letter.\n * A character is considered to be a letter if its `[category]` is `[CharCategory.UPPERCASE_LETTER]`, `[CharCategory.LOWERCASE_LETTER]`, `[CharCategory.TITLECASE_LETTER]`, `[CharCategory.MODIFIER_LETTER]`, or `[CharCategory.OTHER_LETTER]`.
@sample `samples.text.Chars.isLetter`\n * @\n@SinceKotlin("1.5")\npublic actual fun Char.isLetter(): Boolean {\n if (this in 'a'..'z' || this in 'A'..'Z') {\n return true\n }\n if (this < '\u0080') {\n return false\n }\n return isLetterImpl()\n}\n\n/**\n

* Returns ``true`` if this character is a letter or digit.
@see `isLetter`\n * @see `isDigit`\n * @sample `samples.text.Chars.isLetterOrDigit`\n * @\n@SinceKotlin("1.5")\npublic actual fun Char.isLetterOrDigit(): Boolean {\n if (this in 'a'..'z' || this in 'A'..'Z' || this in '0'..'9') {\n return true\n }\n if (this < '\u0080') {\n return false\n }\n return isDigitImpl() || isLetterImpl()\n}\n\n/**\n

* Returns ``true`` if this character is a digit.
A character is considered to be a digit if its `[category]` is `[CharCategory.DECIMAL_DIGIT_NUMBER]`.
@sample `samples.text.Chars.isDigit`\n * @\n@SinceKotlin("1.5")\npublic actual fun Char.isDigit(): Boolean {\n if (this in '0'..'9') {\n return true\n }\n if (this < '\u0080') {\n return false\n }\n return isDigitImpl()\n}\n\n/**\n

* Returns ``true`` if this character is upper case.
A character is considered to be an upper case character if its `[category]` is `[CharCategory.UPPERCASE_LETTER]`, or it has contributory property ``Other_Uppercase`` as defined by the Unicode Standard.
@sample `samples.text.Chars.isUpperCase`\n * @\n@SinceKotlin("1.5")\npublic actual fun Char.isUpperCase(): Boolean {\n if (this in 'A'..'Z') {\n return true\n }\n if (this < '\u0080') {\n return false\n }\n return isUpperCaseImpl()\n}\n\n/**\n

* Returns ``true`` if this character is lower case.
A character is considered to be a lower case character if its `[category]` is `[CharCategory.LOWERCASE_LETTER]`, or it has contributory property ``Other_Lowercase`` as defined by the Unicode Standard.
@sample `samples.text.Chars.isLowerCase`\n * @\n@SinceKotlin("1.5")\npublic actual fun Char.isLowerCase(): Boolean {\n if (this in 'a'..'z') {\n return true\n }\n if (this < '\u0080') {\n return false\n }\n return isLowerCaseImpl()\n}\n\n/**\n

* Returns ``true`` if this character is a title case letter.
A character is considered to be a title case letter if its `[category]` is `[CharCategory.TITLECASE_LETTER]`.
@sample `samples.text.Chars.isTitleCase`\n * @\n@SinceKotlin("1.5")\npublic actual fun Char.isTitleCase(): Boolean {\n if (this in 'A'..'Z') {\n return true\n }\n if (this < '\u0080') {\n return false\n }\n return isTitleCaseImpl()\n}\n\n/**\n

```
*\n@SinceKotlin("1.5")\npublic actual fun Char.isTitleCaseChar(): Char = titlecaseCharImpl()\n\n/**\n
```

```
*\n@SinceKotlin("1.5")\npublic actual fun Char.isLetterOrDigit(): Boolean {\n if (this in 'a'..'z' || this in 'A'..'Z' || this in '0'..'9') {\n return true\n }\n if (this < '\u0080') {\n return false\n }\n return isLetterOrDigitImpl()\n}\n\n/**\n
```

```
*\n@SinceKotlin("1.5")\npublic actual fun Char.isLetter(): Boolean {\n if (this in 'a'..'z' || this in 'A'..'Z') {\n return true\n }\n if (this < '\u0080') {\n return false\n }\n return isLetterImpl()\n}\n\n/**\n
```

```
*\n@SinceKotlin("1.5")\npublic actual fun Char.isDigit(): Boolean {\n if (this in '0'..'9') {\n return true\n }\n if (this < '\u0080') {\n return false\n }\n return isDigitImpl()\n}\n\n/**\n
```

```
*\n@SinceKotlin("1.5")\npublic actual fun Char.isUpperCase(): Boolean {\n if (this in 'A'..'Z') {\n return true\n }\n if (this < '\u0080') {\n return false\n }\n return isUpperCaseImpl()\n}\n\n/**\n
```

```
*\n@SinceKotlin("1.5")\npublic actual fun Char.isLowerCase(): Boolean {\n if (this in 'a'..'z') {\n return true\n }\n if (this < '\u0080') {\n return false\n }\n return isLowerCaseImpl()\n}\n\n/**\n
```

```
*\n@SinceKotlin("1.5")\npublic actual fun Char.isTitleCase(): Boolean {\n if (this in 'A'..'Z') {\n return true\n }\n if (this < '\u0080') {\n return false\n }\n return isTitleCaseImpl()\n}\n\n/**\n
```

```
*\n@SinceKotlin("1.5")\npublic actual fun Char.isTitleCaseChar(): Char = titlecaseCharImpl()\n\n/**\n
```

```
*\n@SinceKotlin("1.5")\npublic actual fun Char.isLetterOrDigit(): Boolean {\n if (this in 'a'..'z' || this in 'A'..'Z' || this in '0'..'9') {\n return true\n }\n if (this < '\u0080') {\n return false\n }\n return isLetterOrDigitImpl()\n}\n\n/**\n
```

```
*\n@SinceKotlin("1.5")\npublic actual fun Char.isLetter(): Boolean {\n if (this in 'a'..'z' || this in 'A'..'Z') {\n return true\n }\n if (this < '\u0080') {\n return false\n }\n return isLetterImpl()\n}\n\n/**\n
```

```
*\n@SinceKotlin("1.5")\npublic actual fun Char.isDigit(): Boolean {\n if (this in '0'..'9') {\n return true\n }\n if (this < '\u0080') {\n return false\n }\n return isDigitImpl()\n}\n\n/**\n
```

```
*\n@SinceKotlin("1.5")\npublic actual fun Char.isUpperCase(): Boolean {\n if (this in 'A'..'Z') {\n return true\n }\n if (this < '\u0080') {\n return false\n }\n return isUpperCaseImpl()\n}\n\n/**\n
```

```
*\n@SinceKotlin("1.5")\npublic actual fun Char.isLowerCase(): Boolean {\n if (this in 'a'..'z') {\n return true\n }\n if (this < '\u0080') {\n return false\n }\n return isLowerCaseImpl()\n}\n\n/**\n
```

```
*\n@SinceKotlin("1.5")\npublic actual fun Char.isTitleCase(): Boolean {\n if (this in 'A'..'Z') {\n return true\n }\n if (this < '\u0080') {\n return false\n }\n return isTitleCaseImpl()\n}\n\n/**\n
```

```

*\n@SinceKotlin("1.5")\npublic actual fun Char.isTitleCase(): Boolean {\n    if (this < "\u0080') {\n        return false\n    }\n    return getCategoryValue() == CharCategory.TITLECASE_LETTER.value\n}\n\n/**\n * Returns `true` if this character is an ISO control character.\n * \n * A character is considered to be an ISO control character if its [category] is [CharCategory.CONTROL],\n * meaning the Char is in the range ``\u0000'..\u001F`` or in the range ``\u007F'..\u009F``.\n * \n * @sample samples.text.Chars.isISOControl\n */\n\n*\n@SinceKotlin("1.5")\npublic actual fun Char.isISOControl(): Boolean {\n    return this <= "\u001F" || this in "\u007F'..\u009F'\n}\n\n/**\n * Determines whether a character is whitespace according to the Unicode standard.\n * \n * Returns `true` if the character is whitespace.\n * \n * @sample samples.text.Chars.isWhitespace\n */\n\npublic actual fun Char.isWhitespace(): Boolean = isWhitespaceImpl()\n\n/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\nimport kotlin.js.RegExp\n\n/**\n * Converts the characters in the specified array to a string.\n */\n@SinceKotlin("1.2")\n@Deprecated("Use CharArray.concatToString() instead", ReplaceWith("chars.concatToString()"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5")\npublic actual fun String(chars: CharArray): String {\n    var result = ""\n    for (char in chars) {\n        result += char\n    }\n    return result\n}\n\n/**\n * Converts the characters from a portion of the specified array to a string.\n * \n * @throws IndexOutOfBoundsException if either [offset] or [length] are less than zero\n * or `offset + length` is out of [chars] array bounds.\n */\n@SinceKotlin("1.2")\n@Deprecated("Use CharArray.concatToString(startIndex, endIndex) instead", ReplaceWith("chars.concatToString(offset, offset + length)"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5")\npublic actual fun String(chars: CharArray, offset: Int, length: Int): String {\n    if (offset < 0 || length < 0 || chars.size - offset < length)\n        throw IndexOutOfBoundsException("size: ${chars.size}; offset: $offset; length: $length")\n    var result = ""\n    for (index in offset until offset + length) {\n        result += chars[index]\n    }\n    return result\n}\n\n/**\n * Concatenates characters in this [CharArray] into a String.\n */\n\n*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun CharArray.concatToString(): String {\n    var result = ""\n    for (char in this) {\n        result += char\n    }\n    return result\n}\n\n/**\n * Concatenates characters in this [CharArray] or its subrange into a String.\n * \n * @param startIndex the beginning (inclusive) of the subrange of characters, 0 by default.\n * @param endIndex the end (exclusive) of the subrange of characters, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [startIndex] is less than zero or [endIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [startIndex] is greater than [endIndex].\n */\n\n*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual fun CharArray.concatToString(startIndex: Int = 0, endIndex: Int = this.size): String {\n    AbstractList.checkBoundsIndexes(startIndex, endIndex, this.size)\n    var result = ""\n    for (index in startIndex until endIndex) {\n        result += this[index]\n    }\n    return result\n}\n\n/**\n * Returns a [CharArray] containing characters of this string.\n */\n\n*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun String.toCharArray(): CharArray {\n    return CharArray(length) { get(it) }\n}\n\n/**\n * Returns a [CharArray] containing characters of this string or its substring.\n * \n * @param startIndex the beginning (inclusive) of the substring, 0 by default.\n * @param endIndex the end (exclusive) of the substring, length of this string by default.\n * \n * @throws IndexOutOfBoundsException if [startIndex] is less than zero or [endIndex] is greater than the length of this string.\n * @throws IllegalArgumentException if [startIndex] is greater than [endIndex].\n */\n\n*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual fun String.toCharArray(startIndex: Int = 0, endIndex: Int = this.length): CharArray {\n    AbstractList.checkBoundsIndexes(startIndex, endIndex, length)\n    return CharArray(endIndex - startIndex) { get(startIndex + it) }\n}\n\n/**\n * Decodes a string from the bytes in UTF-8 encoding in this array.\n * \n * Malformed byte sequences are replaced by the replacement char ``\uFFFD``.\n */\n
```


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actual inline fun String.lowercase(): String = asDynamic().toLowerCase()\n\n@kotlin.internal.InlineOnly\n\ninternal actual inline fun String.nativeIndexOf(str: String, fromIndex: Int): Int = asDynamic().indexOf(str, fromIndex)\n\n\n@kotlin.internal.InlineOnly\n\ninternal actual inline fun String.nativeLastIndexOf(str: String, fromIndex: Int): Int = asDynamic().lastIndexOf(str, fromIndex)\n\n\n@kotlin.internal.InlineOnly\n\ninternal inline fun String.nativeStartsWith(s: String, position: Int): Boolean = asDynamic().startsWith(s, position)\n\n\n@kotlin.internal.InlineOnly\n\ninternal inline fun String.nativeEndsWith(s: String): Boolean = asDynamic().endsWith(s)\n\n\n@kotlin.internal.InlineOnly\n\npublic actual inline fun String.substring(startIndex: Int): String = asDynamic().substring(startIndex)\n\n\n@kotlin.internal.InlineOnly\n\npublic actual inline fun String.substring(startIndex: Int, endIndex: Int): String = asDynamic().substring(startIndex, endIndex)\n\n\n@Deprecated(\"Use String.plus() instead\", ReplaceWith(\"this + str\"))\n\n@DeprecatedSinceKotlin(warningSince = \"1.6\")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun String.concat(str: String): String = asDynamic().concat(str)\n\n\n@Deprecated(\"Use Regex.findAll() instead or invoke matches() on String dynamically: this.asDynamic().match(regex)\")\n\n@DeprecatedSinceKotlin(warningSince = \"1.6\")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun String.match(regex: String): Array<String>? = asDynamic().match(regex)\n\n\n//native public fun String.trim(): String\n\n//TODO: String.replace to implement effective trimLeading and trimTrailing\n\n\n@kotlin.internal.InlineOnly\n\ninternal inline fun String.nativeReplace(pattern: RegExp, replacement: String): String = asDynamic().replace(pattern, replacement)\n\n\n/*\n * Compares two strings lexicographically, optionally ignoring case differences.\n * If [ignoreCase] is true, the result of `Char.toUpperCaseChar().toLowerCaseChar()` on each character is compared.\n */\n\n@SinceKotlin(\"1.2\")\n\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\n\npublic actual fun String.compareTo(other: String, ignoreCase: Boolean = false): Int {\n    if (ignoreCase) {\n        val n1 = this.length\n        val n2 = other.length\n        val min = minOf(n1, n2)\n        if (min == 0) return n1 - n2\n        for (index in 0 until min) {\n            var thisChar = this[index]\n            var otherChar = other[index]\n            if (thisChar != otherChar) {\n                thisChar = thisChar.toUpperCaseChar()\n                otherChar = otherChar.toUpperCaseChar()\n                if (thisChar != otherChar) {\n                    thisChar = thisChar.toLowerCaseChar()\n                    otherChar = otherChar.toLowerCaseChar()\n                }\n                if (thisChar != otherChar) {\n                    return thisChar.compareTo(otherChar)\n                }\n            }\n        }\n        return n1 - n2\n    } else {\n        return compareTo(other)\n    }\n}\n\n/*\n * Returns `true` if the contents of this char sequence are equal to the contents of the specified [other],\n * i.e. both char sequences contain the same number of the same characters in the same order.\n */\n\n/*\n * @sample samples.text.Strings.contentEquals\n */\n\n@SinceKotlin(\"1.5\")\n\npublic actual infix fun CharSequence?.contentEquals(other: CharSequence?): Boolean = contentEqualsImpl(other)\n\n/*\n * Returns `true` if the contents of this char sequence are equal to the contents of the specified [other], optionally ignoring case difference.\n * @param ignoreCase `true` to ignore character case when comparing contents.\n * @sample samples.text.Strings.contentEquals\n */\n\n@SinceKotlin(\"1.5\")\n\npublic actual fun CharSequence?.contentEquals(other: CharSequence?, ignoreCase: Boolean): Boolean {\n    return if (ignoreCase)\n        this.contentEqualsIgnoreCaseImpl(other)\n    else\n        this.contentEqualsImpl(other)\n}\n\nprivate val STRING_CASE_INSENSITIVE_ORDER = Comparator<String> { a, b -> a.compareTo(b, ignoreCase = true) }\n\n@SinceKotlin(\"1.2\")\n\npublic actual val String.Companion.CASE_INSENSITIVE_ORDER: Comparator<String>\n    get() = STRING_CASE_INSENSITIVE_ORDER\n\n\"/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n\n@file:kotlin.jvm.JvmName(\"CharsKt\")\n\npackage kotlin.text\n\n/*\n * Returns the numeric value of the decimal digit that this Char represents.\n * Throws an exception if this Char is not a valid decimal digit.\n * A Char is considered to represent a decimal digit if [isDigit] is true for the Char.\n */
```

```

* In this case, the Unicode decimal digit value of the character is returned.\n *\n * @sample
samples.text.Chars.digitToInt\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic
fun Char.digitToInt(): Int {\n    return digitOf(this, 10).also {\n        if (it < 0) throw
IllegalArgumentException("Char $this is not a decimal digit")\n    }\n}\n\n/**\n * Returns the numeric value of the
digit that this Char represents in the specified [radix].\n * Throws an exception if the [radix] is not in the range
`2..36` or if this Char is not a valid digit in the specified [radix].\n *\n * A Char is considered to represent a digit in
the specified [radix] if at least one of the following is true:\n * - [isDigit] is `true` for the Char and the Unicode
decimal digit value of the character is less than the specified [radix]. In this case the decimal digit value is
returned.\n * - The Char is one of the uppercase Latin letters 'A' through 'Z' and its [code] is less than `radix +
'A'.code - 10`. In this case, `this.code - 'A'.code + 10` is returned.\n * - The Char is one of the lowercase Latin
letters 'a' through
'z' and its [code] is less than `radix + 'a'.code - 10`. In this case, `this.code - 'a'.code + 10` is returned.\n * - The
Char is one of the fullwidth Latin capital letters "\uFF21" through "\uFF3A" and its [code] is less than `radix +
0xFF21 - 10`. In this case, `this.code - 0xFF21 + 10` is returned.\n * - The Char is one of the fullwidth Latin small
letters "\uFF41" through "\uFF5A" and its [code] is less than `radix + 0xFF41 - 10`. In this case, `this.code - 0xFF41
+ 10` is returned.\n *\n * @sample samples.text.Chars.digitToInt\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun Char.digitToInt(radix:
Int): Int {\n    return digitToIntOrNull(radix) ?: throw IllegalArgumentException("Char $this is not a digit in the
given radix=$radix")\n}\n\n/**\n * Returns the numeric value of the decimal digit that this Char represents, or
`null` if this Char is not a valid decimal digit.\n *\n * A Char is considered to represent a decimal digit
if [isDigit] is true for the Char.\n * In this case, the Unicode decimal digit value of the character is returned.\n *\n *
@sample samples.text.Chars.digitToIntOrNull\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
Char.digitToIntOrNull(): Int? {\n    return digitOf(this, 10).takeIf { it >= 0 }\n}\n\n/**\n * Returns the numeric
value of the digit that this Char represents in the specified [radix], or `null` if this Char is not a valid digit in the
specified [radix].\n * Throws an exception if the [radix] is not in the range `2..36`.\n *\n * A Char is considered to
represent a digit in the specified [radix] if at least one of the following is true:\n * - [isDigit] is `true` for the Char
and the Unicode decimal digit value of the character is less than the specified [radix]. In this case the decimal digit
value is returned.\n * - The Char is one of the uppercase Latin letters 'A' through 'Z' and its [code] is less than `radix
+ 'A'.code - 10`. In
this case, `this.code - 'A'.code + 10` is returned.\n * - The Char is one of the lowercase Latin letters 'a' through 'z'
and its [code] is less than `radix + 'a'.code - 10`. In this case, `this.code - 'a'.code + 10` is returned.\n * - The Char
is one of the fullwidth Latin capital letters "\uFF21" through "\uFF3A" and its [code] is less than `radix + 0xFF21 - 10`.
In this case, `this.code - 0xFF21 + 10` is returned.\n * - The Char is one of the fullwidth Latin small letters "\uFF41"
through "\uFF5A" and its [code] is less than `radix + 0xFF41 - 10`. In this case, `this.code - 0xFF41 + 10` is
returned.\n *\n * @sample samples.text.Chars.digitToIntOrNull\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
Char.digitToIntOrNull(radix: Int): Int? {\n    checkRadix(radix)\n    return digitOf(this, radix).takeIf { it >= 0
}\n}\n\n/**\n * Returns the Char that represents this decimal digit.\n * Throws an exception if this value is not in the
range
`0..9`.\n *\n * If this value is in `0..9`, the decimal digit Char with code `0'.code + this` is returned.\n *\n *
@sample samples.text.Chars.digitToChar\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun Int.digitToChar(): Char
{\n    if (this in 0..9) {\n        return '0' + this\n    }\n    throw IllegalArgumentException("Int $this is not a decimal
digit")\n}\n\n/**\n * Returns the Char that represents this numeric digit value in the specified [radix].\n * Throws
an exception if the [radix] is not in the range `2..36` or if this value is not in the range `0 until radix`.\n *\n * If
this value is less than `10`, the decimal digit Char with code `0'.code + this` is returned.\n * Otherwise, the uppercase

```


Latin letter with code `A'.code + this - 10` is returned.

```

*\n * @sample samples.text.Chars.digitToChar
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun Int.digitToChar(radix:
Int): Char {\n    if (radix
    !in 2..36) {\n        throw IllegalArgumentException("Invalid radix: $radix. Valid radix values are in range 2..36")\n
    }\n    if (this < 0 || this >= radix) {\n        throw IllegalArgumentException("Digit $this does not represent a valid
digit in radix $radix")\n    }\n    return if (this < 10) {\n        '0' + this\n    } else {\n        'A' + this - 10\n
    }\n}\n\n/**\n * Converts this character to lower case using Unicode mapping rules of the invariant locale.\n
*\n@Deprecated("Use lowercaseChar() instead.",
ReplaceWith("lowercaseChar()"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic expect fun
Char.toLowerCase(): Char\n\n/**\n * Converts this character to lower case using Unicode mapping rules of the
invariant locale.\n *\n * This function performs one-to-one character mapping.\n *\n * To support one-to-many
character mapping use the [lowercase] function.\n *\n * If this character has no mapping equivalent, the character itself
is returned.\n *\n * @sample samples.text.Chars.lowercase
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Char.lowercaseChar(): Char\n\n/**\n * Converts this character to lower case using Unicode mapping rules of the
invariant locale.\n *\n * This function supports one-to-many character mapping, thus the length of the returned
string can be greater than one.\n *\n * For example, `"\u0130".lowercase()` returns `"\u0069\u0307"`,\n *\n * where
`"\u0130` is the LATIN CAPITAL LETTER I WITH DOT ABOVE character (`\ufffd\u0130`).\n *\n * If this character
has no lower case mapping, the result of `toString()` of this char is returned.\n *\n * @sample
samples.text.Chars.lowercase
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Char.lowercase(): String\n\n/**\n * Converts this character to upper case using Unicode mapping rules of the
invariant locale.\n *\n@Deprecated("Use uppercaseChar() instead.",
ReplaceWith("uppercaseChar()"))\n@DeprecatedSinceKotlin(warningSince
= "1.5")\npublic expect fun Char.toUpperCase(): Char\n\n/**\n * Converts this character to upper case using
Unicode mapping rules of the invariant locale.\n *\n * This function performs one-to-one character mapping.\n *\n * To
support one-to-many character mapping use the [uppercase] function.\n *\n * If this character has no mapping
equivalent, the character itself is returned.\n *\n * @sample samples.text.Chars.uppercase
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Char.uppercaseChar(): Char\n\n/**\n * Converts this character to upper case using Unicode mapping rules of the
invariant locale.\n *\n * This function supports one-to-many character mapping, thus the length of the returned
string can be greater than one.\n *\n * For example, `"\uFB00".uppercase()` returns `"\u0046\u0046"`,\n *\n * where
`"\uFB00` is the LATIN SMALL LIGATURE FF character (`\ufffd\u0046\u0046`).\n *\n * If this character has no upper
case mapping,
the result of `toString()` of this char is returned.\n *\n * @sample samples.text.Chars.uppercase
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Char.uppercase(): String\n\n/**\n * Converts this character to title case using Unicode mapping rules of the
invariant locale.\n *\n * This function performs one-to-one character mapping.\n *\n * To support one-to-many
character mapping use the [titlecase] function.\n *\n * If this character has no mapping equivalent, the result of calling
[uppercaseChar] is returned.\n *\n * @sample samples.text.Chars.titlecase
*\n@SinceKotlin("1.5")\npublic expect fun Char.titlecaseChar(): Char\n\n/**\n * Converts this character to title case using Unicode mapping rules of
the invariant locale.\n *\n * This function supports one-to-many character mapping, thus the length of the returned
string can be greater than one.\n *\n * For example, `"\uFB00".titlecase()` returns `"\u0046\u0066"`,\n *\n * where
`"\uFB00`
is the LATIN SMALL LIGATURE FF character (`\ufffd\u0046\u0066`).\n *\n * If this character has no title case
mapping, the result of [uppercase] is returned instead.\n *\n * @sample samples.text.Chars.titlecase
*\n@SinceKotlin("1.5")\npublic fun Char.titlecase(): String = titlecaseImpl()\n\n/**\n * Concatenates this Char
and a String.\n *\n * @sample samples.text.Chars.plus
*\n@kotlin.internal.InlineOnly\npublic inline operator fun

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Char.plus(other: String): String = this.toString() + other\n\n/**\n * Returns `true` if this character is equal to the
[other] character, optionally ignoring character case.\n *\n * Two characters are considered equal ignoring case if
`Char.uppercaseChar().lowercaseChar()` on each character produces the same result.\n *\n * @param ignoreCase
`true` to ignore character case when comparing characters. By default `false`.\n *\n * @sample
samples.text.Chars.equals\n *\n\npublic fun Char.equals(other: Char, ignoreCase: Boolean = false): Boolean {\n    if
(this ==
    other) return true\n    if (!ignoreCase) return false\n\n    val thisUpper = this.uppercaseChar()\n    val otherUpper =
other.uppercaseChar()\n\n    return thisUpper == otherUpper || thisUpper.lowercaseChar() ==
otherUpper.lowercaseChar()\n}\n\n/**\n * Returns `true` if this character is a Unicode surrogate code unit.\n
*\n\npublic fun Char.isSurrogate(): Boolean = this in Char.MIN_SURROGATE..Char.MAX_SURROGATE\n\n/**\n
* Returns the Unicode general category of this character.\n *\n\n@SinceKotlin("1.5")\n\npublic expect val
Char.category: CharCategory\n\n/**\n * Returns `true` if this character (Unicode code point) is defined in
Unicode.\n *\n * A character is considered to be defined in Unicode if its [category] is not
[CharCategory.UNASSIGNED].\n *\n\n@SinceKotlin("1.5")\n\npublic expect fun Char.isDefined():
Boolean\n\n/**\n * Returns `true` if this character is a letter.\n *\n * A character is considered to be a letter if its
[category] is [CharCategory.UPPERCASE_LETTER],\n *\n [CharCategory.LOWERCASE_LETTER],
[CharCategory.TITLECASE_LETTER], [CharCategory.MODIFIER_LETTER], or
[CharCategory.OTHER_LETTER].\n *\n *\n * @sample samples.text.Chars.isLetter\n
*\n\n@SinceKotlin("1.5")\n\npublic expect fun Char.isLetter(): Boolean\n\n/**\n * Returns `true` if this character is a
letter or digit.\n *\n *\n * @see isLetter\n *\n * @see isDigit\n *\n *\n * @sample samples.text.Chars.isLetterOrDigit\n
*\n\n@SinceKotlin("1.5")\n\npublic expect fun Char.isLetterOrDigit(): Boolean\n\n/**\n * Returns `true` if this
character is a digit.\n *\n * A character is considered to be a digit if its [category] is
[CharCategory.DECIMAL_DIGIT_NUMBER].\n *\n *\n * @sample samples.text.Chars.isDigit\n
*\n\n@SinceKotlin("1.5")\n\npublic expect fun Char.isDigit(): Boolean\n\n/**\n * Returns `true` if this character is
upper case.\n *\n * A character is considered to be an upper case character if its [category] is
[CharCategory.UPPERCASE_LETTER],\n *\n * or it has contributory property `Other_Uppercase` as defined by the
Unicode Standard.\n *\n *\n * @sample samples.text.Chars.isUpperCase\n *\n\n@SinceKotlin("1.5")\n\npublic expect
fun Char.isUpperCase(): Boolean\n\n/**\n * Returns `true` if this character is lower case.\n *\n * A character is
considered to be a lower case character if its [category] is [CharCategory.LOWERCASE_LETTER],\n *\n * or it has
contributory property `Other_Lowercase` as defined by the Unicode Standard.\n *\n *\n * @sample
samples.text.Chars.isLowerCase\n *\n\n@SinceKotlin("1.5")\n\npublic expect fun Char.isLowerCase():
Boolean\n\n/**\n * Returns `true` if this character is a title case letter.\n *\n * A character is considered to be a title
case letter if its [category] is [CharCategory.TITLECASE_LETTER].\n *\n *\n * @sample
samples.text.Chars.isTitleCase\n *\n\n@SinceKotlin("1.5")\n\npublic expect fun Char.isTitleCase(): Boolean\n\n/**\n
* Returns `true` if this character is an ISO control character.\n *\n * A character is considered to be an ISO control
character if its [category] is [CharCategory.CONTROL],\n
*\n *\n * meaning the Char is in the range ``\u0000'..' \u001F`` or in the range ``\u007F'..' \u009F``.\n *\n *\n * @sample
samples.text.Chars.isISOControl\n *\n\n@SinceKotlin("1.5")\n\npublic expect fun Char.isISOControl():
Boolean\n\n/**\n * Determines whether a character is whitespace according to the Unicode standard.\n *\n * Returns
`true` if the character is whitespace.\n *\n *\n * @sample samples.text.Chars.isWhitespace\n *\n\npublic expect fun
Char.isWhitespace(): Boolean\n", "/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n *\n\npackage kotlin\n\n/**\n * Creates a Char with the specified [code], or throws an
exception if the [code] is out of `Char.MIN_VALUE.code..Char.MAX_VALUE.code`.\n *\n *\n * If the program that
calls this function is written in a way that only valid [code] is passed as the argument,\n *\n * using the overload
that takes a [UShort] argument is preferable (`Char(intValue.toUShort())`).\n *\n * That overload doesn't check validity
of the argument, and may improve program performance when the function is called routinely inside a loop.\n *\n *\n * @sample samples.text.Chars.charFromCode\n

```

```

*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun Char(code: Int): Char {\n    if (code < Char.MIN_VALUE.code || code > Char.MAX_VALUE.code) {\n        throw IllegalArgumentException("Invalid Char code: $code")\n    }\n    return code.toChar()\n}\n\nCreates a Char with the specified [code].\n*\n * @sample samples.text.Chars.charFromCode\n*\n\n*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("NO_ACTUAL_FOR_EXPECT")\npublic expect fun Char(code: UShort): Char\n\nReturns the code of this Char.\n*\n * Code of a Char is the value it was constructed with, and the UTF-16 code unit corresponding to this Char.\n*\n * @sample samples.text.Chars.code\n*\n\n*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\n@Suppress("DEPRECATION")\npublic inline val Char.code: Int get() = this.toInt()\n\nCopyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n*\n\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("SequencesKt")\n\npackage kotlin.sequences\n\nNOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.random.*\n\nReturns `true` if [element] is found in the sequence.\n*\n * The operation is _terminal_.\n\npublic operator fun <@kotlin.internal.OnlyInputTypes T> Sequence<T>.contains(element: T): Boolean {\n    return indexOf(element) >= 0\n}\n\nReturns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this sequence.\n*\n * The operation is _terminal_.\n*\n * @sample samples.collections.Collections.Elements.elementAt\n\npublic fun <T> Sequence<T>.elementAt(index: Int): T {\n    return elementAtOrElse(index) { throw IndexOutOfBoundsException("Sequence doesn't contain element at index $index.") }\n}\n\nReturns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this sequence.\n*\n * The operation is _terminal_.\n*\n * @sample samples.collections.Collections.Elements.elementAtOrElse\n\npublic fun <T> Sequence<T>.elementAtOrElse(index: Int, defaultValue: (Int) -> T): T {\n    if (index < 0)\n        return defaultValue(index)\n    val iterator = iterator()\n    var count = 0\n    while (iterator.hasNext()) {\n        val element = iterator.next()\n        if (index == count++)\n            return element\n    }\n    return defaultValue(index)\n}\n\nReturns an element at the given [index] or `null` if the [index] is out of bounds of this sequence.\n*\n * The operation is _terminal_.\n*\n * @sample samples.collections.Collections.Elements.elementAtOrNull\n\npublic fun <T> Sequence<T>.elementOrNull(index: Int): T? {\n    if (index < 0)\n        return null\n    val iterator = iterator()\n    var count = 0\n    while (iterator.hasNext()) {\n        val element = iterator.next()\n        if (index == count++)\n            return element\n    }\n    return null\n}\n\nReturns the first element matching the given [predicate], or `null` if no such element was found.\n*\n * The operation is _terminal_.\n*\n * @sample samples.collections.Collections.Elements.find\n\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.find(predicate: (T) -> Boolean): T? {\n    return firstOrNull(predicate)\n}\n\nReturns the last element matching the given [predicate], or `null` if no such element was found.\n*\n * The operation is _terminal_.\n*\n * @sample samples.collections.Collections.Elements.find\n\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.findLast(predicate: (T) -> Boolean): T? {\n    return lastOrNull(predicate)\n}\n\nReturns first element.\n * @throws [NoSuchElementException] if the sequence is empty.\n*\n * The operation is _terminal_.\n\npublic fun <T> Sequence<T>.first(): T {\n    val iterator = iterator()\n    if (!iterator.hasNext())\n        throw NoSuchElementException("Sequence is empty.")\n    return iterator.next()\n}\n\nReturns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n*\n * The operation is _terminal_.\n\npublic inline fun <T> Sequence<T>.first(predicate: (T) -> Boolean): T {\n    for (element in this) if (predicate(element)) return element\n    throw NoSuchElementException("Sequence

```

contains no element matching the predicate.`\n}\n\n/**\n * Returns the first non-null value produced by [transform] function being applied to elements of this sequence in iteration order,\n * or throws [NoSuchElementException] if no non-null value was produced.\n *\n * The operation is _terminal_.\n *\n * @sample samples.collections.Collections.Transformations.firstNotNullOf\n *\n */\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Any> Sequence<T>.firstNotNullOf(transform: (T) -> R?): R {\n return firstNotNullOfOrNull(transform) ?: throw NoSuchElementException("No element of the sequence was transformed to a non-null value.")\n}\n\n/**\n * Returns the first non-null value produced by [transform] function being applied to elements of this sequence in iteration order,\n * or `null` if no non-null value was produced.\n *\n * The operation is _terminal_.\n *\n * @sample samples.collections.Collections.Transformations.firstNotNullOf\n *\n */\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Any> Sequence<T>.firstNotNullOfOrNull(transform: (T) -> R?): R {\n for (element in this) {\n val result = transform(element)\n if (result != null) {\n return result\n }\n }\n return null\n}\n\n/**\n * Returns the first element, or `null` if the sequence is empty.\n *\n * The operation is _terminal_.\n *\n */\npublic fun <T> Sequence<T>.firstOrNull(): T? {\n val iterator = iterator()\n if (!iterator.hasNext())\n return null\n return iterator.next()\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if element was not found.\n *\n * The operation is _terminal_.\n *\n */\npublic inline fun <T> Sequence<T>.firstOrNull(predicate: (T) -> Boolean): T? {\n for (element in this) if (predicate(element)) return element\n return null\n}\n\n/**\n * Returns first index of [element], or -1 if the sequence does not contain element.\n *\n * The operation is _terminal_.\n *\n */\npublic fun <@kotlin.internal.OnlyInputTypes T> Sequence<T>.indexOf(element: T): Int {\n var index = 0\n for (item in this) {\n checkIndexOverflow(index)\n if (element == item)\n return index\n index++\n }\n return -1\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the sequence does not contain such element.\n *\n * The operation is _terminal_.\n *\n */\npublic inline fun <T> Sequence<T>.indexOfFirst(predicate: (T) -> Boolean): Int {\n var index = 0\n for (item in this) {\n checkIndexOverflow(index)\n if (predicate(item))\n return index\n index++\n }\n return -1\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the sequence does not contain such element.\n *\n * The operation is _terminal_.\n *\n */\npublic inline fun <T> Sequence<T>.indexOfLast(predicate: (T) -> Boolean): Int {\n var lastIndex = -1\n var index = 0\n for (item in this) {\n checkIndexOverflow(index)\n if (predicate(item))\n lastIndex = index\n index++\n }\n return lastIndex\n}\n\n/**\n * Returns the last element.\n *\n * The operation is _terminal_.\n *\n * @throws NoSuchElementException if the sequence is empty.\n *\n * @sample samples.collections.Collections.Elements.last\n *\n */\npublic fun <T> Sequence<T>.last(): T {\n val iterator = iterator()\n if (!iterator.hasNext())\n throw NoSuchElementException("Sequence is empty.")\n var last = iterator.next()\n while (iterator.hasNext())\n last = iterator.next()\n return last\n}\n\n/**\n * Returns the last element matching the given [predicate].\n *\n * The operation is _terminal_.\n *\n * @throws NoSuchElementException if no such element is found.\n *\n * @sample samples.collections.Collections.Elements.last\n *\n */\npublic inline fun <T> Sequence<T>.last(predicate: (T) -> Boolean): T {\n var last: T? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n last = element\n found = true\n }\n }\n if (!found) throw NoSuchElementException("Sequence contains no element matching the predicate.")\n @Suppress("UNCHECKED_CAST")\n return last as T\n}\n\n/**\n * Returns last index of [element], or -1 if the sequence does not contain element.\n *\n * The operation is _terminal_.\n *\n */\npublic fun <@kotlin.internal.OnlyInputTypes T> Sequence<T>.lastIndexOf(element: T): Int {\n var lastIndex = -1\n var index = 0\n for (item in this) {\n checkIndexOverflow(index)\n if (element == item)\n lastIndex = index\n index++\n }\n return lastIndex\n}\n\n/**\n * Returns the last element, or `null` if the sequence is empty.\n *\n * The operation is _terminal_.\n *\n * @sample samples.collections.Collections.Elements.last\n *\n */\npublic fun <T> Sequence<T>.lastOrNull(): T? {\n`

```

    val iterator = iterator()\n    if (!iterator.hasNext())\n        return null\n    var last = iterator.next()\n    while
(iterator.hasNext())\n        last = iterator.next()\n    return last\n}\n\n/**\n * Returns the last element matching the
given [predicate], or `null` if no such element was found.\n * \n * The operation is _terminal_.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun <T> Sequence<T>.lastOrNull(predicate: (T) ->
Boolean): T? {\n    var last: T? = null\n    for (element in this) {\n        if (predicate(element)) {\n            last =
element\n        }\n    }\n    return last\n}\n\n/**\n * Returns the single element, or throws an exception if the
sequence is empty or has more than one element.\n * \n * The operation is _terminal_.\n */\npublic fun <T>
Sequence<T>.single(): T {\n    val iterator = iterator()\n    if (!iterator.hasNext())\n        throw
NoSuchElementException("Sequence is empty.")\n    val single = iterator.next()\n    if (iterator.hasNext())\n        throw
IllegalArgumentException("Sequence has more than one element.")\n    return single\n}\n\n/**\n * Returns the single element matching the given [predicate], or throws exception if there is
no or more than one matching element.\n * \n * The operation is _terminal_.\n */\npublic inline fun <T>
Sequence<T>.single(predicate: (T) -> Boolean): T {\n    var single: T? = null\n    var found = false\n    for (element
in this) {\n        if (predicate(element)) {\n            if (found) throw
IllegalArgumentException("Sequence contains more than one matching element.")\n            single = element\n            found = true\n        }\n    }\n    if (!found)\n        throw
NoSuchElementException("Sequence contains no element matching the predicate.")\n    @Suppress("UNCHECKED_CAST")\n    return single as T\n}\n\n/**\n * Returns single element, or `null` if the
sequence is empty or has more than one element.\n * \n * The operation is _terminal_.\n */\npublic
fun <T> Sequence<T>.singleOrNull(): T? {\n    val iterator = iterator()\n    if (!iterator.hasNext())\n        return
null\n    val single = iterator.next()\n    if (iterator.hasNext())\n        return null\n    return single\n}\n\n/**\n *
Returns the single element matching the given [predicate], or `null` if element was not found or more than one
element was found.\n * \n * The operation is _terminal_.\n */\npublic inline fun <T>
Sequence<T>.singleOrNull(predicate: (T) -> Boolean): T? {\n    var single: T? = null\n    var found = false\n    for
(element in this) {\n        if (predicate(element)) {\n            if (found) return null\n            single = element\n            found = true\n        }\n    }\n    if (!found) return null\n    return single\n}\n\n/**\n * Returns a sequence containing
all elements except first [n] elements.\n * \n * The operation is _intermediate_ and _stateless_.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n */\npublic fun <T> Sequence<T>.drop(n: Int): Sequence<T> {\n    require(n >= 0) {\n        "Requested element count $n
is less than zero." }\n    return when {\n        n == 0 -> this\n        this is DropTakeSequence -> this.drop(n)\n    }\n}\n\n/**\n * Returns a sequence containing all elements except first elements
that satisfy the given [predicate].\n * \n * The operation is _intermediate_ and _stateless_.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n */\npublic fun <T> Sequence<T>.dropWhile(predicate: (T)
-> Boolean): Sequence<T> {\n    return DropWhileSequence(this, predicate)\n}\n\n/**\n * Returns a sequence
containing only elements matching the given [predicate].\n * \n * The operation is _intermediate_ and _stateless_.\n * \n * @sample
samples.collections.Collections.Filtering.filter\n */\npublic fun <T> Sequence<T>.filter(predicate:
(T) -> Boolean): Sequence<T> {\n    return
FilteringSequence(this, true, predicate)\n}\n\n/**\n * Returns a sequence containing only elements matching the
given [predicate].\n * \n * @param [predicate] function that takes the index of an element and the element itself\n * and
returns the result of predicate evaluation on the element.\n * \n * The operation is _intermediate_ and _stateless_.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexed\n */\npublic fun <T>
Sequence<T>.filterIndexed(predicate: (index: Int, T) -> Boolean): Sequence<T> {\n    // TODO: Rewrite with
generalized MapFilterIndexingSequence\n    return
TransformingSequence(FilteringSequence(IndexingSequence(this), true, { predicate(it.index, it.value) }), { it.value
})\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * \n * @param
[predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate
evaluation on the element.\n * \n * The operation is _terminal_.\n

```


order relative to each other after sorting.\n *\n * The operation is

```

_intermediate_ and _stateful_.\n *\n * @sample samples.collections.Collections.Sorting.sortedBy\n */\npublic
inline fun <T, R : Comparable<R>> Sequence<T>.sortedBy(crossinline selector: (T) -> R?): Sequence<T> {\n
return sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a sequence that yields elements of this sequence
sorted descending according to natural sort order of the value returned by specified [selector] function.\n *\n * The
sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n *\n * The
operation is _intermediate_ and _stateful_.\n */\npublic inline fun <T, R : Comparable<R>>
Sequence<T>.sortedByDescending(crossinline selector: (T) -> R?): Sequence<T> {\n return
sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a sequence that yields elements of this sequence
sorted descending according to their natural sort order.\n *\n * The sort is _stable_. It means that equal elements
preserve their order relative
to each other after sorting.\n *\n * The operation is _intermediate_ and _stateful_.\n */\npublic fun <T :
Comparable<T>> Sequence<T>.sortedDescending(): Sequence<T> {\n return
sortedWith(reverseOrder())\n}\n\n/**\n * Returns a sequence that yields elements of this sequence sorted according
to the specified [comparator].\n *\n * The sort is _stable_. It means that equal elements preserve their order relative
to each other after sorting.\n *\n * The operation is _intermediate_ and _stateful_.\n */\npublic fun <T>
Sequence<T>.sortedWith(comparator: Comparator<in T>): Sequence<T> {\n return object : Sequence<T> {\n
override fun iterator(): Iterator<T> {\n val sortedList = this@sortedWith.toMutableList()\n
sortedList.sortWith(comparator)\n return sortedList.iterator()\n }\n }\n}\n\n/**\n * Returns a [Map]
containing key-value pairs provided by [transform] function\n * applied to elements of the given sequence.\n *\n * \n *
If any
of two pairs would have the same key the last one gets added to the map.\n *\n * The returned map preserves the
entry iteration order of the original sequence.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Transformations.associate\n */\npublic inline fun <T, K, V>
Sequence<T>.associate(transform: (T) -> Pair<K, V>): Map<K, V> {\n return associateTo(LinkedHashMap<K,
V>(), transform)\n}\n\n/**\n * Returns a [Map] containing the elements from the given sequence indexed by the
key\n * returned from [keySelector] function applied to each element.\n *\n * If any two elements would have the
same key returned by [keySelector] the last one gets added to the map.\n *\n * The returned map preserves the entry
iteration order of the original sequence.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Transformations.associateBy\n */\npublic inline fun <T, K>
Sequence<T>.associateBy(keySelector: (T) -> K): Map<K, T> {\n
return associateByTo(LinkedHashMap<K, T>(), keySelector)\n}\n\n/**\n * Returns a [Map] containing the
values provided by [valueTransform] and indexed by [keySelector] functions applied to elements of the given
sequence.\n *\n * If any two elements would have the same key returned by [keySelector] the last one gets added to
the map.\n *\n * The returned map preserves the entry iteration order of the original sequence.\n *\n * The
operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Transformations.associateByWithValueTransform\n */\npublic inline fun <T, K, V>
Sequence<T>.associateBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, V> {\n return
associateByTo(LinkedHashMap<K, V>(), keySelector, valueTransform)\n}\n\n/**\n * Populates and returns the
[destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to
each element of the given sequence\n * and value is the element itself.\n *\n * If any
two elements would have the same key returned by [keySelector] the last one gets added to the map.\n *\n * The
operation is _terminal_.\n *\n * @sample samples.collections.Collections.Transformations.associateByTo\n */\npublic inline fun <T, K, M : MutableMap<in K, in T>> Sequence<T>.associateByTo(destination: M,
keySelector: (T) -> K): M {\n for (element in this) {\n destination.put(keySelector(element), element)\n }\n
return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where
key is provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function
applied to elements of the given sequence.\n *\n * If any two elements would have the same key returned by

```

[keySelector] the last one gets added to the map.
 The operation is `_terminal_`.
 @sample
 samples.collections.Collections.Transformations.associateByToWithValueTransform
 public inline fun <T, K, V, M : MutableMap<in K, in V>> Sequence<T>.associateByTo(destination: M, keySelector: (T) -> K, valueTransform: (T) -> V): M {
 for (element in this) {
 destination.put(keySelector(element), valueTransform(element))
 }
 return destination
 }
 Populates and returns the [destination] mutable map with key-value pairs provided by [transform] function applied to each element of the given sequence.
 If any of two pairs would have the same key the last one gets added to the map.
 The operation is `_terminal_`.
 @sample
 samples.collections.Collections.Transformations.associateTo
 public inline fun <T, K, V, M : MutableMap<in K, in V>> Sequence<T>.associateTo(destination: M, transform: (T) -> Pair<K, V>): M {
 for (element in this) {
 destination += transform(element)
 }
 return destination
 }
 Returns a [Map] where keys are elements from the given sequence and values are produced by the [valueSelector] function applied to each element.
 If any two elements are equal, the last one gets added to the map.
 The returned map preserves the entry iteration order of the original sequence.
 The operation is `_terminal_`.
 @sample
 samples.collections.Collections.Transformations.associateWith
 @SinceKotlin("1.3")
 public inline fun <K, V> Sequence<K>.associateWith(valueSelector: (K) -> V): Map<K, V> {
 val result = LinkedHashMap<K, V>()
 return associateWithTo(result, valueSelector)
 }
 Populates and returns the [destination] mutable map with key-value pairs for each element of the given sequence, where key is the element itself and value is provided by the [valueSelector] function applied to that key.
 If any two elements are equal, the last one overwrites the former value in the map.
 The operation is `_terminal_`.
 @sample
 samples.collections.Collections.Transformations.associateWithTo
 @SinceKotlin("1.3")
 public inline fun <K, V, M : MutableMap<in K, in V>> Sequence<K>.associateWithTo(destination: M, valueSelector: (K) -> V): M {
 for (element in this) {
 destination.put(element, valueSelector(element))
 }
 return destination
 }
 Appends all elements to the given [destination] collection.
 The operation is `_terminal_`.
 public fun <T, C : MutableCollection<in T>> Sequence<T>.toCollection(destination: C): C {
 for (item in this) {
 destination.add(item)
 }
 return destination
 }
 Returns a new [HashSet] of all elements.
 The operation is `_terminal_`.
 public fun <T> Sequence<T>.toHashSet(): HashSet<T> {
 return toCollection(HashSet<T>())
 }
 Returns a [List] containing all elements.
 The operation is `_terminal_`.
 public fun <T> Sequence<T>.toList(): List<T> {
 return this.toMutableList().optimizeReadOnlyList()
 }
 Returns a new [MutableList] filled with all elements of this sequence.
 The operation is `_terminal_`.
 public fun <T> Sequence<T>.toMutableList(): MutableList<T> {
 return toCollection(ArrayList<T>())
 }
 Returns a [Set] of all elements.
 The returned set preserves the element iteration order of the original sequence.
 The operation is `_terminal_`.
 public fun <T> Sequence<T>.toSet(): Set<T> {
 return toCollection(LinkedHashSet<T>()).optimizeReadOnlySet()
 }
 Returns a single sequence of all elements from results of [transform] function being invoked on each element of original sequence.
 The operation is `_intermediate_` and `_stateless_`.
 @sample
 samples.collections.Collections.Transformations.flatMap
 @SinceKotlin("1.4")
 @OptIn(kotlin.experimental.ExperimentalTypeInference::class)
 @OverloadResolutionByLambdaReturnType
 @kotlin.jvm.JvmName("flatMapIterable")
 public fun <T, R> Sequence<T>.flatMap(transform: (T) -> Iterable<R>): Sequence<R> {
 return FlatteningSequence(this, transform, Iterable<R>::iterator)
 }
 Returns a single sequence of all elements from results of [transform] function being invoked on each element of original sequence.
 The operation is `_intermediate_` and `_stateless_`.
 @sample
 samples.collections.Collections.Transformations.flatMap
 public fun <T, R> Sequence<T>.flatMap(transform: (T) -> Sequence<R>): Sequence<R> {
 return FlatteningSequence(this, transform, Sequence<R>::iterator)
 }
 Returns a single sequence of all elements yielded from results of [transform] function being invoked on each element and its index in the original sequence.
 The operation is `_intermediate_` and `_stateless_`.
 @sample

returned map preserves the entry iteration order of the keys produced from the original sequence.

`operation is _terminal_`

`@sample`

```

samples.collections.Collections.Transformations.groupByKeyAndValues
public inline fun <T, K, V>
Sequence<T>.groupBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, List<V>> {
    return
    groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)
}

```

`Groups elements of the original sequence by the key returned by the given [keySelector] function applied to each element and puts to the [destination] map each group key associated with a list of corresponding elements.`

`@return The [destination] map.`

`The operation is _terminal_`

`@sample`

```

samples.collections.Collections.Transformations.groupBy
public inline fun <T, K, M : MutableMap<in K, MutableList<T>>>
Sequence<T>.groupByTo(destination: M, keySelector: (T) -> K): M {
    for (element in this) {
        val key = keySelector(element)
        val list = destination.getOrPut(key) { ArrayList<T>() }
        list.add(element)
    }
    return destination
}

```

`Groups values returned by the [valueTransform] function applied to each element of the original sequence by the key returned by the given [keySelector] function applied to the element and puts to the [destination] map each group key associated with a list of corresponding values.`

`@return The [destination] map.`

`The operation is _terminal_`

`@sample`

```

samples.collections.Collections.Transformations.groupByKeyAndValues
public inline fun <T, K, V, M :
MutableMap<in
K, MutableList<V>>>
Sequence<T>.groupByTo(destination: M, keySelector: (T) -> K, valueTransform: (T) -> V):
M {
    for (element in this) {
        val key = keySelector(element)
        val list = destination.getOrPut(key) {
            ArrayList<V>()
        }
        list.add(valueTransform(element))
    }
    return destination
}

```

`Creates a [Grouping] source from a sequence to be used later with one of group-and-fold operations using the specified [keySelector] function to extract a key from each element.`

`The operation is _intermediate_ and _stateless_`

`@sample`

```

samples.collections.Grouping.groupingByEachCount
@SinceKotlin("1.1")
public inline
fun <T, K>
Sequence<T>.groupingBy(crossinline keySelector: (T) -> K): Grouping<T, K> {
    return object :
    Grouping<T, K> {
        override fun sourceIterator(): Iterator<T> = this@groupingBy.iterator()
        override fun
keyOf(element: T): K = keySelector(element)
    }
}

```

`Returns a sequence containing the results of applying the given [transform] function to each element in the original sequence.`

`The operation is _intermediate_ and _stateless_`

`@sample`

```

samples.collections.Collections.Transformations.map
public fun <T, R>
Sequence<T>.map(transform: (T) ->
R): Sequence<R> {
    return TransformingSequence(this, transform)
}

```

`Returns a sequence containing the results of applying the given [transform] function to each element and its index in the original sequence.`

`@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.`

`The operation is _intermediate_ and _stateless_`

`@sample`

```

public fun <T,
R>
Sequence<T>.mapIndexed(transform: (index: Int, T) -> R): Sequence<R> {
    return
    TransformingIndexedSequence(this, transform)
}

```

`Returns a sequence containing only the non-null results of applying the given [transform] function`

`to each element and its index in the original sequence.`

`@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.`

`The operation is _intermediate_ and _stateless_`

`@sample`

```

public fun <T, R : Any>
Sequence<T>.mapIndexedNotNull(transform: (index: Int, T) -> R?): Sequence<R> {
    return
    TransformingIndexedSequence(this, transform).filterNotNull()
}

```

`Applies the given [transform] function to each element and its index in the original sequence and appends only the non-null results to the given [destination].`

`@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.`

`The operation is _terminal_`

`@sample`

```

public inline fun
<T, R : Any, C : MutableCollection<in R>>
Sequence<T>.mapIndexedNotNullTo(destination: C, transform: (index:
Int, T) -> R?): C {
    forEachIndexed
    { index, element -> transform(index, element)?.let { destination.add(it) } }
    return destination
}

```

`Applies the given [transform] function to each element and its index in the original sequence and appends the`


```

<T> Sequence<T>.count(): Int {
    var count = 0
    for (element in this) checkCountOverflow(++count)
    return count
}

Returns the number of elements matching the given [predicate].

The operation is _terminal_.

public inline fun <T> Sequence<T>.count(predicate: (T) -> Boolean): Int {
    var count = 0
    for (element in this) if (predicate(element)) checkCountOverflow(++count)
    return count
}

Accumulates value starting with [initial] value and applying [operation] from left to right
to current accumulator value and each element.

Returns the specified [initial] value if the sequence is empty.

@param
[operation] function that takes current accumulator value and an element, and calculates the next accumulator
value.

The operation is _terminal_.

public inline fun <T, R> Sequence<T>.fold(initial: R, operation:
(acc: R, T) -> R): R {
    var accumulator = initial
    for (element in this) accumulator = operation(accumulator,
    element)
    return accumulator
}

Accumulates value starting with [initial] value and applying
[operation] from left to right
to current accumulator value and each element with its index in the original
sequence.

Returns the specified [initial] value if the sequence is empty.

@param [operation]
function that takes the index of an element, current accumulator value
and the element itself, and calculates the
next accumulator value.

The operation is _terminal_.

public inline fun <T, R>
Sequence<T>.foldIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): R {
    var index = 0
    var
    accumulator = initial
    for (element in this) accumulator = operation(checkIndexOverflow(index++), accumulator,
    element)
    return accumulator
}

Performs the given [action] on each element.

The operation is _terminal_.

public inline fun <T> Sequence<T>.forEach(action: (T) -> Unit): Unit {
    for
    (element in this) action(element)
}

Performs the given [action] on each element, providing sequential
index with the element.

@param [action] function that takes the index of an element and the element itself
and performs the action on the element.

The operation is _terminal_.

public inline fun <T>
Sequence<T>.forEachIndexed(action: (index: Int, T) -> Unit): Unit {
    var index = 0
    for (item in this)
    action(checkIndexOverflow(index++), item)
}

@Deprecated("Use maxOrNull instead.",
ReplaceWith("this.maxOrNull()"))
@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")
@SinceKotlin("1.1")
public fun Sequence<Double>.max(): Double? {
    return
    maxOrNull()
}

@Deprecated("Use maxOrNull instead.",
ReplaceWith("this.maxOrNull()"))
@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")
@SinceKotlin("1.1")
public fun Sequence<Float>.max(): Float? {
    return
    maxOrNull()
}

@Deprecated("Use maxOrNull instead.",
ReplaceWith("this.maxOrNull()"))
@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")
public fun <T : Comparable<T>> Sequence<T>.max(): T? {
    return
    maxOrNull()
}

@Deprecated("Use maxByOrNull instead.",
ReplaceWith("this.maxByOrNull(selector)"))
@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince = "1.6")
public inline fun <T, R : Comparable<R>> Sequence<T>.maxBy(selector: (T) ->
R): T? {
    return maxByOrNull(selector)
}

Returns the first element yielding the largest value of the
given function or `null` if there are no elements.

The operation is _terminal_.

@param
samples.collections.Collections.Aggregates.maxByOrNull
@SinceKotlin("1.4")
public inline fun <T, R :
Comparable<R>> Sequence<T>.maxByOrNull(selector: (T) -> R): T? {
    val iterator = iterator()
    if
    (!iterator.hasNext()) return
    null
    var maxElem = iterator.next()
    if (!iterator.hasNext()) return maxElem
    var maxValue =
    selector(maxElem)
    do {
        val e = iterator.next()
        val v = selector(e)
        if (maxValue < v) {
            maxElem = e
            maxValue = v
        }
    } while (iterator.hasNext())
    return maxElem
}

Returns the largest value among all values produced by [selector] function
applied to each element in the
sequence.

If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.

@throws NoSuchElementException if the sequence is empty.

The operation is _terminal_.

@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <T> Sequence<T>.maxOf(selector: (T) ->
Double): Double {
    val iterator = iterator()
    if (!iterator.hasNext()) throw NoSuchElementException()
}

```

```

    var maxValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the sequence.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the sequence is empty.\n * \n * The operation is _terminal_.\n */\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.maxOf(selector: (T) -> Float): Float {\n    val iterator = iterator()\n    if (!iterator.hasNext()) throw NoSuchElementException()\n    var maxValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the sequence.\n * \n * @throws NoSuchElementException if the sequence is empty.\n * \n * The operation is _terminal_.\n */\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>> Sequence<T>.maxOf(selector: (T) -> R): R {\n    val iterator = iterator()\n    if (!iterator.hasNext()) throw NoSuchElementException()\n    var maxValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n        if (maxValue < v) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the sequence or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * The operation is _terminal_.\n */\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.maxOfOrNull(selector: (T) -> Double): Double? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var maxValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the sequence or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * The operation is _terminal_.\n */\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.maxOfOrNull(selector: (T) -> Float): Float? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var maxValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the sequence or `null` if there are no elements.\n * \n * The operation is _terminal_.\n */\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>> Sequence<T>.maxOfOrNull(selector: (T) -> R): R? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var maxValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n        if (maxValue < v) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the sequence.\n * \n * @throws NoSuchElementException if the sequence is empty.\n * \n * The operation is _terminal_.\n */\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> Sequence<T>.maxOfWith(comparator: Comparator<in R>, selector: (T) -> R): R {\n    val iterator = iterator()\n    if (!iterator.hasNext()) throw NoSuchElementException()\n    var maxValue = selector(iterator.next())\n    while

```



```

    val v = selector(e)\n    if (minValue > v) {\n        minElem = e\n        minValue = v\n    }\n } while
(iterator.hasNext())\n return minElem\n}\n\n/**\n * Returns the smallest value among all values
produced by [selector] function\n * applied to each element in the sequence.\n * \n * If any of values produced by
[selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the
sequence is empty.\n * \n * The operation is _terminal_.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.minOf(selector: (T) ->
Double): Double {\n    val iterator = iterator()\n    if (!iterator.hasNext()) throw NoSuchElementException()\n    var
minValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n
minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all
values produced by [selector] function\n * applied to each element in the sequence.\n * \n * If any of values
produced by [selector] function is `NaN`, the
returned result is `NaN`.\n * \n * @throws NoSuchElementException if the sequence is empty.\n * \n * The
operation is _terminal_.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.minOf(selector: (T) ->
Float): Float {\n    val iterator = iterator()\n    if (!iterator.hasNext()) throw NoSuchElementException()\n    var
minValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n
minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all
values produced by [selector] function\n * applied to each element in the sequence.\n * \n * @throws
NoSuchElementException if the sequence is empty.\n * \n * The operation is _terminal_.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun <T, R : Comparable<R>> Sequence<T>.minOf(selector: (T) -> R): R {\n    val iterator = iterator()\n    if
(!iterator.hasNext()) throw NoSuchElementException()\n    var minValue = selector(iterator.next())\n    while
(iterator.hasNext()) {\n        val v = selector(iterator.next())\n        if (minValue > v) {\n            minValue = v\n
}\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector]
function\n * applied to each element in the sequence or `null` if there are no elements.\n * \n * If any of values
produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * The operation is _terminal_.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.minOfOrNull(selector:
(T) -> Double): Double? {\n    val iterator =
iterator()\n    if (!iterator.hasNext()) return null\n    var minValue = selector(iterator.next())\n    while
(iterator.hasNext()) {\n        val v = selector(iterator.next())\n        minValue = minOf(minValue, v)\n    }\n
return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to
each element in the sequence or `null` if there are no elements.\n * \n * If any of values produced by [selector]
function is `NaN`, the returned result is `NaN`.\n * \n * The operation is _terminal_.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.minOfOrNull(selector:
(T) -> Float): Float? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var minValue =
selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n        minValue
= minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values
produced by [selector] function\n * applied to each element in the sequence or `null` if there are no elements.\n *
*\n * The operation is _terminal_.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>>
Sequence<T>.minOfOrNull(selector: (T) -> R): R? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return
null\n    var minValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v =

```

```

selector(iterator.next())\n    if (minValue > v) {\n        minValue = v\n    }\n    return
minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values
produced by [selector] function applied to each element in the sequence.\n * \n * @throws
NoSuchElementException
if the sequence is empty.\n *\n * The operation is _terminal_.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R>
Sequence<T>.minOfWith(comparator: Comparator<in R>, selector: (T) -> R): R {\n    val iterator = iterator()\n    if
(!iterator.hasNext()) throw NoSuchElementException()\n    var minValue = selector(iterator.next())\n    while
(iterator.hasNext()) {\n        val v = selector(iterator.next())\n        if (comparator.compare(minValue, v) > 0) {\n
            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value according to the
provided [comparator]\n * among all values produced by [selector] function applied to each element in the sequence
or `null` if there are no elements.\n *\n * The operation is _terminal_.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun <T, R> Sequence<T>.minOfWithOrNull(comparator: Comparator<in R>, selector: (T) -> R): R? {\n
    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var minValue = selector(iterator.next())\n
    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n        if (comparator.compare(minValue, v) > 0) {\n
            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest element or `null` if there are
no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n *\n * The operation is _terminal_.\n
*\n@SinceKotlin("1.4")\npublic fun Sequence<Double>.minOrNull(): Double? {\n    val iterator = iterator()\n    if
(!iterator.hasNext()) return null\n    var min = iterator.next()\n    while (iterator.hasNext()) {\n        val e =
iterator.next()\n        min = minOf(min, e)\n    }\n    return min\n}\n\n/**\n * Returns the smallest
element or `null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n *\n * The operation
is _terminal_.\n *\n@SinceKotlin("1.4")\npublic fun Sequence<Float>.minOrNull(): Float? {\n    val iterator =
iterator()\n    if (!iterator.hasNext()) return null\n    var min = iterator.next()\n    while (iterator.hasNext()) {\n
        val e = iterator.next()\n        min = minOf(min, e)\n    }\n    return min\n}\n\n/**\n * Returns the smallest
element or `null` if there are no elements.\n * \n * The operation is _terminal_.\n *\n@SinceKotlin("1.4")\npublic fun <T :
Comparable<T>> Sequence<T>.minOrNull(): T? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return
null\n    var min = iterator.next()\n    while (iterator.hasNext()) {\n        val e = iterator.next()\n        if (min > e) min
= e\n    }\n    return min\n}\n\n@Deprecated("Use minWithOrNull instead.")
ReplaceWith("this.minWithOrNull(comparator)")\n@DeprecatedSinceKotlin(warningSince
= "1.4", errorSince = "1.5", hiddenSince = "1.6")\npublic fun <T> Sequence<T>.minWith(comparator:
Comparator<in T>): T? {\n    return minWithOrNull(comparator)\n}\n\n/**\n * Returns the first element having the
smallest value according to the provided [comparator] or `null` if there are no elements.\n *\n * The operation is
_terminal_.\n *\n@SinceKotlin("1.4")\npublic fun <T> Sequence<T>.minWithOrNull(comparator:
Comparator<in T>): T? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var min =
iterator.next()\n    while (iterator.hasNext()) {\n        val e = iterator.next()\n        if (comparator.compare(min, e) >
0) min = e\n    }\n    return min\n}\n\n/**\n * Returns `true` if the sequence has no elements.\n *\n * The operation is
_terminal_.\n * \n * @sample samples.collections.Collections.Aggregates.none\n *\n@public fun <T>
Sequence<T>.none(): Boolean {\n    return !iterator().hasNext()\n}\n\n/**\n * Returns `true` if no elements match
the
given [predicate].\n *\n * The operation is _terminal_.\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n *\n@public inline fun <T>
Sequence<T>.none(predicate: (T) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return
false\n    return true\n}\n\n/**\n * Returns a sequence which performs the given [action] on each element of the
original sequence as they pass through it.\n *\n * The operation is _intermediate_ and _stateless_.\n
*\n@SinceKotlin("1.1")\npublic fun <T> Sequence<T>.onEach(action: (T) -> Unit): Sequence<T> {\n    return

```


function that takes current accumulator value and an element, and calculates the next accumulator value. The operation is `_intermediate_ and _stateless_`. The operation is `@sample`.

```

samples.collections.Collections.Aggregates.runningFold
*/@SinceKotlin("1.4")
public fun <T, R>
Sequence<T>.runningFold(initial:
R, operation: (acc: R, T) -> R): Sequence<R> {
return sequence {
yield(initial)
var accumulator =
initial
for (element in this@runningFold) {
accumulator = operation(accumulator, element)
yield(accumulator)
}
}
}
*/
*/ Returns a sequence containing successive accumulation values
generated by applying [operation] from left to right to each element, its index in the original sequence and
current accumulator value that starts with [initial] value. Note that `acc` value passed to [operation] function
should not be mutated; otherwise it would affect the previous value in resulting sequence. The [initial] value
should also be immutable (or should not be mutated) as it may be passed to [operation] function later because of
sequence's lazy nature.
@param [operation] function that takes the index of an element, current accumulator
value and the element itself, and calculates
the next accumulator value. The operation is _intermediate_ and _stateless_. The operation is @sample.
samples.collections.Collections.Aggregates.runningFold
*/@SinceKotlin("1.4")
public fun <T, R>
Sequence<T>.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): Sequence<R> {
return
sequence {
yield(initial)
var index = 0
var accumulator = initial
for (element in
this@runningFoldIndexed) {
accumulator = operation(checkIndexOverflow(index++), accumulator,
element)
yield(accumulator)
}
}
}
*/
*/ Returns a sequence containing successive
accumulation values generated by applying [operation] from left to right to each element and current
accumulator value that starts with the first element of this sequence. Note that `acc` value passed to
[operation] function should not be mutated; otherwise it would affect the previous value in resulting sequence.
*/
*/
*/ @param [operation] function that takes current accumulator value and the element, and calculates the next
accumulator value. The operation is _intermediate_ and _stateless_. The operation is @sample.
samples.collections.Collections.Aggregates.runningReduce
*/@SinceKotlin("1.4")
*/@WasExperimental(ExperimentalStdlibApi::class)
public fun <S, T : S>
Sequence<T>.runningReduce(operation: (acc: S, T) -> S): Sequence<S> {
return sequence {
val iterator =
iterator()
if (iterator.hasNext()) {
var accumulator: S = iterator.next()
yield(accumulator)
while (iterator.hasNext()) {
accumulator = operation(accumulator, iterator.next())
yield(accumulator)
}
}
}
}
*/
*/ Returns a sequence containing successive accumulation
values generated by applying [operation] from left to right to each element, its index in the original sequence and
current accumulator value that
starts with the first element of this sequence. Note that `acc` value passed to [operation] function should not
be mutated; otherwise it would affect the previous value in resulting sequence.
@param [operation]
function that takes the index of an element, current accumulator value and the element itself, and calculates the
next accumulator value. The operation is _intermediate_ and _stateless_. The operation is @sample.
samples.collections.Collections.Aggregates.runningReduce
*/@SinceKotlin("1.4")
public fun <S, T : S>
Sequence<T>.runningReduceIndexed(operation: (index: Int, acc: S, T) -> S): Sequence<S> {
return sequence
{
val iterator = iterator()
if (iterator.hasNext()) {
var accumulator: S = iterator.next()
yield(accumulator)
var index = 1
while (iterator.hasNext()) {
accumulator =
operation(checkIndexOverflow(index++), accumulator, iterator.next())
yield(accumulator)
}
}
}
}
*/
*/ Returns a sequence containing successive
accumulation values generated by applying [operation] from left to right to each element and current
accumulator value that starts with [initial] value. Note that `acc` value passed to [operation] function should
not be mutated; otherwise it would affect the previous value in resulting sequence. The [initial] value should
also be immutable (or should not be mutated) as it may be passed to [operation] function later because of
sequence's lazy nature.
@param [operation] function that takes current accumulator value and an element,

```

and calculates the next accumulator value.\n * The operation is `_intermediate_` and `_stateless_`.\n * \n *
`@sample samples.collections.Collections.Aggregates.scan`\n
`*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun <T, R>
Sequence<T>.scan(initial: R, operation: (acc: R, T) ->
R): Sequence<R> {\n return runningFold(initial, operation)\n}\n\n/**\n * Returns a sequence containing
successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in
the original sequence and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value
passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting
sequence.\n * The [initial] value should also be immutable (or should not be mutated)\n * as it may be passed to
[operation] function later because of sequence's lazy nature.\n * \n * @param [operation] function that takes the
index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator
value.\n * \n * The operation is _intermediate_ and _stateless_.\n * \n * @sample
samples.collections.Collections.Aggregates.scan`\n
`*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic
fun <T, R> Sequence<T>.scanIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): Sequence<R> {\n return
runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the sequence.\n * \n * The operation is _terminal_.\n * \n@Deprecated("Use sumOf
instead.", ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline
fun <T> Sequence<T>.sumBy(selector: (T) -> Int): Int {\n var sum: Int = 0\n for (element in this) {\n sum
+= selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the sequence.\n * \n * The operation is _terminal_.\n * \n@Deprecated("Use
sumOf instead.", ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince =
"1.5")\npublic inline fun <T> Sequence<T>.sumByDouble(selector: (T) -> Double): Double {\n var sum:
Double = 0.0\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns
the sum of all values produced by [selector] function applied to each element in the sequence.\n * \n * The operation
is _terminal_.\n`
`*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfDouble")\n@kotlin.internal.InlineOnly\npublic inline fun
<T> Sequence<T>.sumOf(selector: (T) -> Double): Double {\n var sum: Double = 0.toDouble()\n for (element
in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced
by [selector] function applied to each element in the sequence.\n * \n * The operation is _terminal_.\n`
`*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfInt")\n@kotlin.internal.InlineOnly\npublic
inline fun <T> Sequence<T>.sumOf(selector: (T) -> Int): Int {\n var sum: Int = 0.toInt()\n for (element in
this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the sequence.\n * \n * The operation is _terminal_.\n`
`*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfLong")\n@kotlin.internal.InlineOnly\npublic inline fun
<T> Sequence<T>.sumOf(selector: (T) -> Long): Long {\n var sum: Long = 0.toLong()\n for (element in this)
{\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the sequence.\n * \n * The operation is _terminal_.\n`
`*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic
inline fun <T> Sequence<T>.sumOf(selector: (T) -> UInt): UInt {\n var sum: UInt = 0.toUInt()\n for (element
in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced
by [selector] function applied to each element in the sequence.\n * \n * The operation is _terminal_.\n`
`*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution`

```

ByLambdaReturnType\n@kotlin.jvm.JvmName("\sumOfULong")\n@WasExperimental(ExperimentalUnsignedTy
pes::class)\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.sumOf(selector: (T) -> ULong):
ULong {\n    var sum: ULong = 0.toULong()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns an original collection containing all the non-`null` elements, throwing
an [IllegalArgumentException] if there are any `null` elements.\n * \n * The operation is _intermediate_ and
_stateless_.\n */\npublic fun <T : Any> Sequence<T?.>.requireNonNulls(): Sequence<T> {\n    return map { it ?:
throw IllegalArgumentException("\null element found in $this.") }\n}\n\n/**\n * Splits this sequence into a
sequence of lists each not exceeding the given [size].\n * \n * The last list in the resulting sequence may have fewer
elements than the given [size].\n * \n * @param size the number of elements to take in each list, must be positive
and can be greater than the number of elements in this sequence.\n * \n * The operation is _intermediate_ and
_stateful_.\n * \n * @sample samples.collections.Collections.Transformations.chunked\n
*/\n@SinceKotlin("1.2")\npublic fun <T> Sequence<T>.chunked(size: Int): Sequence<List<T>> {\n    return
windowed(size, size, partialWindows = true)\n}\n\n/**\n * Splits this sequence into several lists each not exceeding
the given [size]\n *
and applies the given [transform] function to an each.\n * \n * @return sequence of results of the [transform]
applied to an each list.\n * \n * Note that the list passed to the [transform] function is ephemeral and is valid only
inside that function.\n * \n * You should not store it or allow it to escape in some way, unless you made a snapshot of
it.\n * \n * The last list may have fewer elements than the given [size].\n * \n * @param size the number of elements to
take in each list, must be positive and can be greater than the number of elements in this sequence.\n * \n * The
operation is _intermediate_ and _stateful_.\n * \n * @sample samples.text.Strings.chunkedTransform\n
*/\n@SinceKotlin("1.2")\npublic fun <T, R> Sequence<T>.chunked(size: Int, transform: (List<T>) -> R):
Sequence<R> {\n    return windowed(size, size, partialWindows = true, transform = transform)\n}\n\n/**\n *
Returns a sequence containing all elements of the original sequence without the first occurrence of the given
[element].\n
\n * \n * The operation is _intermediate_ and _stateless_.\n */\npublic operator fun <T> Sequence<T>.minus(element:
T): Sequence<T> {\n    return object: Sequence<T> {\n        override fun iterator(): Iterator<T> {\n            var
removed = false\n            return this@minus.filter { if (!removed && it == element) { removed = true; false } else
true }.iterator()\n        }\n    }\n}\n\n/**\n * Returns a sequence containing all elements of original sequence except
the elements contained in the given [elements] array.\n * \n * Note that the source sequence and the array being
subtracted are iterated only when an `iterator` is requested from\n * the resulting sequence. Changing any of them
between successive calls to `iterator` may affect the result.\n * \n * Before Kotlin 1.6, the [elements] array may have
been converted to a [HashSet] to speed up the operation, thus the elements were required to have\n * a correct and
stable implementation of `hashCode()` that didn't change between
successive invocations.\n * \n * On JVM, you can enable this behavior back with the system property
`kotlin.collections.convert_arg_to_set_in_removeAll` set to `true`.\n * \n * The operation is _intermediate_ and
_stateful_.\n */\npublic operator fun <T> Sequence<T>.minus(elements: Array<out T>): Sequence<T> {\n    if
(elements.isEmpty()) return this\n    return object: Sequence<T> {\n        override fun iterator(): Iterator<T> {\n
            val other = elements.convertToSetForSetOperation()\n            return this@minus.filterNot { it in other }.iterator()\n
        }\n    }\n}\n\n/**\n * Returns a sequence containing all elements of original sequence except the elements
contained in the given [elements] collection.\n * \n * Note that the source sequence and the collection being
subtracted are iterated only when an `iterator` is requested from\n * the resulting sequence. Changing any of them
between successive calls to `iterator` may affect the result.\n * \n * Before Kotlin 1.6, the
[elements] collection may have been converted to a [HashSet] to speed up the operation, thus the elements were
required to have\n * a correct and stable implementation of `hashCode()` that didn't change between successive
invocations.\n * \n * On JVM, you can enable this behavior back with the system property
`kotlin.collections.convert_arg_to_set_in_removeAll` set to `true`.\n * \n * The operation is _intermediate_ and
_stateful_.\n */\npublic operator fun <T> Sequence<T>.minus(elements: Iterable<T>): Sequence<T> {\n    return
object: Sequence<T> {\n        override fun iterator(): Iterator<T> {\n            val other =

```

```

elements.convertToSetForSetOperation()\n        if (other.isEmpty())\n            return this@minus.iterator()\n        else\n            return this@minus.filterNot { it in other }.iterator()\n    }\n}\n}\n\n/**\n * Returns a sequence\n containing all elements of original sequence except the elements contained in the given [elements] sequence.\n *\n * Note that the source sequence and the sequence being subtracted are iterated only when an `iterator` is requested\n from\n * the resulting sequence. Changing any of them between successive calls to `iterator` may affect the result.\n *\n * The operation is _intermediate_ for this sequence and _terminal_ and _stateful_ for the [elements] sequence.\n *\n * Before Kotlin 1.6, the [elements] sequence may have been converted to a [HashSet] to speed up the operation,\n thus the elements were required to have\n * a correct and stable implementation of `hashCode()` that didn't change\n between successive invocations.\n * On JVM, you can enable this behavior back with the system property\n `kotlin.collections.convert_arg_to_set_in_removeAll` set to `true`.\n */\n\npublic operator fun <T>\nSequence<T>.minus(elements: Sequence<T>): Sequence<T> {\n    return object: Sequence<T> {\n        override fun\niterator(): Iterator<T> {\n            val other = elements.convertToSetForSetOperation()\n            if (other.isEmpty())\n                return this@minus.iterator()\n            else\n                return this@minus.filterNot { it in other }.iterator()\n        }\n    }\n}\n\n/**\n * Returns a sequence containing all elements of the original\n sequence without the first occurrence of the given [element].\n *\n * The operation is _intermediate_ and\n _stateless_.\n */\n\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.minusElement(element: T):\nSequence<T> {\n    return minus(element)\n}\n\n/**\n * Splits the original sequence into pair of lists,\n * where\n *first list contains elements for which [predicate] yielded `true`,\n * while second list contains elements for\n which [predicate] yielded `false`.\n *\n * The operation is _terminal_.\n *\n * @sample\n samples.collections.Sequences.Transformations.partition\n */\n\npublic inline fun <T>\nSequence<T>.partition(predicate: (T) -> Boolean): Pair<List<T>, List<T>> {\n    val first = ArrayList<T>()\n    val\nsecond = ArrayList<T>()\n\n    for (element in this) {\n        if (predicate(element)) {\n            first.add(element)\n        } else {\n           \nsecond.add(element)\n        }\n    }\n\n    return Pair(first, second)\n}\n\n/**\n * Returns a sequence containing all\n elements of the original sequence and then the given [element].\n *\n * The operation is _intermediate_ and\n _stateless_.\n */\n\npublic operator fun <T> Sequence<T>.plus(element: T): Sequence<T> {\n    return\nsequenceOf(this, sequenceOf(element)).flatten()\n}\n\n/**\n * Returns a sequence containing all elements of\n original sequence and then all elements of the given [elements] array.\n *\n * Note that the source sequence and the\n array being added are iterated only when an `iterator` is requested from\n * the resulting sequence. Changing any of\n them between successive calls to `iterator` may affect the result.\n *\n * The operation is _intermediate_ and\n _stateless_.\n */\n\npublic operator fun <T> Sequence<T>.plus(elements: Array<out T>): Sequence<T>\n{\n    return this.plus(elements.asList())\n}\n\n/**\n * Returns a sequence containing all elements of original\n sequence and then all elements of the given [elements] collection.\n *\n * Note that the source sequence and the\n collection being added are iterated only when an `iterator` is requested from\n * the resulting sequence. Changing\n any of them between successive calls to `iterator` may affect the result.\n *\n * The operation is _intermediate_ and\n _stateless_.\n */\n\npublic operator fun <T> Sequence<T>.plus(elements: Iterable<T>): Sequence<T> {\n    return\nsequenceOf(this, elements.asSequence()).flatten()\n}\n\n/**\n * Returns a sequence containing all elements of\n original sequence and then all elements of the given [elements] sequence.\n *\n * Note that the source sequence and\n the sequence being added are iterated only when an `iterator` is requested from\n * the resulting sequence. Changing\n any of them between successive calls to `iterator` may affect the result.\n *\n * The operation is _intermediate_ and\n _stateless_.\n */\n\npublic operator fun <T> Sequence<T>.plus(elements:\nSequence<T>): Sequence<T> {\n    return sequenceOf(this, elements).flatten()\n}\n\n/**\n * Returns a sequence\n containing all elements of the original sequence and then the given [element].\n *\n * The operation is\n _intermediate_ and _stateless_.\n */\n\n@kotlin.internal.InlineOnly\npublic inline fun <T>\nSequence<T>.plusElement(element: T): Sequence<T> {\n    return plus(element)\n}\n\n/**\n * Returns a sequence\n of snapshots of the window of the given [size]\n * sliding along this sequence with the given [step], where each\n * snapshot is a list.\n *\n * Several last lists may have fewer elements than the given [size].\n *\n * Both [size] and\n [step] must be positive and can be greater than the number of elements in this sequence.\n *\n * @param size the

```

number of elements to take in each window\n * @param step the number of elements to move the window forward by on an each step, by default

1\n * @param partialWindows controls whether or not to keep partial windows in the end if any,\n * by default `false` which means partial windows won't be preserved\n * \n * @sample

```
samples.collections.Sequences.Transformations.takeWindows\n *^\n@SinceKotlin("1.2")\npublic fun <T>  
Sequence<T>.windowed(size: Int, step: Int = 1, partialWindows: Boolean = false): Sequence<List<T>> {\n    return  
windowedSequence(size, step, partialWindows, reuseBuffer = false)\n}\n\n/**\n * Returns a sequence of results of  
applying the given [transform] function to\n * an each list representing a view over the window of the given [size]\n * sliding along this sequence with the given [step].\n * \n * Note that the list passed to the [transform] function is  
ephemeral and is valid only inside that function.\n * You should not store it or allow it to escape in some way,  
unless you made a snapshot of it.\n * Several last lists may have fewer elements than the given [size].\n * \n * Both  
[size] and [step]
```

must be positive and can be greater than the number of elements in this sequence.\n * @param size the number of
elements to take in each window\n * @param step the number of elements to move the window forward by on an
each step, by default 1\n * @param partialWindows controls whether or not to keep partial windows in the end if
any,\n * by default `false` which means partial windows won't be preserved\n * \n * @sample

```
samples.collections.Sequences.Transformations.averageWindows\n *^\n@SinceKotlin("1.2")\npublic fun <T, R>  
Sequence<T>.windowed(size: Int, step: Int = 1, partialWindows: Boolean = false, transform: (List<T>) -> R):  
Sequence<R> {\n    return windowedSequence(size, step, partialWindows, reuseBuffer =  
true).map(transform)\n}\n\n/**\n * Returns a sequence of values built from the elements of `this` sequence and the  
[other] sequence with the same index.\n * The resulting sequence ends as soon as the shortest input sequence ends.\n * \n * The operation is _intermediate_ and
```

```
_stateless_.\n * \n * @sample samples.collections.Sequences.Transformations.zip\n *^\npublic infix fun <T, R>  
Sequence<T>.zip(other: Sequence<R>): Sequence<Pair<T, R>> {\n    return MergingSequence(this, other) { t1, t2 -  
> t1 to t2 }\n}\n\n/**\n * Returns a sequence of values built from the elements of `this` sequence and the [other]  
sequence with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The  
resulting sequence ends as soon as the shortest input sequence ends.\n * \n * The operation is _intermediate_ and  
_stateless_.\n * \n * @sample samples.collections.Sequences.Transformations.zipWithTransform\n *^\npublic fun  
<T, R, V> Sequence<T>.zip(other: Sequence<R>, transform: (a: T, b: R) -> V): Sequence<V> {\n    return  
MergingSequence(this, other, transform)\n}\n\n/**\n * Returns a sequence of pairs of each two adjacent elements in  
this sequence.\n * \n * The returned sequence is empty if this sequence contains less than two elements.\n * \n * The operation is _intermediate_ and _stateless_.\n * \n * @sample
```

```
samples.collections.Collections.Transformations.zipWithNext\n *^\n@SinceKotlin("1.2")\npublic fun <T>  
Sequence<T>.zipWithNext(): Sequence<Pair<T, T>> {\n    return zipWithNext { a, b -> a to b }\n}\n\n/**\n * Returns a sequence containing the results of applying the given [transform] function\n * to an each pair of two  
adjacent elements in this sequence.\n * \n * The returned sequence is empty if this sequence contains less than two  
elements.\n * \n * The operation is _intermediate_ and _stateless_.\n * \n * @sample
```

```
samples.collections.Collections.Transformations.zipWithNextToFindDeltas\n *^\n@SinceKotlin("1.2")\npublic  
fun <T, R> Sequence<T>.zipWithNext(transform: (a: T, b: T) -> R): Sequence<R> {\n    return sequence result@  
{\n        val iterator = iterator()\n        if (!iterator.hasNext()) return @result\n        var current = iterator.next()\n        while (iterator.hasNext()) {\n            val next = iterator.next()\n            yield(transform(current, next))\n            current = next\n        }\n    }\n}\n\n/**\n * Appends the string from  
all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the  
collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which defaults to `"...`").\n * \n * The operation is  
_terminal_.\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n *^\npublic fun <T, A :  
Appendable> Sequence<T>.joinTo(buffer: A, separator: CharSequence = ``, prefix: CharSequence = ``, postfix:  
CharSequence = ``, limit: Int = -1, truncated: CharSequence = `"...`, transform: ((T) -> CharSequence)? = null): A
```

```

{\n  buffer.append(prefix)\n  var count = 0\n  for (element in this) {\n    if (++count > 1)
buffer.append(separator)\n    if (limit < 0 || count <= limit)
{\n      buffer.appendElement(element, transform)\n    } else break\n  }\n  if (limit >= 0 && count > limit)
buffer.append(truncated)\n  buffer.append(postfix)\n  return buffer\n}\n\n/**\n * Creates a string from all the
elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection
could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will
be appended, followed by the [truncated] string (which defaults to "...").\n * \n * The operation is _terminal_.\n * \n
* @sample samples.collections.Collections.Transformations.joinToString\n */\npublic fun <T>
Sequence<T>.joinToString(separator: CharSequence = ", ", prefix: CharSequence = "", postfix: CharSequence =
"", limit: Int = -1, truncated: CharSequence = "...", transform: ((T) -> CharSequence)? = null): String {\n  return
joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n *
Creates an [Iterable] instance that wraps the original sequence returning its elements when being iterated.\n
*\n */\npublic fun <T> Sequence<T>.asIterable(): Iterable<T> {\n  return Iterable { this.iterator() }\n}\n\n/**\n *
Returns this sequence as a [Sequence].\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T>
Sequence<T>.asSequence(): Sequence<T> {\n  return this\n}\n\n/**\n * Returns an average value of elements in
the sequence.\n * \n * The operation is _terminal_.\n */\n@kotlin.jvm.JvmName("averageOfByte")\npublic fun
Sequence<Byte>.average(): Double {\n  var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n
    sum += element\n    checkCountOverflow(++count)\n  }\n  return if (count == 0) Double.NaN else sum /
count\n}\n\n/**\n * Returns an average value of elements in the sequence.\n * \n * The operation is _terminal_.\n
*\n */\n@kotlin.jvm.JvmName("averageOfShort")\npublic fun Sequence<Short>.average():
Double {\n  var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n
    checkCountOverflow(++count)\n  }\n  return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n *
Returns an average value of elements in the sequence.\n * \n * The operation is _terminal_.\n
*\n */\n@kotlin.jvm.JvmName("averageOfInt")\npublic fun Sequence<Int>.average(): Double {\n  var sum: Double
= 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n    checkCountOverflow(++count)\n
  }\n  return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in
the sequence.\n * \n * The operation is _terminal_.\n */\n@kotlin.jvm.JvmName("averageOfLong")\npublic fun
Sequence<Long>.average(): Double {\n  var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n
    sum += element\n    checkCountOverflow(++count)\n  }\n  return if (count == 0) Double.NaN else
sum / count\n}\n\n/**\n * Returns an average value of elements in the sequence.\n * \n * The operation is
_terminal_.\n */\n@kotlin.jvm.JvmName("averageOfFloat")\npublic fun Sequence<Float>.average(): Double {\n
var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n
    checkCountOverflow(++count)\n  }\n  return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n *
Returns an average value of elements in the sequence.\n * \n * The operation is _terminal_.\n
*\n */\n@kotlin.jvm.JvmName("averageOfDouble")\npublic fun Sequence<Double>.average(): Double {\n  var sum:
Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n
    checkCountOverflow(++count)\n  }\n  return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n *
Returns the sum of all elements in the sequence.\n * \n * The operation is _terminal_.\n
*\n */\n@kotlin.jvm.JvmName("sumOfByte")\npublic fun Sequence<Byte>.sum(): Int
{\n  var sum: Int = 0\n  for (element in this) {\n    sum += element\n  }\n  return sum\n}\n\n/**\n *
Returns the sum of all elements in the sequence.\n * \n * The operation is _terminal_.\n
*\n */\n@kotlin.jvm.JvmName("sumOfShort")\npublic fun Sequence<Short>.sum(): Int {\n  var sum: Int = 0\n
for (element in this) {\n    sum += element\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all elements in
the sequence.\n * \n * The operation is _terminal_.\n */\n@kotlin.jvm.JvmName("sumOfInt")\npublic fun
Sequence<Int>.sum(): Int {\n  var sum: Int = 0\n  for (element in this) {\n    sum += element\n  }\n  return
sum\n}\n\n/**\n * Returns the sum of all elements in the sequence.\n * \n * The operation is _terminal_.\n
*\n */\n@kotlin.jvm.JvmName("sumOfLong")\npublic fun Sequence<Long>.sum(): Long {\n  var sum: Long = 0L\n
for (element in this) {\n    sum += element\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all elements in

```

the sequence.

```
* The operation is _terminal_
@kotlin.jvm.JvmName("sumOfFloat")
public fun Sequence<Float>.sum(): Float {
    var sum: Float = 0.0f
    for (element in this) {
        sum += element
    }
    return sum
}

* Returns the sum of all elements in the sequence.
The operation is _terminal_
@kotlin.jvm.JvmName("sumOfDouble")
public fun Sequence<Double>.sum(): Double {
    var sum: Double = 0.0
    for (element in this) {
        sum += element
    }
    return sum
}

"/
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```

```
@file:kotlin.jvm.JvmMultifileClass
@file:kotlin.jvm.JvmName("SetsKt")
package kotlin.collections

// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt
// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib

import kotlin.random.*
import kotlin.ranges.contains
import kotlin.ranges.reversed

* Returns a set containing all elements of the original set except the given [element].
* The returned set preserves the element iteration order of the original set.
public operator fun <T> Set<T>.minus(element: T): Set<T> {
    val result = LinkedHashSet<T>(mapCapacity(size))
    var removed = false
    return this.filterTo(result) { if (!removed && it == element) { removed = true; false } else true }
}

* Returns a set containing all elements of the original set except the elements contained in the given [elements] array.
* The returned set preserves the element iteration order of the original set.
* Before Kotlin 1.6, the [elements] array may have been converted to a [HashSet] to speed up the operation, thus the elements were required to have a correct and stable implementation of hashCode() that didn't change between successive invocations.

* On JVM, you can enable this behavior back with the system property
kotlin.collections.convert_arg_to_set_in_removeAll` set to `true`
public operator fun <T> Set<T>.minus(elements: Array<out T>): Set<T> {
    val result = LinkedHashSet<T>(this)
    result.removeAll(elements)
    return result
}

* Returns a set containing all elements of the original set except the elements contained in the given [elements] collection.
* The returned set preserves the element iteration order of the original set.
* Before Kotlin 1.6, the [elements] collection may have been converted to a [HashSet] to speed up the operation, thus the elements were required to have a correct and stable implementation of hashCode() that didn't change between successive invocations.
* On JVM, you can enable this behavior back with the system property
kotlin.collections.convert_arg_to_set_in_removeAll` set to `true`
public operator fun <T> Set<T>.minus(elements: Iterable<T>): Set<T> {
    val other = elements.convertToSetForSetOperationWith(this)
    if (other.isEmpty()) return this.toSet()
    if (other is Set) return this.filterNotTo(LinkedHashSet<T>()) { it in other }
    val result = LinkedHashSet<T>(this)
    result.removeAll(other)
    return result
}

* Returns a set containing all elements of the original set except the elements contained in the given [elements] sequence.
* The returned set preserves the element iteration order of the original set.
* Before Kotlin 1.6, the [elements] sequence may have been converted to a [HashSet] to speed up the operation, thus the elements were required to have a correct and stable implementation of hashCode() that didn't change between successive invocations.
* On JVM, you can enable this behavior back with the system property
kotlin.collections.convert_arg_to_set_in_removeAll` set to `true`
public operator fun <T> Set<T>.minus(elements: Sequence<T>): Set<T> {
    val result = LinkedHashSet<T>(this)
    result.removeAll(elements)
    return result
}

* Returns a set containing all elements of the original set except the given [element].
* The returned set preserves the element iteration order of the original set.
@kotlin.internal.InlineOnly
public inline fun <T> Set<T>.minusElement(element: T): Set<T> {
    return minus(element)
}

* Returns a set containing all elements of the original set and then the given [element] if it isn't already in this set.
* The returned set preserves the element iteration order of the original set.
public operator fun <T> Set<T>.plus(element: T): Set<T> {
    val result = LinkedHashSet<T>(mapCapacity(size + 1))
    result.addAll(this)
    result.add(element)
    return result
}

* Returns a set containing all elements of the original set and the given [elements] array, which aren't already in this set.
* The returned set preserves
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```

the element iteration order of the original set.
public operator fun <T> Set<T>.plus(elements: Array<out T>):
Set<T> {
    val result = LinkedHashSet<T>(mapCapacity(this.size + elements.size))
    result.addAll(this)
    result.addAll(elements)
    return result
}
Returns a set containing all elements of the original set and
the given [elements] collection, which aren't already in this set.
The returned set preserves the element
iteration order of the original set.
public operator fun <T> Set<T>.plus(elements: Iterable<T>): Set<T> {
    val result = LinkedHashSet<T>(mapCapacity(elements.collectionSizeOrNull()?.let { this.size + it } ?: this.size *
2))
    result.addAll(this)
    result.addAll(elements)
    return result
}
Returns a set containing all
elements of the original set and the given [elements] sequence, which aren't already in this set.
The
returned set preserves the element iteration order of the original set.
public operator fun <T> Set<T>.plus(elements: Sequence<T>): Set<T> {
    val result =
LinkedHashSet<T>(mapCapacity(this.size * 2))
    result.addAll(this)
    result.addAll(elements)
    return
result
}
Returns a set containing all elements of the original set and then the given [element] if it isn't
already in this set.
The returned set preserves the element iteration order of the original set.
@kotlin.internal.InlineOnly
public inline fun <T> Set<T>.plusElement(element: T): Set<T> {
    return
plus(element)
}
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contributors.
Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.
@file:kotlin.jvm.JvmMultifileClass
@file:kotlin.jvm.JvmName("StringsKt")
package
kotlin.text
NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt
See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib/nimpor
kotlin.random
Returns a character at the given [index] or throws an [IndexOutOfBoundsException] if
the [index] is out of bounds of this char sequence.
@sample
samples.collections.Collections.Elements.elementAt
public expect fun CharSequence.elementAt(index: Int):
Char
Returns a character at the given [index] or the result of calling the [defaultValue] function if the
[index] is out of bounds of this char sequence.
@sample
samples.collections.Collections.Elements.elementAtOrElse
@kotlin.internal.InlineOnly
public inline fun
CharSequence.elementAtOrElse(index: Int, defaultValue: (Int) -> Char): Char {
    return if (index >= 0 && index
<= lastIndex) get(index) else defaultValue(index)
}
Returns a character at the given [index] or `null` if
the [index] is out of bounds of this char sequence.
@sample
samples.collections.Collections.Elements.elementAtOrNull
@kotlin.internal.InlineOnly
public
inline fun CharSequence.elementAtOrNull(index: Int): Char? {
    return this.getOrNull(index)
}
Returns the first character matching the given [predicate], or `null` if no such character was found.
@sample
samples.collections.Collections.Elements.find
@kotlin.internal.InlineOnly
public inline fun
CharSequence.find(predicate: (Char) -> Boolean): Char? {
    return firstOrNull(predicate)
}
Returns
the last character matching the given [predicate], or `null` if no such character was found.
@sample
samples.collections.Collections.Elements.find
@kotlin.internal.InlineOnly
public inline fun
CharSequence.findLast(predicate: (Char) -> Boolean): Char? {
    return lastOrNull(predicate)
}
Returns first character.
@throws [NoSuchElementException] if the char sequence is empty.
public fun
CharSequence.first(): Char {
    if (isEmpty())
        throw NoSuchElementException("Char sequence is
empty.")
    return this[0]
}
Returns the first character matching the given [predicate].
@throws
[NoSuchElementException] if no such character is found.
public inline fun CharSequence.first(predicate:
(Char) -> Boolean): Char {
    for (element in this) if (predicate(element)) return element
    throw
NoSuchElementException("Char sequence contains no character matching the predicate.")
}
Returns
the first non-null value produced by [transform] function being applied to characters of this char sequence in
iteration order, or throws [NoSuchElementException] if no non-null value was produced.
@sample
samples.collections.Collections.Transformations.firstNotNullOf
@SinceKotlin("1.5")
@kotlin.internal.InlineOnly
public inline fun <R : Any>
CharSequence.firstNotNullOf(transform: (Char) -> R?): R {
    return firstNotNullOfOrNull(transform) ?: throw

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NoSuchElementException("No element of the char sequence was transformed to a non-null
value.")\n\n\n * Returns the first non-null value produced by [transform] function being applied to characters
of this char sequence in iteration order,\n * or `null` if no non-null value was produced.\n * \n * @sample
samples.collections.Collections.Transformations.firstNotNullOf\n
*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun <R : Any>
CharSequence.firstNotNullOfOrNull(transform: (Char) -> R?): R? {\n    for (element in this) {\n        val result =
transform(element)\n        if (result != null) {\n            return result\n        }\n    }\n    return null\n}\n\n\n *
Returns the first character, or `null` if the char sequence is empty.\n *\npublic fun CharSequence.firstOrNull():
Char? {\n    return if (isEmpty()) null else this[0]\n}\n\n\n\n * Returns the first character matching the given
[predicate], or `null` if character was not found.\n *\npublic inline fun CharSequence.firstOrNull(predicate: (Char) -
> Boolean): Char? {\n    for
(element in this) if (predicate(element)) return element\n    return null\n}\n\n\n\n * Returns a character at the given
[index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this char sequence.\n
*\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.getOrElse(index: Int, defaultValue: (Int) -> Char):
Char {\n    return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n\n\n\n * Returns a
character at the given [index] or `null` if the [index] is out of bounds of this char sequence.\n * \n * @sample
samples.collections.Collections.Elements.getOrElse\n *\npublic fun CharSequence.getOrElse(index: Int): Char?
{\n    return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n\n\n\n * Returns index of the first
character matching the given [predicate], or -1 if the char sequence does not contain such character.\n *\npublic
inline fun CharSequence.indexOfFirst(predicate: (Char) -> Boolean): Int {\n
    for (index in indices) {\n        if (predicate(this[index])) {\n            return index\n        }\n    }\n    return -
1\n}\n\n\n\n\n * Returns index of the last character matching the given [predicate], or -1 if the char sequence does
not contain such character.\n *\npublic inline fun CharSequence.indexOfLast(predicate: (Char) -> Boolean): Int {\n
    for (index in indices.reversed()) {\n        if (predicate(this[index])) {\n            return index\n        }\n    }\n    return -
1\n}\n\n\n\n\n * Returns the last character.\n * \n * @throws NoSuchElementException if the char sequence is
empty.\n * \n * @sample samples.text.Strings.last\n *\npublic fun CharSequence.last(): Char {\n    if (isEmpty())\n        throw NoSuchElementException("Char sequence is empty.")\n    return this[lastIndex]\n}\n\n\n\n\n\n * Returns the
last character matching the given [predicate].\n * \n * @throws NoSuchElementException if no such character is
found.\n * \n * @sample samples.text.Strings.last\n *\npublic
inline fun CharSequence.last(predicate: (Char) -> Boolean): Char {\n    for (index in this.indices.reversed()) {\n
        val element = this[index]\n        if (predicate(element)) return element\n    }\n    throw
NoSuchElementException("Char sequence contains no character matching the predicate.")\n}\n\n\n\n\n\n * Returns
the last character, or `null` if the char sequence is empty.\n * \n * @sample samples.text.Strings.last\n *\npublic fun
CharSequence.lastOrNull(): Char? {\n    return if (isEmpty()) null else this[length - 1]\n}\n\n\n\n\n\n * Returns the last
character matching the given [predicate], or `null` if no such character was found.\n * \n * @sample
samples.text.Strings.last\n *\npublic inline fun CharSequence.lastOrNull(predicate: (Char) -> Boolean): Char? {\n
    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if (predicate(element)) return element\n
    }\n    return null\n}\n\n\n\n\n\n * Returns a random character from this char sequence.\n
* \n * @throws NoSuchElementException if this char sequence is empty.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.random(): Char {\n
    return random(Random)\n}\n\n\n\n\n\n * Returns a random character from this char sequence using the specified
source of randomness.\n * \n * @throws NoSuchElementException if this char sequence is empty.\n
*\n@SinceKotlin("1.3")\npublic fun CharSequence.random(random: Random): Char {\n    if (isEmpty())\n        throw
NoSuchElementException("Char sequence is empty.")\n    return get(random.nextInt(length))\n}\n\n\n\n\n\n\n *
Returns a random character from this char sequence, or `null` if this char sequence is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic
inline fun CharSequence.randomOrNull(): Char? {\n    return randomOrNull(Random)\n}\n\n\n\n\n\n\n * Returns a
random character from this char sequence using the specified source of

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randomness, or `null` if this char sequence is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
CharSequence.randomOrNull(random: Random): Char? {\n    if (isEmpty())\n        return null\n    return
get(random.nextInt(length))\n}\n\n/**\n * Returns the single character, or throws an exception if the char sequence
is empty or has more than one character.\n */\npublic fun CharSequence.single(): Char {\n    return when (length)
{\n        0 -> throw NoSuchElementException("Char sequence is empty.")\n        1 -> this[0]\n        else -> throw
IllegalArgumentException("Char sequence has more than one element.")\n    }\n}\n\n/**\n * Returns the single
character matching the given [predicate], or throws exception if there is no or more than one matching character.\n
*/\npublic inline fun CharSequence.single(predicate: (Char) -> Boolean): Char {\n    var single: Char? = null\n    var
found = false\n    for (element in this) {\n        if (predicate(element))
{\n            if (found) throw IllegalArgumentException("Char sequence contains more than one matching
element.")\n            single = element\n            found = true\n        }\n    }\n    if (!found) throw
NoSuchElementException("Char sequence contains no character matching the predicate.")\n}\n\n@Suppress("UNCHECKED_CAST")\nreturn single as Char\n}\n\n/**\n * Returns single character, or `null` if
the char sequence is empty or has more than one character.\n */\npublic fun CharSequence.singleOrNull(): Char?
{\n    return if (length == 1) this[0] else null\n}\n\n/**\n * Returns the single character matching the given
[predicate], or `null` if character was not found or more than one character was found.\n */\npublic inline fun
CharSequence.singleOrNull(predicate: (Char) -> Boolean): Char? {\n    var single: Char? = null\n    var found =
false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) return null\n            single
= element\n            found = true\n        }\n    }\n    if (!found) return null\n    return single\n}\n}\n\n/**\n * Returns a
subsequence of this char sequence with the first [n] characters removed.\n */\n * @throws
IllegalArgumentException if [n] is negative.\n */\n * @sample samples.text.Strings.drop\n */\npublic fun
CharSequence.drop(n: Int): CharSequence {\n    require(n >= 0) {\n        "Requested character count $n is less than zero."
}\n    return subSequence(n.coerceAtMost(length), length)\n}\n\n/**\n * Returns a string with the first [n] characters
removed.\n */\n * @throws IllegalArgumentException if [n] is negative.\n */\n * @sample
samples.text.Strings.drop\n */\npublic fun String.drop(n: Int): String {\n    require(n >= 0) {\n        "Requested character
count $n is less than zero." }\n    return substring(n.coerceAtMost(length))\n}\n\n/**\n * Returns a subsequence of
this char sequence with the last [n] characters removed.\n */\n * @throws IllegalArgumentException if [n] is
negative.\n */\n * @sample samples.text.Strings.drop\n */\npublic fun CharSequence.dropLast(n: Int): CharSequence {\n
require(n >= 0) {\n        "Requested character count $n is less than zero." }\n    return take((length -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a string with the last [n] characters removed.\n */\n * @throws
IllegalArgumentException if [n] is negative.\n */\n * @sample samples.text.Strings.drop\n */\npublic fun
String.dropLast(n: Int): String {\n    require(n >= 0) {\n        "Requested character count $n is less than zero." }\n    return
take((length - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a subsequence of this char sequence containing all
characters except last characters that satisfy the given [predicate].\n */\n * @sample samples.text.Strings.drop\n
*/\npublic inline fun CharSequence.dropLastWhile(predicate: (Char) -> Boolean): CharSequence {\n    for (index in
lastIndex downTo 0)\n        if (!predicate(this[index]))\n            return subSequence(0, index + 1)\n    return
""\n}\n\n/**\n * Returns a string containing all characters except last characters that satisfy the given
[predicate].\n */\n * @sample samples.text.Strings.drop\n */\npublic inline fun String.dropLastWhile(predicate:
(Char) -> Boolean): String {\n    for (index in lastIndex downTo 0)\n        if (!predicate(this[index]))\n            return
substring(0, index + 1)\n    return ""\n}\n\n/**\n * Returns a subsequence of this char sequence containing all
characters except first characters that satisfy the given [predicate].\n */\n * @sample samples.text.Strings.drop\n
*/\npublic inline fun CharSequence.dropWhile(predicate: (Char) -> Boolean): CharSequence {\n    for (index in
this.indices)\n        if (!predicate(this[index]))\n            return subSequence(index, length)\n    return ""\n}\n\n/**\n * Returns a string containing all characters except first characters that satisfy the given [predicate].\n */\n * @sample samples.text.Strings.drop\n */\npublic inline fun String.dropWhile(predicate:

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(Char) -> Boolean): String {\n  for (index in this.indices)\n    if (!predicate(this[index]))\n      return
substring(index)\n  return ""\n}\n\n/**\n * Returns a char sequence containing only those characters from the
original char sequence that match the given [predicate].\n * \n * @sample samples.text.Strings.filter\n */\npublic
inline fun CharSequence.filter(predicate: (Char) -> Boolean): CharSequence {\n  return filterTo(StringBuilder(),
predicate)\n}\n\n/**\n * Returns a string containing only those characters from the original string that match the
given [predicate].\n * \n * @sample samples.text.Strings.filter\n */\npublic inline fun String.filter(predicate: (Char) -
> Boolean): String {\n  return filterTo(StringBuilder(), predicate).toString()\n}\n\n/**\n * Returns a char sequence
containing only those characters from the original char sequence that match the given [predicate].\n * @param
[predicate] function that takes the index of a character
and the character itself\n * and returns the result of predicate evaluation on the character.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun CharSequence.filterIndexed(predicate:
(index: Int, Char) -> Boolean): CharSequence {\n  return filterIndexedTo(StringBuilder(), predicate)\n}\n\n/**\n *
Returns a string containing only those characters from the original string that match the given [predicate].\n *
@param [predicate] function that takes the index of a character and the character itself\n * and returns the result of
predicate evaluation on the character.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\n
public inline fun String.filterIndexed(predicate: (index: Int, Char) -> Boolean): String {\n  return
filterIndexedTo(StringBuilder(), predicate).toString()\n}\n\n/**\n * Appends all characters matching the given
[predicate] to the given [destination].\n * @param [predicate] function that takes the
index of a character and the character itself\n * and returns the result of predicate evaluation on the character.\n * \n
* @sample samples.collections.Collections.Filtering.filterIndexedTo\n */\npublic inline fun <C : Appendable>
CharSequence.filterIndexedTo(destination: C, predicate: (index: Int, Char) -> Boolean): C {\n  forEachIndexed {
index, element ->\n    if (predicate(index, element)) destination.append(element)\n  }\n  return
destination\n}\n\n/**\n * Returns a char sequence containing only those characters from the original char sequence
that do not match the given [predicate].\n * \n * @sample samples.text.Strings.filterNot\n */\npublic inline fun
CharSequence.filterNot(predicate: (Char) -> Boolean): CharSequence {\n  return filterNotTo(StringBuilder(),
predicate)\n}\n\n/**\n * Returns a string containing only those characters from the original string that do not match
the given [predicate].\n * \n * @sample samples.text.Strings.filterNot\n */\npublic inline fun
String.filterNot(predicate: (Char) -> Boolean): String {\n  return filterNotTo(StringBuilder(),
predicate).toString()\n}\n\n/**\n * Appends all characters not matching the given [predicate] to the given
[destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C :
Appendable> CharSequence.filterNotTo(destination: C, predicate: (Char) -> Boolean): C {\n  for (element in this)
if (!predicate(element)) destination.append(element)\n  return destination\n}\n\n/**\n * Appends all characters
matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : Appendable>
CharSequence.filterTo(destination: C, predicate: (Char) -> Boolean): C {\n  for (index in 0 until length) {\n    val
element = get(index)\n    if (predicate(element)) destination.append(element)\n  }\n  return
destination\n}\n\n/**\n * Returns a char sequence containing
characters of the original char sequence at the specified range of [indices].\n */\npublic fun
CharSequence.slice(indices: IntRange): CharSequence {\n  if (indices.isEmpty()) return ""\n  return
subSequence(indices)\n}\n\n/**\n * Returns a string containing characters of the original string at the specified
range of [indices].\n */\npublic fun String.slice(indices: IntRange): String {\n  if (indices.isEmpty()) return ""\n
return substring(indices)\n}\n\n/**\n * Returns a char sequence containing characters of the original char sequence
at specified [indices].\n */\npublic fun CharSequence.slice(indices: Iterable<Int>): CharSequence {\n  val size =
indices.collectionSizeOrDefault(10)\n  if (size == 0) return ""\n  val result = StringBuilder(size)\n  for (i in
indices) {\n    result.append(get(i))\n  }\n  return result\n}\n\n/**\n * Returns a string containing characters of
the original string at specified [indices].\n */\n@kotlin.internal.InlineOnly\npublic
inline fun String.slice(indices: Iterable<Int>): String {\n  return (this as
CharSequence).slice(indices).toString()\n}\n\n/**\n * Returns a subsequence of this char sequence containing the

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first [n] characters from this char sequence, or the entire char sequence if this char sequence is shorter.\n * \n *
@throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.text.Strings.take\n *^\npublic fun
CharSequence.take(n: Int): CharSequence {\n    require(n >= 0) {\n        \"Requested character count $n is less than zero.\"\n    }\n    return subSequence(0, n.coerceAtMost(length))\n}\n\n/**\n * Returns a string containing the first [n]
characters from this string, or the entire string if this string is shorter.\n * \n * @throws IllegalArgumentException if
[n] is negative.\n * \n * @sample samples.text.Strings.take\n *^\npublic fun String.take(n: Int): String {\n    require(n
>= 0) {\n        \"Requested character count $n is less than zero.\"\n    }\n    return substring(0,
n.coerceAtMost(length))\n}\n\n/**\n
* Returns a subsequence of this char sequence containing the last [n] characters from this char sequence, or the
entire char sequence if this char sequence is shorter.\n * \n * @throws IllegalArgumentException if [n] is negative.\n
* \n * @sample samples.text.Strings.take\n *^\npublic fun CharSequence.takeLast(n: Int): CharSequence {\n
    require(n >= 0) {\n        \"Requested character count $n is less than zero.\"\n    }\n    val length = length\n    return
subSequence(length - n.coerceAtMost(length), length)\n}\n\n/**\n * Returns a string containing the last [n]
characters from this string, or the entire string if this string is shorter.\n * \n * @throws IllegalArgumentException if
[n] is negative.\n * \n * @sample samples.text.Strings.take\n *^\npublic fun String.takeLast(n: Int): String {\n
    require(n >= 0) {\n        \"Requested character count $n is less than zero.\"\n    }\n    val length = length\n    return
substring(length - n.coerceAtMost(length))\n}\n\n/**\n * Returns a subsequence
of this char sequence containing last characters that satisfy the given [predicate].\n * \n * @sample
samples.text.Strings.take\n *^\npublic inline fun CharSequence.takeLastWhile(predicate: (Char) -> Boolean):
CharSequence {\n    for (index in lastIndex downTo 0) {\n        if (!predicate(this[index])) {\n            return
subSequence(index + 1, length)\n        }\n    }\n    return subSequence(0, length)\n}\n\n/**\n * Returns a string
containing last characters that satisfy the given [predicate].\n * \n * @sample samples.text.Strings.take\n *^\npublic
inline fun String.takeLastWhile(predicate: (Char) -> Boolean): String {\n    for (index in lastIndex downTo 0) {\n
        if (!predicate(this[index])) {\n            return substring(index + 1)\n        }\n    }\n    return this\n}\n\n/**\n * Returns
a subsequence of this char sequence containing the first characters that satisfy the given [predicate].\n * \n *
@sample samples.text.Strings.take\n *^\npublic inline fun CharSequence.takeWhile(predicate:
(Char) -> Boolean): CharSequence {\n    for (index in 0 until length)\n        if (!predicate(get(index))) {\n
            return subSequence(0, index)\n        }\n    return subSequence(0, length)\n}\n\n/**\n * Returns a string containing
the first characters that satisfy the given [predicate].\n * \n * @sample samples.text.Strings.take\n *^\npublic inline
fun String.takeWhile(predicate: (Char) -> Boolean): String {\n    for (index in 0 until length)\n        if
(!predicate(get(index))) {\n            return substring(0, index)\n        }\n    return this\n}\n\n/**\n * Returns a char
sequence with characters in reversed order.\n *^\npublic fun CharSequence.reversed(): CharSequence {\n    return
StringBuilder(this).reverse()\n}\n\n/**\n * Returns a string with characters in reversed order.\n
*^\n@kotlin.internal.InlineOnly\npublic inline fun String.reversed(): String {\n    return (this as
CharSequence).reversed().toString()\n}\n\n/**\n * Returns a [Map] containing key-value
pairs provided by [transform] function\n * applied to characters of the given char sequence.\n * \n * If any of two
pairs would have the same key the last one gets added to the map.\n * \n * The returned map preserves the entry
iteration order of the original char sequence.\n * \n * @sample samples.text.Strings.associate\n *^\npublic inline fun
<K, V> CharSequence.associate(transform: (Char) -> Pair<K, V>): Map<K, V> {\n    val capacity =
mapCapacity(length).coerceAtLeast(16)\n    return associateTo(LinkedHashMap<K, V>(capacity),
transform)\n}\n\n/**\n * Returns a [Map] containing the characters from the given char sequence indexed by the
key\n * returned from [keySelector] function applied to each character.\n * \n * If any two characters would have the
same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry
iteration order of the original char sequence.\n * \n * @sample samples.text.Strings.associateBy\n *^\npublic inline
fun <K> CharSequence.associateBy(keySelector: (Char) -> K): Map<K, Char> {\n    val capacity =
mapCapacity(length).coerceAtLeast(16)\n    return associateByTo(LinkedHashMap<K, Char>(capacity),
keySelector)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform] and indexed by
[keySelector] functions applied to characters of the given char sequence.\n * \n * If any two characters would have

```

the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original char sequence.\n * \n * @sample

```

samples.text.Strings.associateByWithValueTransform\n *
public inline fun <K, V>
CharSequence.associateBy(keySelector: (Char) -> K, valueTransform: (Char) -> V): Map<K, V> {\n    val capacity
= mapCapacity(length).coerceAtLeast(16)\n    return associateByTo(LinkedHashMap<K, V>(capacity),
keySelector, valueTransform)\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value
pairs,\n * where key is provided by the [keySelector] function applied to each character of the given char
sequence\n * and value is the character itself.\n * \n * If any two characters would have the same key returned by
[keySelector] the last one gets added to the map.\n * \n * @sample samples.text.Strings.associateByTo\n *
public inline fun <K, M : MutableMap<in K, in Char>> CharSequence.associateByTo(destination: M, keySelector: (Char)
-> K): M {\n    for (element in this) {\n        destination.put(keySelector(element), element)\n    }\n    return
destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is
provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function applied to
characters of the given char sequence.\n * \n * If any two characters would have the same key returned by
[keySelector] the last one gets added to the map.\n * \n * @sample
samples.text.Strings.associateByToWithValueTransform\n
public inline fun <K, V, M : MutableMap<in K, in V>> CharSequence.associateByTo(destination: M,
keySelector: (Char) -> K, valueTransform: (Char) -> V): M {\n    for (element in this) {\n
destination.put(keySelector(element), valueTransform(element))\n    }\n    return destination\n}\n\n/**\n * Populates
and returns the [destination] mutable map with key-value pairs\n * provided by [transform] function applied to each
character of the given char sequence.\n * \n * If any of two pairs would have the same key the last one gets added to
the map.\n * \n * @sample samples.text.Strings.associateTo\n *
public inline fun <K, V, M : MutableMap<in K,
in V>> CharSequence.associateTo(destination: M, transform: (Char) -> Pair<K, V>): M {\n    for (element in this)
{\n        destination += transform(element)\n    }\n    return destination\n}\n\n/**\n * Returns a [Map] where keys are
characters from the given char sequence and values are\n * produced by the [valueSelector]
function applied to each character.\n * \n * If any two characters are equal, the last one gets added to the map.\n * \n
* The returned map preserves the entry iteration order of the original char sequence.\n * \n * @sample
samples.text.Strings.associateWith\n *
public inline fun <V>
CharSequence.associateWith(valueSelector: (Char) -> V): Map<Char, V> {\n    val result = LinkedHashMap<Char,
V>(mapCapacity(length).coerceAtMost(128)).coerceAtLeast(16)\n    return associateWithTo(result,
valueSelector)\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each
character of the given char sequence,\n * where key is the character itself and value is provided by the
[valueSelector] function applied to that key.\n * \n * If any two characters are equal, the last one overwrites the
former value in the map.\n * \n * @sample samples.text.Strings.associateWithTo\n
public inline fun <V, M : MutableMap<in
Char, in V>> CharSequence.associateWithTo(destination: M, valueSelector: (Char) -> V): M {\n    for (element in
this) {\n        destination.put(element, valueSelector(element))\n    }\n    return destination\n}\n\n/**\n * Appends all
characters to the given [destination] collection.\n *
public fun <C : MutableCollection<in Char>>
CharSequence.toCollection(destination: C): C {\n    for (item in this) {\n        destination.add(item)\n    }\n    return
destination\n}\n\n/**\n * Returns a new [HashSet] of all characters.\n *
public fun CharSequence.toHashSet():
HashSet<Char> {\n    return toCollection(HashSet<Char>(mapCapacity(length).coerceAtMost(128)))\n}\n\n/**\n *
Returns a [List] containing all characters.\n *
public fun CharSequence.toList(): List<Char> {\n    return when
(length) {\n        0 -> emptyList()\n        1 -> listOf(this[0])\n        else -> this.toMutableList()\n    }\n}\n\n/**\n *
Returns a new [MutableList] filled with all characters of this char sequence.\n
public fun CharSequence.toMutableList(): MutableList<Char> {\n    return
toCollection(ArrayList<Char>(length))\n}\n\n/**\n * Returns a [Set] of all characters.\n * \n * The returned set
preserves the element iteration order of the original char sequence.\n *
public fun CharSequence.toSet():
Set<Char> {\n    return when (length) {\n        0 -> emptySet()\n        1 -> setOf(this[0])\n        else ->

```



```

keySelector: (Char) -> K, valueTransform: (Char) -> V): M { \n    for (element in this) { \n        val key =
keySelector(element)\n        val list = destination.getOrPut(key) { ArrayList<V>() } \n
list.add(valueTransform(element))\n    } \n    return destination\n}\n\n/** \n * Creates a [Grouping] source from a
char sequence to be used later with one of group-and-fold operations \n * using the specified [keySelector] function
to extract a key from each character. \n * \n * @sample samples.collections.Grouping.groupingByEachCount\n
*\n*\n@SinceKotlin("1.1")\npublic inline fun <K> CharSequence.groupingBy(crossinline keySelector: (Char) -> K):
Grouping<Char, K> { \n    return object : Grouping<Char, K> { \n        override fun sourceIterator(): Iterator<Char>
= this@groupingBy.iterator()\n
        override fun keyOf(element: Char): K = keySelector(element)\n    } \n}\n\n/** \n * Returns a list containing the
results of applying the given [transform] function \n * to each character in the original char sequence. \n * \n *
@sample samples.text.Strings.map\n *\n*\npublic inline fun <R> CharSequence.map(transform: (Char) -> R):
List<R> { \n    return mapTo(ArrayList<R>(length), transform)\n}\n\n/** \n * Returns a list containing the results of
applying the given [transform] function \n * to each character and its index in the original char sequence. \n *
@param [transform] function that takes the index of a character and the character itself \n * and returns the result of
the transform applied to the character. \n *\n*\npublic inline fun <R> CharSequence.mapIndexed(transform: (index:
Int, Char) -> R): List<R> { \n    return mapIndexedTo(ArrayList<R>(length), transform)\n}\n\n/** \n * Returns a list
containing only the non-null results of applying the given [transform] function \n * to each
character and its index in the original char sequence. \n * \n * @param [transform] function that takes the index of a
character and the character itself \n * and returns the result of the transform applied to the character. \n *\n*\npublic
inline fun <R : Any> CharSequence.mapIndexedNotNull(transform: (index: Int, Char) -> R?): List<R> { \n    return
mapIndexedNotNullTo(ArrayList<R>(), transform)\n}\n\n/** \n * Applies the given [transform] function to each
character and its index in the original char sequence \n * and appends only the non-null results to the given
[destination]. \n * \n * @param [transform] function that takes the index of a character and the character itself \n *
and returns the result of the transform applied to the character. \n *\n*\npublic inline fun <R : Any, C :
MutableCollection<in R>> CharSequence.mapIndexedNotNullTo(destination: C, transform: (index: Int, Char) ->
R?): C { \n    forEachIndexed { index, element -> transform(index, element)?.let { destination.add(it) } } \n    return
destination\n}\n\n/** \n * Applies the given [transform] function to each character and its index in the original char
sequence \n * and appends the results to the given [destination]. \n * \n * @param [transform] function that takes the
index of a character and the character itself \n * and returns the result of the transform applied to the character. \n
*\n*\npublic inline fun <R, C : MutableCollection<in R>> CharSequence.mapIndexedTo(destination: C, transform:
(index: Int, Char) -> R): C { \n    var index = 0\n    for (item in this)\n        destination.add(transform(index++,
item))\n    return destination\n}\n\n/** \n * Returns a list containing only the non-null results of applying the given
[transform] function \n * to each character in the original char sequence. \n * \n * @sample
samples.collections.Collections.Transformations.mapNotNull\n *\n*\npublic inline fun <R : Any>
CharSequence.mapNotNull(transform: (Char) -> R?): List<R> { \n    return mapNotNullTo(ArrayList<R>(),
transform)\n}\n\n/** \n * Applies the given [transform] function to each character in the original char sequence \n *
and appends only the non-null results to the given [destination]. \n *\n*\npublic inline fun <R : Any, C :
MutableCollection<in R>> CharSequence.mapNotNullTo(destination: C, transform: (Char) -> R?): C { \n    forEach {
element ->
transform(element)?.let { destination.add(it) } } \n    return destination\n}\n\n/** \n * Applies the given [transform]
function to each character of the original char sequence \n * and appends the results to the given [destination]. \n
*\n*\npublic inline fun <R, C : MutableCollection<in R>> CharSequence.mapTo(destination: C, transform: (Char) ->
R): C { \n    for (item in this)\n        destination.add(transform(item))\n    return destination\n}\n\n/** \n * Returns a
lazy [Iterable] that wraps each character of the original char sequence \n * into an [IndexedValue] containing the
index of that character and the character itself. \n *\n*\npublic fun CharSequence.withIndex():
Iterable<IndexedValue<Char>>
{ \n    return IndexingIterable { iterator() } \n}\n\n/** \n * Returns `true` if all characters match the given
[predicate]. \n * \n * @sample samples.collections.Collections.Aggregates.all\n *\n*\npublic inline fun

```



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CharSequence.all(predicate: (Char) -> Boolean): Boolean {
    for (element in this) if (!predicate(element)) return false
    return true
}
Returns `true` if char sequence has at least one character.
@sample
samples.collections.Collections.Aggregates.any
public fun CharSequence.any(): Boolean {
    return !isEmpty()
}
Returns `true` if at least one character matches the given [predicate].
@sample
samples.collections.Collections.Aggregates.anyWithPredicate
public inline fun CharSequence.any(predicate: (Char) -> Boolean): Boolean {
    for (element in this) if (predicate(element)) return true
    return false
}
Returns the length of this char sequence.
@kotlin.internal.InlineOnly
public inline fun CharSequence.count(): Int {
    return length
}
Returns the number of characters matching the given [predicate].
public inline fun CharSequence.count(predicate: (Char) -> Boolean): Int {
    var count = 0
    for (element in this) if (predicate(element)) ++count
    return count
}
Accumulates value starting with [initial] value and applying [operation] from left to right
to current accumulator value and each character.
@param [operation] function that takes current accumulator value and a character, and calculates the next accumulator value.
public inline fun <R> CharSequence.fold(initial: R, operation: (acc: R, Char) -> R): R {
    var accumulator = initial
    for (element in this) accumulator = operation(accumulator, element)
    return accumulator
}
Accumulates value starting with [initial] value and applying [operation] from left to right
to current accumulator value and each character with its index in the original char sequence.
@param [operation] function that takes the index of a character, current accumulator value
and the character itself, and calculates the next accumulator value.
public inline fun <R> CharSequence.foldIndexed(initial: R, operation: (index: Int, acc: R, Char) -> R): R {
    var index = 0
    var accumulator = initial
    for (element in this) accumulator = operation(index++, accumulator, element)
    return accumulator
}
Accumulates value starting with [initial] value and applying [operation] from right to left
to each character and current accumulator value.
@param [operation] function that takes a character and current accumulator value, and calculates the next accumulator value.
public inline fun <R> CharSequence.foldRight(initial: R, operation: (Char, acc: R) -> R): R {
    var index = lastIndex
    var accumulator = initial
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return accumulator
}
Accumulates value starting with [initial] value and applying [operation] from right to left
to each character with its index in the original char sequence and current accumulator value.
@param [operation] function that takes the index of a character, the character itself
and current accumulator value, and calculates the next accumulator value.
public inline fun <R> CharSequence.foldRightIndexed(initial: R, operation: (index: Int, Char, acc: R) -> R): R {
    var index = lastIndex
    var accumulator = initial
    while (index >= 0) {
        accumulator = operation(index, get(index), accumulator)
        --index
    }
    return accumulator
}
Performs the given [action] on each character.
public inline fun CharSequence.forEach(action: (Char) -> Unit): Unit {
    for (element in this) action(element)
}
Performs the given [action] on each character, providing sequential index with the character.
@param [action] function that takes the index of a character and the character itself
and performs the action on the character.
public inline fun CharSequence.forEachIndexed(action: (index: Int, Char) -> Unit): Unit {
    var index = 0
    for (item in this) action(index++, item)
}
@Deprecated("Use maxOrNull instead.", ReplaceWith("this.maxOrNull()"))
@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5", hiddenSince = "1.6")
public fun CharSequence.max(): Char? {
    return maxOrNull()
}
@Deprecated("Use maxByOrNull instead.", ReplaceWith("this.maxByOrNull(selector)"))
@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5", hiddenSince = "1.6")
public inline fun <R : Comparable<R>> CharSequence.maxBy(selector: (Char) -> R): Char? {
    return maxByOrNull(selector)
}
Returns the first character yielding the largest value of the given function or `null` if there are no characters.
@sample
samples.collections.Collections.Aggregates.maxByOrNull
@SinceKotlin("1.4")
public inline fun <R :

```

```

Comparable<R>> CharSequence.maxByOrNull(selector: (Char) -> R): Char? {
    if (isEmpty()) return null
    var maxElem = this[0]
    val lastIndex = this.lastIndex
    if (lastIndex == 0) return maxElem
    var maxValue = selector(maxElem)
    for (i in 1..lastIndex) {
        val e = this[i]
        val v = selector(e)
        if (maxValue < v) {
            maxElem = e
            maxValue = v
        }
    }
    return maxElem
}

Returns the largest value among all values produced by [selector] function applied to each character in the char sequence.

If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.

@throws NoSuchElementException if the char sequence is empty.

@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolutionByLambdaReturnType@kotlin.internal.InlineOnly
public inline fun CharSequence.maxOf(selector: (Char) -> Double): Double {
    if (isEmpty()) throw NoSuchElementException()
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        maxValue = maxOf(maxValue, v)
    }
    return maxValue
}

Returns the largest value among all values produced by [selector] function applied to each character in the char sequence.

If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.

@throws NoSuchElementException if the char sequence is empty.

@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolutionByLambdaReturnType@kotlin.internal.InlineOnly
public inline fun CharSequence.maxOf(selector: (Char) -> Float): Float {
    if (isEmpty()) throw NoSuchElementException()
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        maxValue = maxOf(maxValue, v)
    }
    return maxValue
}

Returns the largest value among all values produced by [selector] function applied to each character in the char sequence.

@throws NoSuchElementException if the char sequence is empty.

@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolutionByLambdaReturnType@kotlin.internal.InlineOnly
public inline fun <R : Comparable<R>> CharSequence.maxOf(selector: (Char) -> R): R {
    if (isEmpty()) throw NoSuchElementException()
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (maxValue < v) {
            maxValue = v
        }
    }
    return maxValue
}

Returns the largest value among all values produced by [selector] function applied to each character in the char sequence or `null` if there are no characters.

If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.

@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolutionByLambdaReturnType@kotlin.internal.InlineOnly
public inline fun CharSequence.maxOfOrNull(selector: (Char) -> Double): Double? {
    if (isEmpty()) return null
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        maxValue = maxOf(maxValue, v)
    }
    return maxValue
}

Returns the largest value among all values produced by [selector] function applied to each character in the char sequence or `null` if there are no characters.

If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.

@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolutionByLambdaReturnType@kotlin.internal.InlineOnly
public inline fun CharSequence.maxOfOrNull(selector: (Char) -> Float): Float? {
    if (isEmpty()) return null
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        maxValue = maxOf(maxValue, v)
    }
    return maxValue
}

Returns the largest value among all values produced by [selector] function applied to each character in the char sequence or `null` if there are no characters.

@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolutionByLambdaReturnType@kotlin.internal.InlineOnly
public inline fun <R : Comparable<R>> CharSequence.maxOfOrNull(selector: (Char) -> R): R? {
    if (isEmpty()) return null
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (maxValue < v) {
            maxValue = v
        }
    }
    return maxValue
}

Returns the largest value according to the provided [comparator] among all values produced by [selector]

```


by [selector] function is `NaN`, the returned result is `NaN`.
@throws NoSuchElementException if the char sequence is empty.

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.minOf(selector: (Char) -> Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return\n    minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each character in the char sequence.\n * @throws NoSuchElementException if the char sequence is empty.
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
```

```
CharSequence.minOf(selector: (Char) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var\n    minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values\n * produced by [selector] function\n * applied to each character in the char sequence or `null` if there are no\n * characters.\n * @throws NoSuchElementException if any of values produced by [selector] function is `NaN`, the returned result is `NaN`.
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.minOrNull(selector:\n(Char) -> Double): Double? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return\n    minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each character in the char sequence or `null` if there are no characters.\n * @throws NoSuchElementException if any of values produced by [selector] function is `NaN`, the returned result is `NaN`.
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.minOrNull(selector:\n(Char) -> Float): Float? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return\n    minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each character in the char sequence or `null` if there are no characters.
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.minOrNull(selector:\n(Char) -> R): R? {\n    if (isEmpty()) return\n    null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if\n        (minValue > v) {\n            minValue = v\n        }\n    }\n    return\n    minValue\n}\n\n/**\n * Returns the smallest value\n * according to the provided [comparator] among all values produced by [selector] function applied to each\n * character in the char sequence.\n * @throws NoSuchElementException if the char sequence is empty.
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
```

```
inline fun <R : Comparable<R>> CharSequence.minOrNull(selector: (Char) -> R): R? {\n    if (isEmpty()) return\n    null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if\n        (minValue > v) {\n            minValue = v\n        }\n    }\n    return\n    minValue\n}\n\n/**\n * Returns the smallest value\n * according to the provided [comparator] among all values produced by [selector] function applied to each\n * character in the char sequence.\n * @throws NoSuchElementException if the char sequence is empty.
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> CharSequence.minOfWith(comparator:\nComparator<in R>, selector: (Char) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var\n    minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return\n    minValue\n}\n\n/**\n * Returns the smallest value according to the provided\n * [comparator] among all values produced by [selector] function applied to each character in the char sequence or\n * `null` if there are no characters.
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nCharSequence.minOfOrNull(comparator: Comparator<in R>, selector: (Char) -> R): R? {\n    if (isEmpty())\n    return\n    null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if\n        (comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return\n    minValue\n}\n\n/**\n * Returns the smallest value according to the provided\n * [comparator] among all values produced by [selector] function applied to each character in the char sequence or\n * `null` if there are no characters.
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
```

```
CharSequence.minOfOrNull(comparator: Comparator<in R>, selector: (Char) -> R): R? {\n    if (isEmpty())\n    return\n    null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if\n        (comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return\n    minValue\n}\n\n/**\n * Returns the smallest value according to the provided\n * [comparator] among all values produced by [selector] function applied to each character in the char sequence or\n * `null` if there are no characters.
```

```

Returns the smallest character or `null` if there are no characters.\n
*/\n@SinceKotlin("1.4")\npublic fun CharSequence.minOrNull(): Char? {\n    if (isEmpty()) return null\n    var\n    min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (min > e) min = e\n    }\n    return\n    min\n}\n\n@Deprecated("Use minWithOrNull instead.")\nReplaceWith("this.minWithOrNull(comparator)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince\n= "1.5", hiddenSince = "1.6")\npublic fun CharSequence.minWith(comparator: Comparator<in Char>): Char? {\n\n    return minWithOrNull(comparator)\n}\n\n/**\n * Returns the first character having the smallest value according to\n the provided [comparator] or `null` if there are no characters.\n */\n@SinceKotlin("1.4")\npublic fun\nCharSequence.minWithOrNull(comparator: Comparator<in Char>): Char? {\n    if (isEmpty()) return null\n    var\n    min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns `true` if the char sequence has no characters.\n */\n * @sample\nsamples.collections.Collections.Aggregates.none\n */\npublic fun CharSequence.none(): Boolean {\n    return\n    isEmpty()\n}\n\n/**\n * Returns `true` if no characters match the given [predicate].\n */\n * @sample\nsamples.collections.Collections.Aggregates.noneWithPredicate\n */\npublic inline fun\nCharSequence.none(predicate: (Char) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return\n    false\n    return true\n}\n\n/**\n * Performs the given [action] on each character and returns the char sequence itself\n afterwards.\n */\n@SinceKotlin("1.1")\npublic inline fun <S : CharSequence> S.onEach(action: (Char) -> Unit): S\n{\n    return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given [action] on each\n character, providing sequential index with the character,\n * and returns the char sequence itself afterwards.\n */\n * @param [action] function that takes the index of\n a character and the character itself\n * and performs the action on the character.\n */\n */\n@SinceKotlin("1.4")\npublic inline fun <S : CharSequence> S.onEachIndexed(action: (index: Int, Char) ->\nUnit): S {\n    return apply { forEachIndexed(action) }\n}\n\n/**\n * Accumulates value starting with the first\n character and applying [operation] from left to right\n * to current accumulator value and each character.\n */\n * @param [operation] function\n that takes current accumulator value and a character,\n * and calculates the next accumulator value.\n */\n * @sample\nsamples.collections.Collections.Aggregates.reduce\n */\npublic inline fun\nCharSequence.reduce(operation: (acc: Char, Char) -> Char): Char {\n    if (isEmpty())\n        throw\n    UnsupportedOperationException("Empty char sequence can't\n    be reduced.")\n    var accumulator = this[0]\n    for (index in 1..lastIndex) {\n        accumulator =\n        operation(accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the\n first character and applying [operation] from left to right\n * to current accumulator value and each character with its\n index in the original char sequence.\n */\n * @param [operation] function that takes the index of a character, current accumulator value and the\n character itself,\n * and calculates the next accumulator value.\n */\n * @sample\nsamples.collections.Collections.Aggregates.reduce\n */\npublic inline fun CharSequence.reduceIndexed(operation:\n(index: Int, acc: Char, Char) -> Char): Char {\n    if (isEmpty())\n        throw\n    UnsupportedOperationException("Empty\n    char sequence can't be reduced.")\n    var accumulator = this[0]\n    for (index in 1..lastIndex) {\n        accumulator\n        = operation(index, accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting\n with the first character and applying [operation] from left to right\n * to current accumulator value and each\n character with its index in the original char sequence.\n */\n * Returns `null` if the char sequence is empty.\n */\n * @param [operation] function that takes the index of a character, current accumulator value and the character itself,\n * and calculates the next accumulator value.\n */\n * @sample\nsamples.collections.Collections.Aggregates.reduceOrNull\n */\n@SinceKotlin("1.4")\npublic inline fun

```

```

CharSequence.reduceIndexedOrNull(operation: (index: Int, acc: Char, Char) -> Char): Char? {
    if (isEmpty())
        return null
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(index, accumulator, this[index])
    }
    return accumulator
}

```

Accumulates value starting with the first character and applying [operation] from left to right to current accumulator value and each character.

Returns `null` if the char sequence is empty.

@param [operation] function that takes current accumulator value and a character, and calculates the next accumulator value.

@sample

```

samples.collections.Collections.Aggregates.reduceOrNull

```

```

*\/n@SinceKotlin("1.4")\/n@WasExperimental(ExperimentalStdlibApi::class)\/npublic inline fun
CharSequence.reduceOrNull(operation: (acc: Char, Char) -> Char): Char? {
    if (isEmpty())
        return null
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(accumulator, this[index])
    }
    return accumulator
}

```

Accumulates value starting with the last character and applying [operation] from right to left to each character and current accumulator value.

Throws an exception if this char sequence is empty. If the char sequence can be empty in an expected way, please use [reduceRightOrNull] instead. It returns `null` when its receiver is empty.

@param [operation] function that takes a character and current accumulator value, and calculates the next accumulator value.

@sample

```

samples.collections.Collections.Aggregates.reduceRight

```

```

*\/npublic inline fun
CharSequence.reduceRight(operation: (Char, acc: Char) -> Char): Char {
    var index = lastIndex
    if (index < 0)
        throw UnsupportedOperationException("Empty char sequence can't be reduced.")
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return accumulator
}

```

Accumulates value starting with the last character and applying [operation] from right to left to each character with its index in the original char sequence and current accumulator value.

Throws an exception if this char sequence is empty. If the char sequence can be empty in an expected way, please use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.

@param [operation] function that takes the index of a character, the character itself and current accumulator value, and calculates the next accumulator value.

@sample

```

samples.collections.Collections.Aggregates.reduceRight

```

```

*\/npublic inline fun
CharSequence.reduceRightIndexed(operation: (index: Int, Char, acc: Char) -> Char): Char {
    var index = lastIndex
    if (index < 0)
        throw UnsupportedOperationException("Empty char sequence can't be reduced.")
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(index, get(index), accumulator)
        --index
    }
    return accumulator
}

```

Accumulates value starting with the last character and applying [operation] from right to left to each character with its index in the original char sequence and current accumulator value.

Returns `null` if the char sequence is empty.

@param [operation] function that takes the index of a character, the character itself and current accumulator value, and calculates the next accumulator value.

@sample

```

samples.collections.Collections.Aggregates.reduceRightOrNull

```

```

*\/n@SinceKotlin("1.4")\/npublic inline fun
CharSequence.reduceRightIndexedOrNull(operation: (index: Int, Char, acc: Char) -> Char): Char? {
    var index = lastIndex
    if (index < 0)
        return null
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(index, get(index), accumulator)
        --index
    }
    return accumulator
}

```

Accumulates value starting with the last character and applying [operation] from right to left to each character and current accumulator value.

Returns `null` if the char sequence is empty.

@param [operation] function that takes a character and current accumulator value, and calculates the next accumulator value.

@sample

```

samples.collections.Collections.Aggregates.reduceRightOrNull

```

```

*\/n@SinceKotlin("1.4")\/n@WasExperimental(ExperimentalStdlibApi::class)\/npublic inline fun
CharSequence.reduceRightOrNull(operation: (Char, acc: Char) -> Char): Char? {
    var index = lastIndex
    if (index < 0)
        return null
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return accumulator
}

```

Returns a list containing successive accumulation values generated by applying [operation] from left to right to each character and current accumulator value that starts with [initial] value.

Note that `acc` value passed to [operation] function should

not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes

current accumulator value and a character, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n * ^\n@SinceKotlin("1.4")\npublic inline fun <R> CharSequence.runningFold(initial: R, operation: (acc: R, Char) -> R): List<R> {\n if (isEmpty()) return listOf(initial)\n val result = ArrayList<R>(length + 1).apply { add(initial) }\n var accumulator = initial\n for (element in this) {\n accumulator = operation(accumulator, element)\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each character, its index in the original char sequence and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of a character, current accumulator value\n * and the character itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n * ^\n@SinceKotlin("1.4")\npublic inline fun <R> CharSequence.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Char) -> R): List<R> {\n if (isEmpty()) return listOf(initial)\n val result = ArrayList<R>(length + 1).apply { add(initial) }\n var accumulator = initial\n for (index in indices) {\n accumulator = operation(index, accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each character and current accumulator value that starts with the first character of this char sequence.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and a character, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n * ^\n@SinceKotlin("1.4")\npublic inline fun CharSequence.runningReduce(operation: (acc: Char, Char) -> Char): List<Char> {\n if (isEmpty()) return emptyList()\n var accumulator = this[0]\n val result = ArrayList<Char>(length).apply { add(accumulator) }\n for (index in 1 until length) {\n accumulator = operation(accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each character, its index in the original char sequence and current accumulator value that starts with the first character of this char sequence.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of a character, current accumulator value\n * and the character itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n * ^\n@SinceKotlin("1.4")\npublic inline fun CharSequence.runningReduceIndexed(operation: (index: Int, acc: Char, Char) -> Char): List<Char> {\n if (isEmpty()) return emptyList()\n var accumulator = this[0]\n val result = ArrayList<Char>(length).apply { add(accumulator) }\n for (index in 1 until length) {\n accumulator = operation(index, accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each character and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and a character, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n *\n * ^\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <R> CharSequence.scan(initial: R, operation: (acc: R, Char) -> R): List<R> {\n return runningFold(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each character, its index in the original char sequence and current accumulator value that

starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n *

@param [operation] function that takes the index of a character, current accumulator value\n * and the character itself, and calculates the next accumulator value.\n * \n * @sample

samples.collections.Collections.Aggregates.scan\n

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <R>
```

```
CharSequence.scanIndexed(initial: R, operation: (index: Int, acc: R, Char) -> R): List<R> {\n    return\n    runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns the sum of all values produced by [selector] function\n    applied to each character in the char sequence.\n */\n@Deprecated("Use sumOf instead.",
```

```
ReplaceWith("this.sumOf(selector)")\n)\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun\nCharSequence.sumBy(selector: (Char) -> Int): Int {\n    var sum: Int = 0\n    for (element in this) {\n        sum +=\n        selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function\n    applied to each character
```

```
in the char sequence.\n */\n@Deprecated("Use sumOf instead.",
```

```
ReplaceWith("this.sumOf(selector)")\n)\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun\nCharSequence.sumByDouble(selector: (Char) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in\n    this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by\n    [selector] function applied to each character in the char sequence.\n
```

```
\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfDouble")\n@kotlin.internal.InlineOnly\npublic inline fun\nCharSequence.sumOf(selector: (Char) -> Double): Double {\n    var sum: Double = 0.toDouble()\n    for (element in\n    this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by\n    [selector] function applied to each character in the char sequence.\n
```

```
\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfInt")\n@kotlin.internal.InlineOnly\npublic\ninline fun CharSequence.sumOf(selector: (Char) -> Int): Int {\n    var sum: Int = 0.toInt()\n    for (element in this)\n    {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by\n    [selector] function applied to each character in the char sequence.\n
```

```
\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfLong")\n@kotlin.internal.InlineOnly\npublic inline fun\nCharSequence.sumOf(selector: (Char) -> Long): Long {\n    var sum: Long = 0.toLong()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by\n    [selector] function applied to each character in the char sequence.\n
```

```
\n */\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType\ns::class)\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.sumOf(selector: (Char) -> UInt): UInt {\n    var sum: UInt = 0.toUInt()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return\n    sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each character in the char\n    sequence.\n
```

```
\n */\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedTy\npes::class)\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.sumOf(selector: (Char) -> ULong):\n    ULong {\n    var sum: ULong = 0.toULong()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return
```

```
sum\n}\n\n/**\n * Splits this char sequence into a list of strings each not exceeding the given [size].\n * \n * The last string in the resulting list may have fewer characters than the given [size].\n * \n * @param size the number of elements to take in each string, must be positive and can be greater than the number of elements in this char\n    sequence.\n * \n * @sample samples.text.Strings.chunked\n */\n@SinceKotlin("1.2")\npublic fun
```



```

CharSequence.chunked(size: Int): List<String> {
    return windowed(size, size, partialWindows = true)
}

Splits this char sequence into several char sequences each not exceeding the given [size] and applies the given [transform] function to an each.
@return list of results of the [transform] applied to an each char sequence.
Note that the char sequence passed to the [transform] function is ephemeral and is valid only inside that function.
You should not store it or allow it to escape in some way, unless you made a snapshot of it.
The last char sequence may have fewer characters than the given [size].
@param size the number of elements to take in each char sequence, must be positive and can be greater than the number of elements in this char sequence.
@sample samples.text.Strings.chunkedTransform

@SinceKotlin("1.2")
public fun <R> CharSequence.chunked(size: Int, transform: (CharSequence) -> R): List<R> {
    return windowed(size, size, partialWindows = true, transform = transform)
}

Splits this char sequence into a sequence of strings each not exceeding the given [size].
The last string in the resulting sequence may have fewer characters than the given [size].
@param size the number of elements to take in each string, must be positive and can be greater than the number of elements in this char sequence.
@sample samples.collections.Collections.Transformations.chunked

@SinceKotlin("1.2")
public fun CharSequence.chunkedSequence(size: Int): Sequence<String> {
    return chunkedSequence(size) { it.toString() }
}

Splits this char sequence into several char sequences each not exceeding the given [size] and applies the given [transform] function to an each.
@return sequence of results of the [transform] applied to an each char sequence.
Note that the char sequence passed to the [transform] function is ephemeral and is valid only inside that function.
You should not store it or allow it to escape in some way, unless you made a snapshot of it.
The last char sequence may have fewer characters than the given [size].
@param size the number of elements to take in each char sequence, must be positive and can be greater than the number of elements in this char sequence.
@sample samples.text.Strings.chunkedTransformToSequence

@SinceKotlin("1.2")
public fun <R> CharSequence.chunkedSequence(size: Int, transform: (CharSequence) -> R): Sequence<R> {
    return windowedSequence(size, size, partialWindows = true, transform = transform)
}

Splits the original char sequence into pair of char sequences, where *first* char sequence contains characters for which [predicate] yielded `true`, while *second* char sequence contains characters for which [predicate] yielded `false`.
@sample samples.text.Strings.partition

public inline fun CharSequence.partition(predicate: (Char) -> Boolean): Pair<CharSequence, CharSequence> {
    val first = StringBuilder()
    val second = StringBuilder()
    for (element in this) {
        if (predicate(element)) {
            first.append(element)
        } else {
            second.append(element)
        }
    }
    return Pair(first, second)
}

Splits the original string into pair of strings, where *first* string contains characters for which [predicate] yielded `true`, while *second* string contains characters for which [predicate] yielded `false`.
@sample samples.text.Strings.partition

public inline fun String.partition(predicate: (Char) -> Boolean): Pair<String, String> {
    val first = StringBuilder()
    val second = StringBuilder()
    for (element in this) {
        if (predicate(element)) {
            first.append(element)
        } else {
            second.append(element)
        }
    }
    return Pair(first.toString(), second.toString())
}

Returns a list of snapshots of the window of the given [size] sliding along this char sequence with the given [step], where each snapshot is a string.
Several last strings may have fewer characters than the given [size].
Both [size] and [step] must be positive and can be greater than the number of elements in this char sequence.
@param size the number of elements to take in each window
@param step the number of elements to move the window forward by on an each step, by default 1
@param partialWindows controls whether or not to keep partial windows in the end if any, by default `false` which means partial windows won't be preserved
@sample samples.collections.Sequences.Transformations.takeWindows

@SinceKotlin("1.2")
public fun CharSequence.windowed(size: Int, step: Int = 1, partialWindows: Boolean = false): List<String> {
    return windowed(size, step, partialWindows) { it.toString() }
}

Returns a list of results of applying the given [transform] function to an each char sequence representing a view over the window of the given [size] sliding along this char sequence with the given [step].
Note that the char

```

sequence passed to the [transform] function is ephemeral and is valid only inside that function.

* You should not store it or allow it to escape in some way, unless you made a snapshot of it.

* Several last char sequences may have fewer characters than the given [size].

* Both [size] and [step] must be positive and can be greater than the number of elements in this char sequence.

* @param size the number of elements to take in each window

* @param step the number of elements to move the window forward by on an each step, by default 1

* @param partialWindows controls whether or not to keep partial windows in the end if any, by default `false` which means partial windows won't be preserved

* @sample

```

samples.collections.Sequences.Transformations.averageWindows
*/
@SinceKotlin("1.2")
public fun <R> CharSequence.windowed(size: Int, step: Int = 1, partialWindows: Boolean = false, transform: (CharSequence) -> R): List<R> {
    checkWindowSizeStep(size, step)
    val thisSize = this.length
    val resultCapacity = thisSize / step + if (thisSize % step == 0) 0 else 1
    val result = ArrayList<R>(resultCapacity)
    var index = 0
    while (index in 0 until thisSize) {
        val end = index + size
        val coercedEnd = if (end < 0 || end > thisSize) {
            if (partialWindows)
                thisSize else break
        } else end
        result.add(transform(subSequence(index, coercedEnd)))
        index += step
    }
    return result
}

```

* Returns a sequence of snapshots of the window of the given [size] sliding along this char sequence with the given [step], where each snapshot is a string.

* Several last strings may have fewer characters than the given [size].

* Both [size] and [step] must be positive and can be greater than the number of elements in this char sequence.

* @param size the number of elements to take in each window

* @param step the number of elements to move the window forward by on an each step, by default 1

* @param partialWindows controls whether or not to keep partial windows in the end if any, by default `false` which means partial windows won't be preserved

* @sample

```

samples.collections.Sequences.Transformations.takeWindows
*/
@SinceKotlin("1.2")
public fun CharSequence.windowedSequence(size: Int, step: Int = 1, partialWindows: Boolean = false): Sequence<String> {
    return windowedSequence(size, step, partialWindows) { it.toString() }
}

```

* Returns a sequence of results of applying the given [transform] function to an each char sequence representing a view over the window of the given [size] sliding along this char sequence with the given [step].

* Note that the char sequence passed to the [transform] function is ephemeral and is valid only inside that function.

* You should not store it or allow it to escape in some way, unless you made a snapshot of it.

* Several last char sequences may have fewer characters than the given [size].

* Both [size] and [step] must be positive and can be greater than the number of elements in this char sequence.

* @param size the number of elements to take in each window

* @param step the number of elements to move the window forward by on an each step, by default 1

* @param partialWindows controls whether or not to keep partial windows in the end if any, by default `false` which means partial windows won't be preserved

* @sample

```

samples.collections.Sequences.Transformations.averageWindows
*/
@SinceKotlin("1.2")
public fun <R> CharSequence.windowedSequence(size: Int, step: Int = 1, partialWindows: Boolean = false, transform: (CharSequence) -> R): Sequence<R> {
    checkWindowSizeStep(size, step)
    val windows = (if (partialWindows) indices else 0 until length - size + 1) step step
    return windows.asSequence().map { index ->
        val end = index + size
        val coercedEnd = if (end < 0 || end > length) length else end
        transform(subSequence(index, coercedEnd))
    }
}

```

* Returns a list of pairs built from the characters of `this` and the [other] char sequences with the same index

* The returned list has length of the shortest char sequence.

* @sample

```

samples.text.Strings.zip
*/
public infix fun CharSequence.zip(other: CharSequence): List<Pair<Char, Char>> {
    return zip(other) { c1, c2 -> c1 to c2 }
}

```

* Returns a list of values built from the characters of `this` and the [other] char sequences with the same index using the provided [transform] function applied to each pair of characters.

* The returned list has length of the shortest char sequence.

* @sample

```

samples.text.Strings.zipWithTransform
*/
public inline fun <V> CharSequence.zip(other: CharSequence, transform: (a: Char, b: Char) -> V): List<V> {
    val length = minOf(this.length, other.length)
    val list = ArrayList<V>(length)
    for (i in 0 until length) {
        list.add(transform(this[i], other[i]))
    }
}

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```

return list}\n\n/**\n * Returns a list of pairs of each two adjacent characters in this char sequence.\n * \n * The
returned list is empty if this char sequence contains less than two characters.\n * \n * @sample
samples.collections.Collections.Transformations.zipWithNext\n * \n * Since Kotlin("1.2")\npublic
fun CharSequence.zipWithNext(): List<Pair<Char, Char>> {\n    return zipWithNext { a, b -> a to b }\n}\n\n/**\n *
Returns a list containing the results of applying the given [transform] function\n * to an each pair of two adjacent
characters in this char sequence.\n * \n * The returned list is empty if this char sequence contains less than two
characters.\n * \n * @sample samples.collections.Collections.Transformations.zipWithNextToFindDeltas\n
*\n * Since Kotlin("1.2")\npublic inline fun <R> CharSequence.zipWithNext(transform: (a: Char, b: Char) -> R):
List<R> {\n    val size = length - 1\n    if (size < 1) return emptyList()\n    val result = ArrayList<R>(size)\n    for
(index in 0 until size) {\n        result.add(transform(this[index], this[index + 1]))\n    }\n    return result\n}\n\n/**\n *
Creates an [Iterable] instance that wraps the original char sequence returning its characters when being iterated.\n
*\n * \n * Since Kotlin("1.2")\npublic fun CharSequence.asIterable(): Iterable<Char> {\n
if (this is String && isEmpty()) return emptyList()\n    return Iterable { this.iterator() }\n}\n\n/**\n * Creates a
[Sequence] instance that wraps the original char sequence returning its characters when being iterated.\n * \n * Since
Kotlin("1.2")\npublic fun CharSequence.asSequence(): Sequence<Char> {\n    if (this is String && isEmpty()) return emptySequence()\n
return Sequence { this.iterator() }\n}\n\n"/\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*\n * \n * Since Kotlin("1.2")\npublic fun CharSequence.toUpperCase(): String {\n    return this.toUpperCase()\n}\n\n"/\n *
Returns a copy of this string converted to upper case using the rules of the default locale.\n * \n * Since Kotlin("1.2")\npublic
fun String.toUpperCase(): String {\n    return this.toUpperCase()\n}\n\n"/\n * Returns a copy of this string converted to upper case using
Unicode mapping rules of the invariant locale.\n * \n * This function supports one-to-many and many-to-one
character mapping,\n * thus the length of the returned string can be different from the length of the original string.\n
*\n * @sample samples.text.Strings.toUpperCase()\n
*\n * \n * Since Kotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
String.toUpperCase(): String {\n    return this.toUpperCase()\n}\n\n"/\n * Returns a copy of this string converted to lower case using the rules of the
default locale.\n * \n * Since Kotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
String.toLowerCase(): String {\n    return this.toLowerCase()\n}\n\n"/\n * Returns a copy of this string converted to lower case using Unicode
mapping rules of the invariant locale.\n * \n * This function supports one-to-many and many-to-one character
mapping,\n * thus the
length of the returned string can be different from the length of the original string.\n * \n * @sample
samples.text.Strings.toLowerCase()\n
*\n * \n * Since Kotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
String.toLowerCase(): String {\n    return this.toLowerCase()\n}\n\n"/\n * Returns a copy of this string having its first letter titlecased using the rules of
the default locale,\n * or the original string if it's empty or already starts with a title case letter.\n * \n * The title case
of a character is usually the same as its upper case with several exceptions.\n * The particular list of characters with
the special title case form depends on the underlying platform.\n * \n * @sample samples.text.Strings.capitalize()\n
*\n * \n * Since Kotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
String.capitalize(): String {\n    return this.capitalize()\n}\n\n"/\n * Returns a copy of this string having
its first letter lowercased using the rules of the default locale,\n * or the original string if it's empty or already starts
with a lower case letter.\n * \n * @sample samples.text.Strings.decapitalize\n * \n * Since Kotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
String.decapitalize(): String {\n    return this.decapitalize()\n}\n\n"/\n * Returns a sub sequence of this char sequence having leading and trailing
characters matching the [predicate]

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removed.\n */\npublic inline fun CharSequence.trim(predicate: (Char) -> Boolean): CharSequence {\n    var\n    startIndex = 0\n    var endIndex = length - 1\n    var startFound = false\n    while (startIndex <= endIndex) {\n        val index = if (!startFound) startIndex else endIndex\n        val match = predicate(this[index])\n        if\n        (!startFound) {\n            if (!match)\n                startFound = true\n            else\n                startIndex += 1\n        }\n        else {\n            if (!match)\n                break\n            else\n                endIndex -= 1\n        }\n    }\n    return\n    subSequence(startIndex, endIndex + 1)\n}\n\n/**\n * Returns a string having leading and trailing characters\n * matching the [predicate] removed.\n */\npublic inline fun String.trim(predicate: (Char) -> Boolean): String =\n    (this as CharSequence).trim(predicate).toString()\n\n/**\n * Returns a sub sequence of this char sequence having\n * leading characters matching the [predicate] removed.\n */\npublic inline fun CharSequence.trimStart(predicate:\n    (Char) -> Boolean): CharSequence {\n    for (index in this.indices)\n        if (!predicate(this[index]))\n            return\n    subSequence(index, length)\n}\n\nreturn ""\n}\n\n/**\n * Returns a string having leading characters matching the\n * [predicate] removed.\n */\npublic inline fun String.trimStart(predicate: (Char) -> Boolean): String =\n    (this as\n    CharSequence).trimStart(predicate).toString()\n\n/**\n * Returns a sub sequence of this char sequence having trailing characters\n * matching the [predicate] removed.\n */\npublic inline\n    fun CharSequence.trimEnd(predicate: (Char) -> Boolean): CharSequence {\n    for (index in\n    this.indices.reversed())\n        if (!predicate(this[index]))\n            return subSequence(0, index + 1)\n    return\n    ""\n}\n\n/**\n * Returns a string having trailing characters matching the [predicate] removed.\n */\npublic inline\n    fun String.trimEnd(predicate: (Char) -> Boolean): String =\n    (this as\n    CharSequence).trimEnd(predicate).toString()\n\n/**\n * Returns a sub sequence of this char sequence having\n * leading and trailing characters from the [chars] array removed.\n */\npublic fun CharSequence.trim(vararg chars:\n    Char): CharSequence = trim { it in chars }\n\n/**\n * Returns a string having leading and trailing characters from\n * the [chars] array removed.\n */\npublic fun String.trim(vararg chars: Char): String = trim { it in chars }\n\n/**\n * Returns a sub\n * sequence of this char sequence having leading characters from the [chars] array removed.\n */\npublic fun\n    CharSequence.trimStart(vararg chars: Char): CharSequence = trimStart { it in chars }\n\n/**\n * Returns a string\n * having leading characters from the [chars] array removed.\n */\npublic fun String.trimStart(vararg chars: Char):\n    String = trimStart { it in chars }\n\n/**\n * Returns a sub sequence of this char sequence having trailing characters\n * from the [chars] array removed.\n */\npublic fun CharSequence.trimEnd(vararg chars: Char): CharSequence =\n    trimEnd { it in chars }\n\n/**\n * Returns a string having trailing characters from the [chars] array removed.\n */\npublic fun String.trimEnd(vararg chars: Char): String = trimEnd { it in chars }\n\n/**\n * Returns a sub\n * sequence of this char sequence having leading and trailing whitespace removed.\n */\npublic fun\n    CharSequence.trim(): CharSequence = trim(Char::isWhitespace)\n\n/**\n * Returns a string having leading and\n * trailing whitespace\n * removed.\n */\npublic inline fun String.trim(): String = (this as\n    CharSequence).trim().toString()\n\n/**\n * Returns a sub sequence of this char sequence having leading whitespace\n * removed.\n */\npublic fun CharSequence.trimStart(): CharSequence = trimStart(Char::isWhitespace)\n\n/**\n * Returns a string having leading whitespace removed.\n */\npublic inline fun\n    String.trimStart(): String = (this as CharSequence).trimStart().toString()\n\n/**\n * Returns a sub sequence of this\n * char sequence having trailing whitespace removed.\n */\npublic fun CharSequence.trimEnd(): CharSequence =\n    trimEnd(Char::isWhitespace)\n\n/**\n * Returns a string having trailing whitespace removed.\n */\npublic inline fun\n    String.trimEnd(): String = (this as\n    CharSequence).trimEnd().toString()\n\n/**\n * Returns a char sequence with content of this char sequence padded at\n * the beginning\n * * to the specified [length] with the specified\n * character or space.\n * * @param length the desired string length.\n * * @param padChar the character to pad\n * string with, if it has length less than the [length] specified. Space is used by default.\n * * @return Returns a char\n * sequence of length at least [length] consisting of `this` char sequence prepended with [padChar] as many times\n * * as are necessary to reach that length.\n * * @sample samples.text.Strings.padStart\n */\npublic fun\n    CharSequence.padStart(length: Int, padChar: Char = ' '): CharSequence {\n    if (length < 0)\n        throw

```

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IllegalArgumentException("Desired length $length is less than zero.")\n if (length <= this.length)\n return
this.subSequence(0, this.length)\n\n val sb = StringBuilder(length)\n for (i in 1..(length - this.length))\n sb.append(padChar)\n sb.append(this)\n return sb\n\n\n**\n * Pads the string to the specified [length] at the
beginning with the specified character or space.\n *\n * @param length the desired string
length.\n *\n * @param padChar the character to pad string with, if it has length less than the [length] specified. Space
is used by default.\n *\n * @return Returns a string of length at least [length] consisting of `this` string prepended with
[padChar] as many times\n * as are necessary to reach that length.\n *\n * @sample samples.text.Strings.padStart\n
*\n\npublic fun String.padStart(length: Int, padChar: Char = ' '): String =\n (this as CharSequence).padStart(length,
padChar).toString()\n\n\n**\n * Returns a char sequence with content of this char sequence padded at the end\n *
to the specified [length] with the specified character or space.\n *\n *\n * @param length the desired string length.\n *\n
*\n * @param padChar the character to pad string with, if it has length less than the [length] specified. Space is used by
default.\n *\n * @return Returns a char sequence of length at least [length] consisting of `this` char sequence appended
with [padChar] as many times\n * as are necessary to reach that
length.\n *\n * @sample samples.text.Strings.padEnd\n
*\n\npublic fun CharSequence.padEnd(length: Int, padChar:
Char = ' '): CharSequence {\n if (length < 0)\n throw IllegalArgumentException("Desired length $length is
less than zero.")\n if (length <= this.length)\n return this.subSequence(0, this.length)\n\n val sb =
StringBuilder(length)\n sb.append(this)\n for (i in 1..(length - this.length))\n sb.append(padChar)\n return
sb\n}\n\n\n**\n * Pads the string to the specified [length] at the end with the specified character or space.\n *\n *\n
*\n * @param length the desired string length.\n *\n * @param padChar the character to pad string with, if it has length less
than the [length] specified. Space is used by default.\n *\n * @return Returns a string of length at least [length]
consisting of `this` string appended with [padChar] as many times\n * as are necessary to reach that length.\n *\n
*\n * @sample samples.text.Strings.padEnd\n
*\n\npublic fun String.padEnd(length:
Int, padChar: Char = ' '): String =\n (this as CharSequence).padEnd(length, padChar).toString()\n\n\n**\n * Returns
`true` if this nullable char sequence is either `null` or empty.\n *\n *\n * @sample
samples.text.Strings.stringIsNullOrEmpty\n
*\n\n@kotlin.internal.InlineOnly\npublic inline fun
CharSequence?.isNullOrEmpty(): Boolean {\n contract {\n returns(false) implies (this@isNullOrEmpty !=
null)\n }\n\n return this == null || this.length == 0\n}\n\n\n**\n * Returns `true` if this char sequence is empty
(contains no characters).\n *\n *\n * @sample samples.text.Strings.stringIsEmpty\n
*\n\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.isEmpty(): Boolean = length == 0\n\n\n**\n *
Returns `true` if this char sequence is not empty.\n *\n *\n * @sample samples.text.Strings.stringIsNotEmpty\n
*\n\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.isNotEmpty(): Boolean = length > 0\n\n\n//
implemented differently in JVM and JS\n//public fun String.isBlank(): Boolean
= length() == 0 || all { it.isWhitespace() }\n\n\n**\n * Returns `true` if this char sequence is not empty and contains
some characters except of whitespace characters.\n *\n *\n * @sample samples.text.Strings.stringIsNotBlank\n
*\n\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.isNotBlank(): Boolean = !isBlank()\n\n\n**\n *
Returns `true` if this nullable char sequence is either `null` or empty or consists solely of whitespace characters.\n *\n
*\n * @sample samples.text.Strings.stringIsNullOrBlank\n
*\n\n@kotlin.internal.InlineOnly\npublic inline fun
CharSequence?.isNullOrBlank(): Boolean {\n contract {\n returns(false) implies (this@isNullOrBlank !=
null)\n }\n\n return this == null || this.isBlank()\n}\n\n\n**\n * Iterator for characters of the given char sequence.\n
*\n\npublic operator fun CharSequence.iterator(): CharIterator = object : CharIterator() {\n private var index = 0\n\n
public override fun nextChar(): Char = get(index++)\n\n public override
fun hasNext(): Boolean = index < length\n}\n\n\n**\n * Returns the string if it is not `null`, or the empty string
otherwise.\n *\n\n@kotlin.internal.InlineOnly\npublic inline fun String?.orEmpty(): String = this ?: ""\n\n\n**\n *
Returns this char sequence if it's not empty\n * or the result of calling [defaultValue] function if the char sequence is
empty.\n *\n *\n * @sample samples.text.Strings.stringIfEmpty\n
*\n\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun <C, R> C.ifEmpty(defaultValue: () ->
R): R where C : CharSequence, C : R =\n if (isEmpty()) defaultValue() else this\n\n\n**\n * Returns this char
sequence if it is not empty and doesn't consist solely of whitespace characters,\n * or the result of calling

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[defaultValue] function otherwise.\n * \n * @sample samples.text.Strings.stringIfBlank\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun <C, R> C.ifBlank(defaultValue: () -> R):
R where C : CharSequence, C : R =\n    if (isBlank()) defaultValue()\n    else this\n\n/**\n * Returns the range of valid character indices for this char sequence.\n */\npublic val
CharSequence.indices: IntRange\n    get() = 0..length - 1\n\n/**\n * Returns the index of the last character in the
char sequence or -1 if it is empty.\n */\npublic val CharSequence.lastIndex: Int\n    get() = this.length - 1\n\n/**\n *
Returns `true` if this CharSequence has Unicode surrogate pair at the specified [index].\n */\npublic fun
CharSequence.hasSurrogatePairAt(index: Int): Boolean {\n    return index in 0..length - 2\n        &&
this[index].isHighSurrogate()\n        && this[index + 1].isLowSurrogate()\n}\n\n/**\n * Returns a substring
specified by the given [range] of indices.\n */\npublic fun String.substring(range: IntRange): String =
substring(range.start, range.endInclusive + 1)\n\n/**\n * Returns a subsequence of this char sequence specified by
the given [range] of indices.\n */\npublic fun CharSequence.subSequence(range: IntRange): CharSequence
= subSequence(range.start, range.endInclusive + 1)\n\n/**\n * Returns a subsequence of this char sequence.\n */\n
This extension is chosen only for invocation with old-named parameters.\n * Replace parameter names with the
same as those of [CharSequence.subSequence].\n
*\n@kotlin.internal.InlineOnly\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER") // false
warning\n@Deprecated("Use parameters named startIndex and endIndex.", ReplaceWith("subSequence(startIndex
= start, endIndex = end)"))\npublic inline fun String.subSequence(start: Int, end: Int): CharSequence =
subSequence(start, end)\n\n/**\n * Returns a substring of chars from a range of this char sequence starting at the
[startIndex] and ending right before the [endIndex].\n */\n * @param startIndex the start index (inclusive).\n *
@param endIndex the end index (exclusive). If not specified, the length of the char sequence is used.\n
*\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.substring(startIndex: Int, endIndex:
Int = length): String = subSequence(startIndex, endIndex).toString()\n\n/**\n * Returns a substring of chars at
indices from the specified [range] of this char sequence.\n */\npublic fun CharSequence.substring(range: IntRange):
String = subSequence(range.start, range.endInclusive + 1).toString()\n\n/**\n * Returns a substring before the first
occurrence of [delimiter].\n * If the string does not contain the delimiter, returns [missingDelimiterValue] which
defaults to the original string.\n */\npublic fun String.substringBefore(delimiter: Char, missingDelimiterValue:
String = this): String {\n    val index = indexOf(delimiter)\n    return if (index == -1) missingDelimiterValue else
substring(0, index)\n}\n\n/**\n * Returns a substring before the first occurrence of [delimiter].\n * If the string does
not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n */\npublic fun
String.substringBefore(delimiter: String, missingDelimiterValue: String
= this): String {\n    val index = indexOf(delimiter)\n    return if (index == -1) missingDelimiterValue else
substring(0, index)\n}\n\n/**\n * Returns a substring after the first occurrence of [delimiter].\n * If the string does
not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n */\npublic fun
String.substringAfter(delimiter: Char, missingDelimiterValue: String = this): String {\n    val index =
indexOf(delimiter)\n    return if (index == -1) missingDelimiterValue else substring(index + 1, length)\n}\n\n/**\n *
Returns a substring after the first occurrence of [delimiter].\n * If the string does not contain the delimiter, returns
[missingDelimiterValue] which defaults to the original string.\n */\npublic fun String.substringAfter(delimiter:
String, missingDelimiterValue: String = this): String {\n    val index = indexOf(delimiter)\n    return if (index ==
-1) missingDelimiterValue else substring(index + delimiter.length, length)\n}\n\n/**\n * Returns a substring before
the last occurrence of [delimiter].\n * If the string does not contain the delimiter,
returns [missingDelimiterValue] which defaults to the original string.\n */\npublic fun
String.substringBeforeLast(delimiter: Char, missingDelimiterValue: String = this): String {\n    val index =
lastIndexOf(delimiter)\n    return if (index == -1) missingDelimiterValue else substring(0, index)\n}\n\n/**\n *
Returns a substring before the last occurrence of [delimiter].\n * If the string does not contain the delimiter, returns
[missingDelimiterValue] which defaults to the original string.\n */\npublic fun String.substringBeforeLast(delimiter:
String, missingDelimiterValue: String = this): String {\n    val index = lastIndexOf(delimiter)\n    return if (index ==
-1) missingDelimiterValue else substring(0, index)\n}\n\n/**\n * Returns a substring after the last occurrence of

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[delimiter].\n * If the string does not contain the delimiter, returns [missingDelimiterValue]
which defaults to the original string.\n */\npublic fun String.substringAfterLast(delimiter: Char,
missingDelimiterValue: String = this): String {\n    val index = lastIndexOf(delimiter)\n    return if (index == -1)
missingDelimiterValue else substring(index + 1, length)\n}\n\n/**\n * Returns a substring after the last occurrence
of [delimiter].\n * If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the
original string.\n */\npublic fun String.substringAfterLast(delimiter: String, missingDelimiterValue: String = this):
String {\n    val index = lastIndexOf(delimiter)\n    return if (index == -1) missingDelimiterValue else
substring(index + delimiter.length, length)\n}\n\n/**\n * Returns a char sequence with content of this char sequence
where its part at the given range\n * is replaced with the [replacement] char sequence.\n * @param startIndex the
index of the first character to be replaced.\n * @param endIndex the index of the first character
after the replacement to keep in the string.\n */\npublic fun CharSequence.replaceRange(startIndex: Int, endIndex:
Int, replacement: CharSequence): CharSequence {\n    if (endIndex < startIndex)\n        throw
IndexOutOfBoundsException("End index ($endIndex) is less than start index ($startIndex).")\n    val sb =
StringBuilder()\n    sb.appendRange(this, 0, startIndex)\n    sb.append(replacement)\n    sb.appendRange(this,
endIndex, length)\n    return sb\n}\n\n/**\n * Replaces the part of the string at the given range with the
[replacement] char sequence.\n * @param startIndex the index of the first character to be replaced.\n * @param
endIndex the index of the first character after the replacement to keep in the string.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun String.replaceRange(startIndex: Int, endIndex: Int, replacement:
CharSequence): String =\n    (this as CharSequence).replaceRange(startIndex, endIndex,
replacement).toString()\n\n/**\n * Returns a char sequence
with content of this char sequence where its part at the given [range]\n * is replaced with the [replacement] char
sequence.\n * \n * The end index of the [range] is included in the part to be replaced.\n */\npublic fun
CharSequence.replaceRange(range: IntRange, replacement: CharSequence): CharSequence =\n    replaceRange(range.start, range.endInclusive + 1, replacement)\n\n/**\n * Replace the part of string at the given
[range] with the [replacement] string.\n * \n * The end index of the [range] is included in the part to be replaced.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun String.replaceRange(range: IntRange, replacement:
CharSequence): String =\n    (this as CharSequence).replaceRange(range, replacement).toString()\n\n/**\n * Returns
a char sequence with content of this char sequence where its part at the given range is removed.\n * \n * @param
startIndex the index of the first character to be removed.\n * @param endIndex the index of the first character after
the removed
part to keep in the string.\n * \n * [endIndex] is not included in the removed part.\n */\npublic fun
CharSequence.removeRange(startIndex: Int, endIndex: Int): CharSequence {\n    if (endIndex < startIndex)\n        throw IndexOutOfBoundsException("End index ($endIndex) is less than start index ($startIndex).")\n    if
(endIndex == startIndex)\n        return this.subSequence(0, length)\n    val sb = StringBuilder(length - (endIndex -
startIndex))\n    sb.appendRange(this, 0, startIndex)\n    sb.appendRange(this, endIndex, length)\n    return
sb\n}\n\n/**\n * Removes the part of a string at a given range.\n * @param startIndex the index of the first character
to be removed.\n * @param endIndex the index of the first character after the removed part to keep in the string.\n
*/\n * \n * [endIndex] is not included in the removed part.\n */\n@kotlin.internal.InlineOnly\npublic inline fun
String.removeRange(startIndex: Int, endIndex: Int): String =\n    (this as CharSequence).removeRange(startIndex,
endIndex).toString()\n\n/**\n * Returns a char sequence with content of this char sequence where its part at the
given [range] is removed.\n * \n * The end index of the [range] is included in the removed part.\n */\npublic fun
CharSequence.removeRange(range: IntRange): CharSequence = removeRange(range.start, range.endInclusive +
1)\n\n/**\n * Removes the part of a string at the given [range].\n * \n * The end index of the [range] is included in
the removed part.\n */\n@kotlin.internal.InlineOnly\npublic inline fun String.removeRange(range: IntRange): String
=\n    (this as CharSequence).removeRange(range).toString()\n\n/**\n * If this char sequence starts with the given
[prefix], returns a new char sequence\n * with the prefix removed. Otherwise, returns a new char sequence with the
same characters.\n */\npublic fun CharSequence.removePrefix(prefix: CharSequence): CharSequence {\n    if
(startsWith(prefix)) {\n        return subSequence(prefix.length, length)\n    }\n    return

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subSequence(0, length)\n\n/**\n * If this string starts with the given [prefix], returns a copy of this string\n * with the prefix removed. Otherwise, returns this string.\n */\npublic fun String.removePrefix(prefix: CharSequence):\nString {\n    if (startsWith(prefix)) {\n        return substring(prefix.length)\n    }\n    return this\n}\n\n/**\n * If this\n * char sequence ends with the given [suffix], returns a new char sequence\n * with the suffix removed. Otherwise,\n * returns a new char sequence with the same characters.\n */\npublic fun CharSequence.removeSuffix(suffix:\nCharSequence): CharSequence {\n    if (endsWith(suffix)) {\n        return subSequence(0, length - suffix.length)\n    }\n    return subSequence(0, length)\n}\n\n/**\n * If this string ends with the given [suffix], returns a copy of this\n * string\n * with the suffix removed. Otherwise, returns this string.\n */\npublic fun String.removeSuffix(suffix:\nCharSequence): String {\n    if (endsWith(suffix)) {\n        return\n        substring(0, length - suffix.length)\n    }\n    return this\n}\n\n/**\n * When this char sequence starts with the given\n * [prefix] and ends with the given [suffix],\n * returns a new char sequence having both the given [prefix] and [suffix]\n * removed.\n * Otherwise returns a new char sequence with the same characters.\n */\npublic fun\nCharSequence.removeSurrounding(prefix: CharSequence, suffix: CharSequence): CharSequence {\n    if ((length >=\n    prefix.length + suffix.length) && startsWith(prefix) && endsWith(suffix)) {\n        return\n        subSequence(prefix.length, length - suffix.length)\n    }\n    return subSequence(0, length)\n}\n\n/**\n * Removes\n * from a string both the given [prefix] and [suffix] if and only if\n * it starts with the [prefix] and ends with the\n * [suffix].\n * Otherwise returns this string unchanged.\n */\npublic fun String.removeSurrounding(prefix:\nCharSequence, suffix: CharSequence): String {\n    if ((length >= prefix.length + suffix.length) &&\n    startsWith(prefix) &&\n    endsWith(suffix)) {\n        return substring(prefix.length, length - suffix.length)\n    }\n    return this\n}\n\n/**\n * When this char sequence starts with and ends with the given [delimiter],\n * returns a new char sequence having this\n * [delimiter] removed both from the start and end.\n * Otherwise returns a new char sequence with the same\n * characters.\n */\npublic fun CharSequence.removeSurrounding(delimiter: CharSequence): CharSequence =\nremoveSurrounding(delimiter, delimiter)\n\n/**\n * Removes the given [delimiter] string from both the start and the\n * end of this string\n * if and only if it starts with and ends with the [delimiter].\n * Otherwise returns this string\n * unchanged.\n */\npublic fun String.removeSurrounding(delimiter: CharSequence): String =\nremoveSurrounding(delimiter, delimiter)\n\n/**\n * Replace part of string before the first occurrence of given\n * delimiter with the [replacement] string.\n * If the string does not contain the delimiter, returns\n * [missingDelimiterValue]\n * which defaults to the original string.\n */\npublic fun String.replaceBefore(delimiter: Char, replacement: String,\nmissingDelimiterValue: String = this): String {\n    val index = indexOf(delimiter)\n    return if (index == -1)\n        missingDelimiterValue else replaceRange(0, index, replacement)\n}\n\n/**\n * Replace part of string before the first\n * occurrence of given delimiter with the [replacement] string.\n * If the string does not contain the delimiter, returns\n * [missingDelimiterValue] which defaults to the original string.\n */\npublic fun String.replaceBefore(delimiter:\nString, replacement: String, missingDelimiterValue: String = this): String {\n    val index = indexOf(delimiter)\n    return if (index == -1) missingDelimiterValue else replaceRange(0, index, replacement)\n}\n\n/**\n * Replace part\n * of string after the first occurrence of given delimiter with the [replacement] string.\n * If the string does not contain\n * the delimiter, returns [missingDelimiterValue] which defaults to the\n * original string.\n */\npublic fun String.replaceAfter(delimiter: Char, replacement: String, missingDelimiterValue:\nString = this): String {\n    val index = indexOf(delimiter)\n    return if (index == -1) missingDelimiterValue else\n    replaceRange(index + 1, length, replacement)\n}\n\n/**\n * Replace part of string after the first occurrence of given\n * delimiter with the [replacement] string.\n * If the string does not contain the delimiter, returns\n * [missingDelimiterValue] which defaults to the original string.\n */\npublic fun String.replaceAfter(delimiter: String,\nreplacement: String, missingDelimiterValue: String = this): String {\n    val index = indexOf(delimiter)\n    return if\n    (index == -1) missingDelimiterValue else replaceRange(index + delimiter.length, length, replacement)\n}\n\n/**\n * Replace part of string after the last occurrence of given delimiter with the [replacement] string.\n * If the string does\n * not contain the delimiter, returns [missingDelimiterValue] which defaults

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to the original string.\n */\npublic fun String.replaceAfterLast(delimiter: String, replacement: String,
missingDelimiterValue: String = this): String {\n    val index = lastIndexOf(delimiter)\n    return if (index == -1)
missingDelimiterValue else replaceRange(index + delimiter.length, length, replacement)\n}\n\n/**\n * Replace part
of string after the last occurrence of given delimiter with the [replacement] string.\n * If the string does not contain
the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n */\npublic fun
String.replaceAfterLast(delimiter: Char, replacement: String, missingDelimiterValue: String = this): String {\n    val
index = lastIndexOf(delimiter)\n    return if (index == -1) missingDelimiterValue else replaceRange(index + 1,
length, replacement)\n}\n\n/**\n * Replace part of string before the last occurrence of given delimiter with the
[replacement] string.\n * If the string does not contain the delimiter, returns [missingDelimiterValue]
which defaults to the original string.\n */\npublic fun String.replaceBeforeLast(delimiter: Char, replacement: String,
missingDelimiterValue: String = this): String {\n    val index = lastIndexOf(delimiter)\n    return if (index == -1)
missingDelimiterValue else replaceRange(0, index, replacement)\n}\n\n/**\n * Replace part of string before the last
occurrence of given delimiter with the [replacement] string.\n * If the string does not contain the delimiter, returns
[missingDelimiterValue] which defaults to the original string.\n */\npublic fun String.replaceBeforeLast(delimiter:
String, replacement: String, missingDelimiterValue: String = this): String {\n    val index = lastIndexOf(delimiter)\n
return if (index == -1) missingDelimiterValue else replaceRange(0, index, replacement)\n}\n\n// public fun
String.replace(oldChar: Char, newChar: Char, ignoreCase: Boolean): String // JVM- and JS-specific\n// public fun
String.replace(oldValue: String, newValue: String, ignoreCase:
Boolean): String // JVM- and JS-specific\n\n/**\n * Returns a new string obtained by replacing each substring of
this char sequence that matches the given regular expression\n * with the given [replacement].\n * The
[replacement] can consist of any combination of literal text and $-substitutions. To treat the replacement string\n *
literally escape it with the [kotlin.text.Regex.Companion.escapeReplacement] method.\n
*/\n\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.replace(regex: Regex, replacement: String): String
= regex.replace(this, replacement)\n\n/**\n * Returns a new string obtained by replacing each substring of this char
sequence that matches the given regular expression\n * with the result of the given function [transform] that takes
[MatchResult] and returns a string to be used as a\n * replacement for that match.\n
*/\n\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.replace(regex: Regex, noinline transform:
(MatchResult) -> CharSequence): String
= \n    regex.replace(this, transform)\n\n/**\n * Replaces the first occurrence of the given regular expression [regex]
in this char sequence with specified [replacement] expression.\n * @param replacement A replacement
expression that can include substitutions. See [Regex.replaceFirst] for details.\n
*/\n\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.replaceFirst(regex: Regex, replacement: String):
String = regex.replaceFirst(this, replacement)\n\n/**\n * Returns a copy of this string having its first character
replaced with the result of the specified [transform],\n * or the original string if it's empty.\n * @param
transform function that takes the first character and returns the result of the transform applied to the character.\n
*/\n * @sample samples.text.Strings.replaceFirstChar\n
*/\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\n@OptIn(kotlin.experimental.Exper
imentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@JvmName("\replaceFirstCharWithC
har")\n\n@kotlin.internal.InlineOnly\npublic
inline fun String.replaceFirstChar(transform: (Char) -> Char): String {\n    return if (isEmpty())
transform(this[0]) + substring(1) else this\n}\n\n/**\n * Returns a copy of this string having its first character
replaced with the result of the specified [transform],\n * or the original string if it's empty.\n * @param
transform function that takes the first character and returns the result of the transform applied to the character.\n
*/\n * @sample samples.text.Strings.replaceFirstChar\n
*/\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\n@OptIn(kotlin.experimental.Exper
imentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@JvmName("\replaceFirstCharWithC
harSequence")\n\n@kotlin.internal.InlineOnly\npublic inline fun String.replaceFirstChar(transform: (Char) ->
CharSequence): String {\n    return if (isEmpty()) transform(this[0]).toString() + substring(1) else

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this\n}\n\n/**\n

* Returns `true` if this char sequence matches the given regular expression.\n

*/\n@kotlin.internal.InlineOnly\npublic inline infix fun CharSequence.matches(regex: Regex): Boolean =
regex.matches(this)\n\n/**\n * Implementation of [regionMatches] for CharSequences.\n * Invoked when it's
already known that arguments are not Strings, so that no additional type checks are performed.\n */\ninternal fun
CharSequence.regionMatchesImpl(thisOffset: Int, other: CharSequence, otherOffset: Int, length: Int, ignoreCase:
Boolean): Boolean {\n if ((otherOffset < 0) || (thisOffset < 0) || (thisOffset > this.length - length) || (otherOffset >
other.length - length)) {\n return false\n }\n for (index in 0 until length) {\n if (!this[thisOffset +
index].equals(other[otherOffset + index], ignoreCase))\n return false\n }\n return true\n}\n\n/**\n * Returns `true` if this char sequence starts with the specified character.\n */\npublic fun

CharSequence.startsWith(char:

Char, ignoreCase: Boolean = false): Boolean =\n this.length > 0 && this[0].equals(char, ignoreCase)\n\n/**\n * Returns `true` if this char sequence ends with the specified character.\n */\npublic fun CharSequence.endsWith(char:

Char, ignoreCase: Boolean = false): Boolean =\n this.length > 0 && this[lastIndex].equals(char,
ignoreCase)\n\n/**\n * Returns `true` if this char sequence starts with the specified prefix.\n */\npublic fun

CharSequence.startsWith(prefix: CharSequence, ignoreCase: Boolean = false): Boolean {\n if (!ignoreCase &&
this is String && prefix is String)\n return this.startsWith(prefix)\n else\n return regionMatchesImpl(0,
prefix, 0, prefix.length, ignoreCase)\n}\n\n/**\n * Returns `true` if a substring of this char sequence starting at the
specified offset [startIndex] starts with the specified prefix.\n */\npublic fun CharSequence.startsWith(prefix:

CharSequence, startIndex: Int, ignoreCase: Boolean = false): Boolean {\n if (!ignoreCase && this is String && prefix is String)\n return this.startsWith(prefix, startIndex)\n else\n return regionMatchesImpl(startIndex, prefix, 0, prefix.length, ignoreCase)\n}\n\n/**\n * Returns `true` if this char
sequence ends with the specified suffix.\n */\npublic fun CharSequence.endsWith(suffix: CharSequence,
ignoreCase: Boolean = false): Boolean {\n if (!ignoreCase && this is String && suffix is String)\n return
this.endsWith(suffix)\n else\n return regionMatchesImpl(length - suffix.length, suffix, 0, suffix.length,
ignoreCase)\n}\n\n// common prefix and suffix\n\n/**\n * Returns the longest string `prefix` such that this char
sequence and [other] char sequence both start with this prefix,\n * taking care not to split surrogate pairs.\n * If this
and [other] have no common prefix, returns the empty string.\n */\n * @param ignoreCase `true` to ignore character
case when matching a character. By default `false`.\n * @sample samples.text.Strings.commonPrefixWith\n

*/\npublic fun CharSequence.commonPrefixWith(other: CharSequence, ignoreCase: Boolean = false): String {\n val shortestLength = minOf(this.length, other.length)\n var i = 0\n while (i < shortestLength &&
this[i].equals(other[i], ignoreCase = ignoreCase)) {\n i++\n }\n if (this.hasSurrogatePairAt(i - 1) ||
other.hasSurrogatePairAt(i - 1)) {\n i--\n }\n return subSequence(0, i).toString()\n}\n\n/**\n * Returns the
longest string `suffix` such that this char sequence and [other] char sequence both end with this suffix,\n * taking
care not to split surrogate pairs.\n * If this and [other] have no common suffix, returns the empty string.\n */\n * @param ignoreCase `true` to ignore character case when matching a character. By default `false`.\n * @sample
samples.text.Strings.commonSuffixWith\n

*/\npublic fun CharSequence.commonSuffixWith(other: CharSequence,
ignoreCase: Boolean = false): String {\n val thisLength = this.length\n val otherLength = other.length\n val shortestLength = minOf(thisLength, otherLength)\n var i = 0\n while
(i < shortestLength && this[thisLength - i - 1].equals(other[otherLength - i - 1], ignoreCase = ignoreCase)) {\n i++\n }\n if (this.hasSurrogatePairAt(thisLength - i - 1) || other.hasSurrogatePairAt(otherLength - i - 1)) {\n i--\n }\n return subSequence(thisLength - i, thisLength).toString()\n}\n\n// indexOfAny()\n\n/**\n * Finds the
index of the first occurrence of any of the specified [chars] in this char sequence,\n * starting from the specified
[startIndex] and optionally ignoring the case.\n * @param ignoreCase `true` to ignore character case when
matching a character. By default `false`.\n * @return An index of the first occurrence of matched character from
[chars] or -1 if none of [chars] are found.\n */\npublic fun CharSequence.indexOfAny(chars: CharArray,
startIndex: Int = 0, ignoreCase: Boolean = false): Int {\n if

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(!ignoreCase && chars.size == 1 && this is String) {\n    val char = chars.single()\n    return
nativeIndexOf(char, startIndex)\n } \n\n for (index in startIndex.coerceAtLeast(0)..lastIndex) {\n    val
charAtIndex = get(index)\n    if (chars.any { it.equals(charAtIndex, ignoreCase) })\n        return index\n } \n
return -1\n}\n\n/**\n * Finds the index of the last occurrence of any of the specified [chars] in this char sequence,\n * starting from the specified [startIndex] and optionally ignoring the case.\n * \n * @param startIndex The index of
character to start searching at. The search proceeds backward toward the beginning of the string.\n * @param
ignoreCase `true` to ignore character case when matching a character. By default `false`.\n * @return An index of
the last occurrence of matched character from [chars] or -1 if none of [chars] are found.\n * \n */\npublic fun
CharSequence.lastIndexOfAny(chars: CharArray, startIndex: Int = lastIndex, ignoreCase:
Boolean = false): Int {\n    if (!ignoreCase && chars.size == 1 && this is String) {\n        val char =
chars.single()\n        return nativeLastIndexOf(char, startIndex)\n    } \n\n    for (index in
startIndex.coerceAtMost(lastIndex)
downTo 0) {\n        val charAtIndex = get(index)\n        if (chars.any { it.equals(charAtIndex,
ignoreCase) })\n            return index\n    } \n\n    return -1\n}\n\nprivate fun CharSequence.indexOf(other:
CharSequence, startIndex: Int,
endTime: Int, ignoreCase: Boolean, last: Boolean = false): Int {\n    val indices = if (!last)\n
startIndex.coerceAtLeast(0)..endTime.coerceAtMost(length)\n    else\n        startIndex.coerceAtMost(lastIndex)
downTo endTime.coerceAtLeast(0)\n\n    if (this is String && other is String) { // smart cast\n        for
(index in
indices) {\n            if (other.regionMatches(0, this, index, other.length, ignoreCase))\n                return
index\n        } \n    } else {\n        for (index in indices) {\n
            if (other.regionMatchesImpl(0, this, index, other.length, ignoreCase))\n                return
index\n        } \n    } \n\n    return -1\n}\n\nprivate fun CharSequence.findAnyOf(strings:
Collection<String>, startIndex: Int, ignoreCase:
Boolean, last: Boolean): Pair<Int, String>? {\n    if (!ignoreCase && strings.size == 1) {\n        val
string =
strings.single()\n        val index = if (!last) indexOf(string, startIndex) else lastIndexOf(string,
startIndex)\n        return if (index < 0) null else index to string\n    } \n\n    val indices = if
(!last) startIndex.coerceAtLeast(0)..length
else startIndex.coerceAtMost(lastIndex) downTo 0\n\n    if (this is String) {\n        for (index in
indices) {\n            val matchingString = strings.firstOrNull { it.regionMatches(0, this, index,
it.length, ignoreCase) }\n            if
(matchingString != null)\n                return index to matchingString\n        } \n    } else {\n        for
(index in indices) {\n            val matchingString
= strings.firstOrNull { it.regionMatchesImpl(0, this, index, it.length, ignoreCase) }\n            if
(matchingString !=
null)\n                return index to matchingString\n        } \n    } \n\n    return null\n}\n\n/**\n * Finds the first
occurrence of any of the specified [strings] in this char sequence,\n * starting from the specified [startIndex] and
optionally ignoring the case.\n * \n * @param ignoreCase `true` to ignore character case when matching a string.
By default `false`.\n * @return A pair of an index of the first occurrence of matched string from [strings] and
the string matched\n * or `null` if none of [strings] are found.\n * \n * To avoid ambiguous results when strings
in [strings] have characters in common, this method proceeds from\n * the beginning to the end of this string, and
finds at each position the first element in [strings]\n * that matches this string at that position.\n * \n */\npublic fun
CharSequence.findAnyOf(strings: Collection<String>, startIndex:
Int = 0, ignoreCase: Boolean = false): Pair<Int, String>? =\n    findAnyOf(strings, startIndex, ignoreCase, last =
false)\n}\n\n/**\n * Finds the last occurrence of any of the specified [strings] in this char sequence,\n * starting
from the specified [startIndex] and optionally ignoring the case.\n * \n * @param startIndex The index of character
to start searching at. The search proceeds backward toward the beginning of the string.\n * @param ignoreCase `true`
to ignore character case when matching a string. By default `false`.\n * @return A pair of an index of the last
occurrence of matched string from [strings] and the string matched or `null` if none of [strings] are found.\n *
\n * To avoid ambiguous results when strings in [strings] have characters in common, this method proceeds from\n *
the end toward the beginning of this string, and finds at each position the first element in [strings]\n * that
matches this string at that position.\n * \n */\npublic fun CharSequence.findLastAnyOf(strings:
Collection<String>, startIndex: Int = lastIndex, ignoreCase: Boolean = false): Pair<Int, String>? =\n    findAnyOf(strings,
startIndex, ignoreCase, last = true)\n}\n\n/**\n * Finds the index of the first occurrence of any of
the specified [strings] in this char sequence,\n * starting from the specified [startIndex] and optionally ignoring the

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case.\n *\n * @param ignoreCase `true` to ignore character case when matching a string. By default `false`.\n *
@return An index of the first occurrence of matched string from [strings] or -1 if none of [strings] are found.\n *\n *
To avoid ambiguous results when strings in [strings] have characters in common, this method proceeds from\n * the
beginning to the end of this string, and finds at each position the first element in [strings]\n * that matches this string
at that position.\n */\npublic fun CharSequence.indexOfAny(strings: Collection<String>, startIndex: Int = 0,
ignoreCase: Boolean = false): Int =\n    findAnyOf(strings, startIndex, ignoreCase,
    last = false)?.first ?: -1\n\n/**\n * Finds the index of the last occurrence of any of the specified [strings] in this char
sequence,\n * starting from the specified [startIndex] and optionally ignoring the case.\n *\n * @param startIndex
The index of character to start searching at. The search proceeds backward toward the beginning of the string.\n *
@param ignoreCase `true` to ignore character case when matching a string. By default `false`.\n * @return An index
of the last occurrence of matched string from [strings] or -1 if none of [strings] are found.\n *\n * To avoid
ambiguous results when strings in [strings] have characters in common, this method proceeds from\n * the end
toward the beginning of this string, and finds at each position the first element in [strings]\n * that matches this
string at that position.\n */\npublic fun CharSequence.lastIndexOfAny(strings: Collection<String>, startIndex: Int =
lastIndex, ignoreCase: Boolean = false): Int =\n    findAnyOf(strings,
    startIndex, ignoreCase, last = true)?.first ?: -1\n\n// indexOf\n\n/**\n * Returns the index within this string of the
first occurrence of the specified character, starting from the specified [startIndex].\n *\n * @param ignoreCase `true`
to ignore character case when matching a character. By default `false`.\n * @return An index of the first occurrence
of [char] or -1 if none is found.\n */\npublic fun CharSequence.indexOf(char: Char, startIndex: Int = 0, ignoreCase:
Boolean = false): Int {\n    return if (ignoreCase || this !is String)\n        indexOfAny(charArrayOf(char), startIndex,
ignoreCase)\n    else\n        nativeIndexOf(char, startIndex)\n}\n\n/**\n * Returns the index within this char
sequence of the first occurrence of the specified [string],\n * starting from the specified [startIndex].\n *\n * @param
ignoreCase `true` to ignore character case when matching a string. By default `false`.\n * @return An index of the
first occurrence of [string] or -1 if none is found.\n */\n\n * @sample samples.text.Strings.indexOf\n */\npublic fun CharSequence.indexOf(string: String, startIndex: Int = 0,
ignoreCase: Boolean = false): Int {\n    return if (ignoreCase || this !is String)\n        indexOf(string, startIndex,
length, ignoreCase)\n    else\n        nativeIndexOf(string, startIndex)\n}\n\n/**\n * Returns the index within this char
sequence of the last occurrence of the specified character,\n * starting from the specified [startIndex].\n *\n *
@param startIndex The index of character to start searching at. The search proceeds backward toward the beginning
of the string.\n * @param ignoreCase `true` to ignore character case when matching a character. By default `false`.\n *
@return An index of the last occurrence of [char] or -1 if none is found.\n */\npublic fun
CharSequence.lastIndexOf(char: Char, startIndex: Int = lastIndex, ignoreCase: Boolean = false): Int {\n    return if
(ignoreCase || this !is String)\n        lastIndexOfAny(charArrayOf(char), startIndex,
ignoreCase)\n    else\n        nativeLastIndexOf(char, startIndex)\n}\n\n/**\n * Returns the index within this char
sequence of the last occurrence of the specified [string],\n * starting from the specified [startIndex].\n *\n * @param
startIndex The index of character to start searching at. The search proceeds backward toward the beginning of the
string.\n * @param ignoreCase `true` to ignore character case when matching a string. By default `false`.\n *
@return An index of the last occurrence of [string] or -1 if none is found.\n */\npublic fun
CharSequence.lastIndexOf(string: String, startIndex: Int = lastIndex, ignoreCase: Boolean = false): Int {\n    return if
(ignoreCase || this !is String)\n        indexOf(string, startIndex, 0, ignoreCase, last = true)\n    else\n        nativeLastIndexOf(string, startIndex)\n}\n\n/**\n * Returns `true` if this char sequence contains the specified [other]
sequence of characters as a substring.\n *\n * @param ignoreCase `true` to ignore character
case when comparing strings. By default `false`.\n */\n\n * @suppress("INAPPLICABLE_OPERATOR_MODIFIER")\npublic operator fun
CharSequence.contains(other: CharSequence, ignoreCase: Boolean = false): Boolean =\n    if (other is String)\n        indexOf(other, ignoreCase = ignoreCase) >= 0\n    else\n        indexOf(other, 0, length, ignoreCase) >=
0\n\n\n/**\n * Returns `true` if this char sequence contains the specified character [char].\n *\n * @param
ignoreCase `true` to ignore character case when comparing characters. By default `false`.\n */

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*\n@Suppress("INAPPLICABLE_OPERATOR_MODIFIER")\npublic operator fun CharSequence.contains(char:
Char, ignoreCase: Boolean = false): Boolean =\n    indexOf(char, ignoreCase = ignoreCase) >= 0\n\n/**\n * Returns
`true` if this char sequence contains at least one match of the specified regular expression [regex].\n
*\n@kotlin.internal.InlineOnly\npublic inline operator fun CharSequence.contains(regex: Regex): Boolean =
regex.containsMatchIn(this)\n\n\n//
rangesDelimitedBy\n\nprivate class DelimitedRangesSequence(\n    private val input: CharSequence,\n    private
val startIndex: Int,\n    private val limit: Int,\n    private val getNextMatch: CharSequence.(currentIndex: Int) ->
Pair<Int, Int>?) : Sequence<IntRange> {\n\n    override fun iterator(): Iterator<IntRange> = object :
Iterator<IntRange> {\n        var nextState: Int = -1 // -1 for unknown, 0 for done, 1 for continue\n        var
currentStartIndex: Int = startIndex.coerceIn(0, input.length)\n        var nextSearchIndex: Int = currentStartIndex\n
var nextItem: IntRange? = null\n        var counter: Int = 0\n        private fun calcNext() {\n            if
(nextSearchIndex < 0) {\n                nextState = 0\n                nextItem = null\n            } else {\n                if (limit >
0 && ++counter >= limit || nextSearchIndex > input.length) {\n                    nextItem =
currentStartIndex..input.lastIndex\n                    nextSearchIndex
= -1\n                } else {\n                    val match = input.getNextMatch(nextSearchIndex)\n                    if (match ==
null) {\n                        nextItem = currentStartIndex..input.lastIndex\n                        nextSearchIndex = -1\n
                    } else {\n                        val (index, length) = match\n                        nextItem = currentStartIndex until index\n
                        currentStartIndex = index + length\n                        nextSearchIndex = currentStartIndex + if (length ==
0) 1 else 0\n                    }\n                }\n                nextState = 1\n            }\n        }\n        override fun next():
IntRange {\n            if (nextState == -1)\n                calcNext()\n            if (nextState == 0)\n                throw
NoSuchElementException()\n            val result = nextItem as IntRange\n            // Clean next to avoid keeping
reference on yielded instance\n            nextItem = null\n            nextState = -1\n            return result\n        }\n        override fun hasNext(): Boolean {\n            if (nextState
== -1)\n                calcNext()\n            return nextState == 1\n        }\n    }\n\n}\n\n/**\n * Returns a sequence of index
ranges of substrings in this char sequence around occurrences of the specified [delimiters].\n * @param
delimiters One or more characters to be used as delimiters.\n * @param startIndex The index to start searching
delimiters from.\n * No range having its start value less than [startIndex] is returned.\n * [startIndex] is coerced to
be non-negative and not greater than length of this string.\n * @param ignoreCase `true` to ignore character case
when matching a delimiter. By default `false`.\n * @param limit The maximum number of substrings to return. Zero
by default means no limit is set.\n */\nprivate fun CharSequence.rangesDelimitedBy(delimiters: CharArray,
startIndex: Int = 0, ignoreCase: Boolean = false, limit: Int = 0):
Sequence<IntRange> {\n    requireNonNegativeLimit(limit)\n\n    return DelimitedRangesSequence(this,
startIndex, limit, { currentIndex ->\n        indexOfAny(delimiters, currentIndex, ignoreCase = ignoreCase).let { if (it
< 0) null else it to 1 }\n    })\n\n}\n\n/**\n * Returns a sequence of index ranges of substrings in this char sequence
around occurrences of the specified [delimiters].\n * @param delimiters One or more strings to be used as
delimiters.\n * @param startIndex The index to start searching delimiters from.\n * No range having its start value
less than [startIndex] is returned.\n * [startIndex] is coerced to be non-negative and not greater than length of this
string.\n * @param ignoreCase `true` to ignore character case when matching a delimiter. By default `false`.\n *
@param limit The maximum number of substrings to return. Zero by default means no limit is set.\n * @param To avoid
ambiguous results when strings in [delimiters] have characters in common, this method
proceeds from\n * the beginning to the end of this string, and finds at each position the first element in
[delimiters]\n * that matches this string at that position.\n */\nprivate fun
CharSequence.rangesDelimitedBy(delimiters: Array<out String>, startIndex: Int = 0, ignoreCase: Boolean = false,
limit: Int = 0): Sequence<IntRange> {\n    requireNonNegativeLimit(limit)\n    val delimitersList =
delimiters.asList()\n\n    return DelimitedRangesSequence(this, startIndex, limit, { currentIndex ->
findAnyOf(delimitersList, currentIndex, ignoreCase = ignoreCase, last = false)?.let { it.first to it.second.length }
})\n\n}\n\ninternal fun requireNonNegativeLimit(limit: Int) =\n    require(limit >= 0) { "Limit must be non-
negative, but was $limit" }\n\n\n// split\n\n/**\n * Splits this char sequence to a sequence of strings around

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occurrences of the specified [delimiters].\n *\n * @param delimiters One or more strings to be used as delimiters.\n
* @param ignoreCase `true` to ignore character
case when matching a delimiter. By default `false`.\n * @param limit The maximum number of substrings to return.
Zero by default means no limit is set.\n *\n * To avoid ambiguous results when strings in [delimiters] have
characters in common, this method proceeds from\n * the beginning to the end of this string, and finds at each
position the first element in [delimiters]\n * that matches this string at that position.\n */\npublic fun
CharSequence.splitToSequence(vararg delimiters: String, ignoreCase: Boolean = false, limit: Int = 0):
Sequence<String> =\n    rangesDelimitedBy(delimiters, ignoreCase = ignoreCase, limit = limit).map { substring(it)
}\n\n/**\n * Splits this char sequence to a list of strings around occurrences of the specified [delimiters].\n *\n *
@param delimiters One or more strings to be used as delimiters.\n * @param ignoreCase `true` to ignore character
case when matching a delimiter. By default `false`.\n * @param limit The maximum number of substrings to return.
Zero by default means no limit is set.\n *\n * To avoid ambiguous results when strings in [delimiters] have
characters in common, this method proceeds from\n * the beginning to the end of this string, and matches at each
position the first element in [delimiters]\n * that is equal to a delimiter in this instance at that position.\n */\npublic
fun CharSequence.split(vararg delimiters: String, ignoreCase: Boolean = false, limit: Int = 0): List<String> {\n    if
(delimiters.size == 1) {\n        val delimiter = delimiters[0]\n        if (!delimiter.isEmpty()) {\n            return
split(delimiter, ignoreCase, limit)\n        }\n    }\n    return rangesDelimitedBy(delimiters, ignoreCase =
ignoreCase, limit = limit).asIterable().map { substring(it) }\n}\n\n/**\n * Splits this char sequence to a sequence of
strings around occurrences of the specified [delimiters].\n *\n * @param delimiters One or more characters to be
used as delimiters.\n * @param ignoreCase `true` to ignore character
case when matching a delimiter. By default `false`.\n * @param limit The maximum number of substrings to
return.\n */\npublic fun CharSequence.splitToSequence(vararg delimiters: Char, ignoreCase: Boolean = false, limit:
Int = 0): Sequence<String> =\n    rangesDelimitedBy(delimiters, ignoreCase = ignoreCase, limit = limit).map {
substring(it) }\n\n/**\n * Splits this char sequence to a list of strings around occurrences of the specified
[delimiters].\n *\n * @param delimiters One or more characters to be used as delimiters.\n * @param ignoreCase
`true` to ignore character case when matching a delimiter. By default `false`.\n * @param limit The maximum
number of substrings to return.\n */\npublic fun CharSequence.split(vararg delimiters: Char, ignoreCase: Boolean =
false, limit: Int = 0): List<String> {\n    if (delimiters.size == 1) {\n        return split(delimiters[0].toString(),
ignoreCase, limit)\n    }\n    return rangesDelimitedBy(delimiters, ignoreCase = ignoreCase, limit =
limit).asIterable().map
{ substring(it) }\n}\n\n/**\n * Splits this char sequence to a list of strings around occurrences of the specified
[delimiter].\n * This is specialized version of split which receives single non-empty delimiter and offers better
performance\n *\n * @param delimiter String used as delimiter\n * @param ignoreCase `true` to ignore character
case when matching a delimiter. By default `false`.\n * @param limit The maximum number of substrings to
return.\n */\nprivate fun CharSequence.split(delimiter: String, ignoreCase: Boolean, limit: Int): List<String> {\n    requireNonNegativeLimit(limit)\n    var currentOffset = 0\n    var nextIndex = indexOf(delimiter, currentOffset,
ignoreCase)\n    if (nextIndex == -1 || limit == 1) {\n        return listOf(this.toString())\n    }\n    val isLimited =
limit > 0\n    val result = ArrayList<String>(if (isLimited) limit.coerceAtMost(10) else 10)\n    do {\n        result.add(substring(currentOffset, nextIndex))\n        currentOffset
= nextIndex + delimiter.length\n        // Do not search for next occurrence if we're reaching limit\n        if (isLimited
&& result.size == limit - 1) break\n        nextIndex = indexOf(delimiter, currentOffset, ignoreCase)\n    } while
(nextIndex != -1)\n    result.add(substring(currentOffset, length))\n    return result\n}\n\n/**\n * Splits this char
sequence to a list of strings around matches of the given regular expression.\n *\n * @param limit Non-negative
value specifying the maximum number of substrings to return.\n * Zero by default means no limit is set.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.split(regex: Regex, limit: Int = 0): List<String> =
regex.split(this, limit)\n\n/**\n * Splits this char sequence to a sequence of strings around matches of the given
regular expression.\n *\n * @param limit Non-negative value specifying the maximum number of substrings to
return.\n * Zero by default means no limit is set.\n * @sample samples.text.Strings.splitToSequence\n

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*\/n@SinceKotlin("1.6")\/n@WasExperimental(ExperimentalStdlibApi::class)\/n@kotlin.internal.InlineOnly\/npublic
c inline fun CharSequence.splitToSequence(regex: Regex, limit: Int = 0): Sequence<String> =
regex.splitToSequence(this, limit)\/n\/n**\/n * Splits this char sequence to a sequence of lines delimited by any of the
following character sequences: CRLF, LF or CR.\/n *\/n * The lines returned do not include terminating line
separators.\/n *\/npublic fun CharSequence.lineSequence(): Sequence<String> = splitToSequence("\\r\\n", "\\n",
"\\r")\/n\/n**\/n * Splits this char sequence to a list of lines delimited by any of the following character sequences:
CRLF, LF or CR.\/n *\/n * The lines returned do not include terminating line separators.\/n *\/npublic fun
CharSequence.lines(): List<String> = lineSequence().toList()\/n\/n**\/n * Returns `true` if the contents of this char
sequence are equal to the contents of the specified [other],\/n * i.e. both char sequences contain
the same number of the same characters in the same order.\/n *\/n * @sample samples.text.Strings.contentEquals\/n
*\/n@SinceKotlin("1.5")\/npublic expect infix fun CharSequence?.contentEquals(other: CharSequence?):
Boolean\/n\/n**\/n * Returns `true` if the contents of this char sequence are equal to the contents of the specified
[other], optionally ignoring case difference.\/n *\/n * @param ignoreCase `true` to ignore character case when
comparing contents.\/n *\/n * @sample samples.text.Strings.contentEquals\/n *\/n@SinceKotlin("1.5")\/npublic
expect fun CharSequence?.contentEquals(other: CharSequence?, ignoreCase: Boolean): Boolean\/n\/ninternal fun
CharSequence?.contentEqualsIgnoreCaseImpl(other: CharSequence?): Boolean {\/n if (this is String && other is
String) {\/n return this.equals(other, ignoreCase = true)\/n }\/n if (this === other) return true\/n if (this ==
null || other == null || this.length != other.length) return false\/n for (i in 0 until length) {\/n
if (!this[i].equals(other[i], ignoreCase = true)) {\/n return false\/n }\/n }\/n return true\/n}\/n\/ninternal
fun CharSequence?.contentEqualsImpl(other: CharSequence?): Boolean {\/n if (this is String && other is String)
{\/n return this == other\/n }\/n if (this === other) return true\/n if (this == null || other == null || this.length
!= other.length) return false\/n for (i in 0 until length) {\/n if (this[i] != other[i]) {\/n return false\/n
}\/n }\/n return true\/n}\/n\/n**\/n * Returns `true` if the content of this string is equal to the word "true", `false`
if it is equal to "false",\/n * and throws an exception otherwise.\/n *\/n * There is also a lenient version of the
function available on nullable String, [String?.toBoolean].\/n * Note that this function is case-sensitive.\/n *\/n *
@sample samples.text.Strings.toBooleanStrict\/n *\/n@SinceKotlin("1.5")\/npublic fun String.toBooleanStrict():
Boolean = when (this)
{\/n "true" -> true\/n "false" -> false\/n else -> throw IllegalArgumentException("The string doesn't represent
a boolean value: $this")\/n}\/n\/n**\/n * Returns `true` if the content of this string is equal to the word "true", `false`
if it is equal to "false",\/n * and `null` otherwise.\/n *\/n * There is also a lenient version of the function available on
nullable String, [String?.toBoolean].\/n * Note that this function is case-sensitive.\/n *\/n * @sample
samples.text.Strings.toBooleanStrictOrNull\/n *\/n@SinceKotlin("1.5")\/npublic fun
String.toBooleanStrictOrNull(): Boolean? = when (this) {\/n "true" -> true\/n "false" -> false\/n else ->
null}\/n}\/n**\/n * Copyright 2010-2022 JetBrains s.r.o. and Kotlin Programming Language contributors.\/n * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\/n *\/n\/n//
Auto-generated file. DO NOT EDIT!\/n\/npackage kotlin\/n\/nimport
kotlin.jvm.*\/n\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/n@JvmInline\/npublic
value class UByteArray\/n@PublishedApi\/ninternal constructor(@PublishedApi internal val storage: ByteArray) :
Collection<UByte> {\/n\/n /** Creates a new array of the specified [size], with all elements initialized to zero. *\/n
public constructor(size: Int) : this(ByteArray(size))\/n\/n /** * Returns the array element at the given [index].
This method can be called using the index operator. *\/n * If the [index] is out of bounds of this array, throws
an [IndexOutOfBoundsException] except in Kotlin/JS *\/n * where the behavior is unspecified. *\/n *\/n public
operator fun get(index: Int): UByte = storage[index].toUByte()\/n\/n /** * Sets the element at the given [index]
to the given [value]. This method can be called using the index operator. *\/n * If the [index] is out of bounds
of this array, throws an [IndexOutOfBoundsException] except in Kotlin/JS *\/n * where the behavior is
unspecified.\/n
*\/n public operator fun set(index: Int, value: UByte) {\/n storage[index] = value.toByte()\/n }\/n\/n /**
Returns the number of elements in the array. *\/n public override val size: Int get() = storage.size\/n\/n /** Creates

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})\n}\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
uintArrayOf(vararg elements: UInt): UIntArray = elements\n", "/*\n * Copyright 2010-2022 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage
kotlin\n\nimport kotlin.jvm.*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@JvmInline\npublic
value class ULongArray\n@PublishedApi\ninternal constructor(@PublishedApi internal val storage: LongArray) :
Collection<ULong> {\n\n    /** Creates a new array of the specified [size], with all elements initialized to zero. */\n
    public constructor(size:
    Int) : this(LongArray(size))\n\n    /**\n     * Returns the array element at the given [index]. This method can be
called using the index operator.\n     * \n     * If the [index] is out of bounds of this array, throws an
[IndexOutOfBoundsExcepion] except in Kotlin/JS\n     * where the behavior is unspecified.\n     * \n     public
operator fun get(index: Int): ULong = storage[index].toULong()\n\n     /**\n     * Sets the element at the given
[index] to the given [value]. This method can be called using the index operator.\n     * \n     * If the [index] is out of
bounds of this array, throws an [IndexOutOfBoundsExcepion] except in Kotlin/JS\n     * where the behavior is
unspecified.\n     * \n     public operator fun set(index: Int, value: ULong) {\n         storage[index] = value.toLong()\n
    }\n\n     /** Returns the number of elements in the array. */\n     public override val size: Int get() = storage.size\n\n
    /** Creates an iterator over the elements of the array. */\n\n     public override operator fun iterator(): kotlin.collections.Iterator<ULong> = Iterator(storage)\n\n
    @Suppress("DEPRECATION_ERROR")\n     private class Iterator(private val array: LongArray) : ULongIterator()\n
    {\n         private var index = 0\n         override fun hasNext() = index < array.size\n         override fun nextULong() = if
(index < array.size) array[index++].toULong() else throw NoSuchElementException(index.toString())\n     }\n\n     override fun contains(element: ULong): Boolean {\n         // TODO: Eliminate this check after KT-30016 gets
fixed.\n         // Currently JS BE does not generate special bridge method for this method.\n\n         @Suppress("USELESS_CAST")\n         if ((element as Any?) !is ULong) return false\n         return
storage.contains(element.toLong())\n     }\n\n     override fun containsAll(elements: Collection<ULong>): Boolean
{\n         return (elements as Collection<*>).all { it is ULong && storage.contains(it.toLong()) }\n     }\n\n     override fun
isEmpty(): Boolean = this.storage.size == 0\n}\n\n/**\n * Creates a new array of the specified [size], where each
element is calculated by calling the specified\n * [init] function.\n * \n * The function [init] is called for each array
element sequentially starting from the first one.\n * It should return the value for an array element given its index.\n
*/\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray(size: Int, init: (Int) -> ULong): ULongArray {\n    return ULongArray(LongArray(size) { index ->
init(index).toLong()
})\n}\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ulongArrayOf(vararg elements: ULong): ULongArray = elements\n", "/*\n * Copyright 2010-2022 JetBrains s.r.o.
and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file.
DO NOT EDIT!\n\npackage kotlin\n\nimport
kotlin.jvm.*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@JvmInline\npublic value class
UShortArray\n@PublishedApi\ninternal constructor(@PublishedApi internal val storage: ShortArray) :
Collection<UShort> {\n\n    /** Creates a new array of the specified [size], with all elements initialized to zero. */\n
    public constructor(size: Int) : this(ShortArray(size))\n\n    /**\n     * Returns the array element at the given [index].
This method can be called using the index operator.\n     * \n     * If the [index] is out of bounds of this array, throws
an [IndexOutOfBoundsExcepion] except in Kotlin/JS\n     * where the behavior is unspecified.\n     * \n     public
operator fun get(index: Int): UShort = storage[index].toUShort()\n\n     /**\n     * Sets the element at the given
[index] to the given [value]. This method can be called using the index operator.\n     * \n     * If the [index] is out of
bounds of this array, throws an [IndexOutOfBoundsExcepion]

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except in Kotlin/JS\n * where the behavior is unspecified.\n */\n public operator fun set(index: Int, value:
UShort) {\n storage[index] = value.toShort()\n }\n\n /** Returns the number of elements in the array. */\n
public override val size: Int get() = storage.size\n\n /** Creates an iterator over the elements of the array. */\n
public override operator fun iterator(): kotlin.collections.Iterator<UShort> = Iterator(storage)\n\n
@Suppress("DEPRECATION_ERROR")\n private class Iterator(private val array: ShortArray) :
UShortIterator() {\n private var index = 0\n override fun hasNext() = index < array.size\n override fun
nextUShort() = if (index < array.size) array[index++].toUShort() else throw
NoSuchElementException(index.toString())\n }\n\n override fun contains(element: UShort): Boolean {\n //
TODO: Eliminate this check after KT-30016 gets fixed.\n // Currently JS BE does not generate special
bridge method for this method.\n @Suppress("USELESS_CAST")\n if ((element as Any?) !is UShort)
return false\n\n return storage.contains(element.toShort())\n }\n\n override fun containsAll(elements:
Collection<UShort>): Boolean {\n return (elements as Collection<*>).all { it is UShort &&
storage.contains(it.toShort()) }\n }\n\n override fun isEmpty(): Boolean = this.storage.size == 0\n}\n\n/**\n *
Creates a new array of the specified [size], where each element is calculated by calling the specified\n * [init]
function.\n * \n * The function [init] is called for each array element sequentially starting from the first one.\n * It
should return the value for an array element given its index.\n
*\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray(size: Int, init: (Int) -> UShort): UShortArray {\n return UShortArray(ShortArray(size) { index ->
init(index).toShort()
})\n}\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun ushortArrayOf(vararg elements: UShort): UShortArray = elements\n", "/*\n * Copyright 2010-2021
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n*\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("UArraysKt")\n@file:kotlin.jvm.JvmPacka
geName("kotlin.collections.unsigned")\n\npackage kotlin.collections\n\n/\n// NOTE: THIS FILE IS AUTO-
GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n/\n\nimport kotlin.random.*\nimport
kotlin.ranges.contains\nimport kotlin.ranges.reversed\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the
size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior
is unspecified.\n *\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline operator fun UIntArray.component1(): UInt {\n return get(0)\n}\n\n/**\n * Returns 1st *element* from the
array.\n * \n * If the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n
* where the behavior is unspecified.\n
*\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
ULongArray.component1(): ULong {\n return get(0)\n}\n\n/**\n * Returns 1st *element* from the array.\n * \n *
If the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the
behavior is unspecified.\n
*\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UByteArray.component1(): UByte {\n return get(0)\n}\n\n/**\n * Returns 1st *element* from the array.\n * \n * If
the size of this array is less than 1, throws an [IndexOutOfBoundsException]
*\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UShortArray.component1(): UShort {\n return get(0)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n *
If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the
behavior is unspecified.\n
*\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UIntArray.component2(): UInt {\n return get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If
the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the

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behavior is unspecified.\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
ULongArray.component2(): ULong {\n return get(1)\n}\n\n/**\n * Returns 2nd *element*
from the array.\n * \n * If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in
Kotlin/JS\n * where the behavior is unspecified.\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UByteArray.component2(): UByte {\n return get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n *
If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the
behavior is unspecified.\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UShortArray.component2(): UShort {\n return get(1)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n *
If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the
behavior is unspecified.\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
operator fun
UIntArray.component3(): UInt {\n return get(2)\n}\n\n/**\n * Returns 3rd *element* from the
array.\n * \n *
If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n *
where the behavior is unspecified.\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
ULongArray.component3(): ULong {\n return get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n *
If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the
behavior is unspecified.\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UByteArray.component3(): UByte {\n return get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n *
If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the
behavior is unspecified.\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline operator fun
UShortArray.component3(): UShort {\n return get(2)\n}\n\n/**\n * Returns 4th *element*
from the array.\n * \n *
If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in
Kotlin/JS\n * where the behavior is unspecified.\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UIntArray.component4(): UInt {\n return get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n *
If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior
is unspecified.\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline operator fun
ULongArray.component4(): ULong {\n return get(3)\n}\n\n/**\n * Returns 4th *element* from
the array.\n * \n *
If the size of this array is less than 4, throws
an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UByteArray.component4(): UByte {\n return get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n *
If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the
behavior is unspecified.\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UShortArray.component4(): UShort {\n return get(3)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n *
If the size of this array is less than 5, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the
behavior is unspecified.\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UIntArray.component5(): UInt {\n return get(4)\n}\n\n/**\n * Returns
5th *element* from the array.\n * \n *
If the size of this array is less than 5, throws an
[IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun ULongArray.component5(): ULong {\n return get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun UByteArray.component5(): UByte {\n return get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun UShortArray.component5(): UShort {\n return get(4)\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun UIntArray.elementAt(index: Int): UInt\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun ULongArray.elementAt(index: Int): ULong\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun UByteArray.elementAt(index: Int): UByte\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun UShortArray.elementAt(index: Int): UShort\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrElse\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.elementAtOrElse(index: Int, defaultValue: (Int) -> UInt): UInt {\n return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrElse\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.elementAtOrElse(index: Int, defaultValue: (Int) -> ULong): ULong {\n return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrElse\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.elementAtOrElse(index: Int, defaultValue: (Int) -> UByte): UByte {\n return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrElse\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.elementAtOrElse(index: Int, defaultValue: (Int) -> UShort): UShort {\n return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrNull\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.elementAtOrNull(index: Int): UInt? {\n return this.getOrNull(index)\n}\n\n/**\n * Returns an element

at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic  

inline fun ULongArray.elementAtOrNull(index: Int): ULong? {\n return this.getOrNull(index)\n}\n\n/**\n *  

Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample  

samples.collections.Collections.Elements.elementAtOrNull\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  

UByteArray.elementAtOrNull(index: Int): UByte? {\n return this.getOrNull(index)\n}\n\n/**\n * Returns an  

element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample  

samples.collections.Collections.Elements.elementAtOrNull\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  

UShortArray.elementAtOrNull(index: Int): UShort? {\n return this.getOrNull(index)\n}\n\n/**\n * Returns the  

first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample  

samples.collections.Collections.Elements.find\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  

UIntArray.find(predicate: (UInt) -> Boolean): UInt? {\n return firstOrNull(predicate)\n}\n\n/**\n * Returns the  

first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample  

samples.collections.Collections.Elements.find\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  

ULongArray.find(predicate: (ULong) -> Boolean): ULong? {\n return firstOrNull(predicate)\n}\n\n/**\n * Returns  

the first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample  

samples.collections.Collections.Elements.find\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  

UByteArray.find(predicate: (UByte) -> Boolean): UByte? {\n return firstOrNull(predicate)\n}\n\n/**\n * Returns  

the first element matching  

the given [predicate], or `null` if no such element was found.\n * \n * @sample  

samples.collections.Collections.Elements.find\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  

UShortArray.find(predicate: (UShort) -> Boolean): UShort? {\n return firstOrNull(predicate)\n}\n\n/**\n * Returns  

the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample  

samples.collections.Collections.Elements.find\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  

UIntArray.findLast(predicate: (UInt) -> Boolean): UInt? {\n return lastOrNull(predicate)\n}\n\n/**\n * Returns the  

last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample  

samples.collections.Collections.Elements.find\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  

ULongArray.findLast(predicate:  

(ULong) -> Boolean): ULong? {\n return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching  

the given [predicate], or `null` if no such element was found.\n * \n * @sample  

samples.collections.Collections.Elements.find\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  

UByteArray.findLast(predicate: (UByte) -> Boolean): UByte? {\n return lastOrNull(predicate)\n}\n\n/**\n * Returns  

the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample  

samples.collections.Collections.Elements.find\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  

UShortArray.findLast(predicate: (UShort) -> Boolean): UShort? {\n return lastOrNull(predicate)\n}\n\n/**\n * Returns  

first element.\n * @throws [NoSuchElementException] if the array is empty.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
```

```

inline fun UIntArray.first(): UInt {\n    return storage.first().toUInt()\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException] if the array is empty.\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nULongArray.first(): ULong {\n    return storage.first().toULong()\n}\n\n/**\n * Returns first element.\n * @throws\n [NoSuchElementException] if the array is empty.\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUByteArray.first(): UByte {\n    return storage.first().toUByte()\n}\n\n/**\n * Returns first element.\n * @throws\n [NoSuchElementException] if the array is empty.\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUShortArray.first(): UShort {\n    return storage.first().toUShort()\n}\n\n/**\n * Returns the first element matching\n the given [predicate].\n * @throws [NoSuchElementException] if no\n such element is found.\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUIntArray.first(predicate: (UInt) -> Boolean): UInt {\n    for (element in this) if (predicate(element)) return\n element\n    throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such\n element is found.\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nULongArray.first(predicate: (ULong) -> Boolean): ULong {\n    for (element in this) if (predicate(element)) return\n element\n    throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such\n element is found.\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic\n inline fun\nUByteArray.first(predicate: (UByte) -> Boolean): UByte {\n    for (element in this) if\n (predicate(element)) return element\n    throw NoSuchElementException("Array contains no element matching the\n predicate.")\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws\n [NoSuchElementException] if no such element is found.\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUShortArray.first(predicate: (UShort) -> Boolean): UShort {\n    for (element in this) if (predicate(element)) return\n element\n    throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns the first element, or `null` if the array is empty.\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun\nUIntArray.firstOrNull(): UInt? {\n    return\n if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element, or `null` if the array is empty.\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic\n fun\nULongArray.firstOrNull(): ULong? {\n    return\n if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first\n element, or `null` if the array is empty.\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun\nUByteArray.firstOrNull(): UByte? {\n    return\n if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first\n element, or `null` if the array is empty.\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun\nUShortArray.firstOrNull(): UShort? {\n    return\n if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first\n element matching the given [predicate], or `null` if element was not found.\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUIntArray.firstOrNull(predicate: (UInt) -> Boolean): UInt? {\n    for (element in this) if (predicate(element)) return\n element\n    return null\n}\n\n/**\n * Returns the first element matching the given\n [predicate], or `null` if element was not found.\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nULongArray.firstOrNull(predicate: (ULong) -> Boolean): ULong? {\n    for (element in this) if (predicate(element))\n return element\n    return null\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if\n element was not found.\n */

```


Returns first index of [element], or -1 if the array does not contain element.\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.indexOf(element: UShort): Int {\n    return storage.indexOf(element.toShort())\n}\n\n/**\n * Returns
index of the first element matching the given [predicate], or -1 if the array does not contain such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.indexOfFirst(predicate: (UInt) -> Boolean): Int {\n    return storage.indexOfFirst { predicate(it.toUInt())
}\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the array does not contain
such element.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun ULongArray.indexOfFirst(predicate: (ULong) -> Boolean): Int {\n    return storage.indexOfFirst {
predicate(it.toULong()) }\n}\n\n/**\n *
Returns index of the first element matching the given [predicate], or -1 if the array does not contain such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.indexOfFirst(predicate: (UByte) -> Boolean): Int {\n    return storage.indexOfFirst {
predicate(it.toUByte()) }\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the
array does not contain such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.indexOfFirst(predicate: (UShort) -> Boolean): Int {\n    return storage.indexOfFirst {
predicate(it.toUShort()) }\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the
array does not contain such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.indexOfLast(predicate: (UInt) -> Boolean): Int {\n
    return storage.indexOfLast { predicate(it.toUInt()) }\n}\n\n/**\n * Returns index of the last element matching the
given [predicate], or -1 if the array does not contain such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.indexOfLast(predicate: (ULong) -> Boolean): Int {\n    return storage.indexOfLast {
predicate(it.toULong()) }\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the
array does not contain such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.indexOfLast(predicate: (UByte) -> Boolean): Int {\n    return storage.indexOfLast {
predicate(it.toUByte()) }\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the
array does not contain such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.indexOfLast(predicate: (UShort) -> Boolean): Int {\n    return storage.indexOfLast {
predicate(it.toUShort()) }\n}\n\n/**\n * Returns the last element.\n * \n * @throws NoSuchElementException if the
array is empty.\n * \n * @sample samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.last(): UInt {\n    return storage.last().toUInt()\n}\n\n/**\n * Returns the last element.\n * \n * @throws
NoSuchElementException if the array is empty.\n * \n * @sample samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.last(): ULong {\n    return storage.last().toULong()\n}\n\n/**\n * Returns the last element.\n * \n *
@throws NoSuchElementException if the array is empty.\n * \n * @sample
samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UByteArray.last(): UByte {\n    return storage.last().toUByte()\n}\n\n/**\n * Returns the last element.\n *
@throws NoSuchElementException if the array is empty.\n * \n * @sample
samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.last(): UShort {\n    return storage.last().toUShort()\n}\n\n/**\n * Returns the last element matching
```


the given [predicate].\n * \n * @throws NoSuchElementException if no such element is found.\n * \n * @sample samples.collections.Collections.Elements.last\n

```

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.last(predicate: (UInt) -> Boolean): UInt {\n for (index in this.indices.reversed()) {\n val element =
this[index]\n if (predicate(element)) return element\n } \n throw NoSuchElementException("\nArray
contains no element matching the predicate.\n")\n}\n\n/**\n * Returns the last element matching the given
[predicate].\n * \n * @throws NoSuchElementException if no such element is found.\n * \n * @sample
samples.collections.Collections.Elements.last\n

```

```

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.last(predicate: (ULong) -> Boolean): ULong {\n for (index in this.indices.reversed()) {\n val
element = this[index]\n if (predicate(element)) return element\n } \n throw
NoSuchElementException("\nArray contains no element matching the predicate.\n")\n}\n\n/**\n * Returns the last
element matching the given [predicate].\n * \n * @throws NoSuchElementException if no such element is found.\n
* \n * @sample samples.collections.Collections.Elements.last\n

```

```

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.last(predicate: (UByte) -> Boolean): UByte {\n
for (index in this.indices.reversed()) {\n val element = this[index]\n if (predicate(element)) return
element\n } \n throw NoSuchElementException("\nArray contains no element matching the
predicate.\n")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * \n * @throws
NoSuchElementException if no such element is found.\n * \n * @sample
samples.collections.Collections.Elements.last\n

```

```

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.last(predicate: (UShort) -> Boolean): UShort {\n for (index in this.indices.reversed()) {\n val
element = this[index]\n if (predicate(element)) return element\n } \n throw
NoSuchElementException("\nArray contains no element matching the predicate.\n")\n}\n\n/**\n * Returns last index
of [element], or -1 if the array does not contain element.\n

```

```

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
fun UIntArray.lastIndexOf(element: UInt): Int {\n return storage.lastIndexOf(element.toInt())\n}\n\n/**\n *
Returns last index of [element], or -1 if the array does not contain element.\n

```

```

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.lastIndexOf(element: ULong): Int {\n return storage.lastIndexOf(element.toLong())\n}\n\n/**\n *
Returns last index of [element], or -1 if the array does not contain element.\n

```

```

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.lastIndexOf(element: UByte): Int {\n return storage.lastIndexOf(element.toByte())\n}\n\n/**\n *
Returns last index of [element], or -1 if the array does not contain element.\n

```

```

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.lastIndexOf(element: UShort): Int {\n return storage.lastIndexOf(element.toShort())\n}\n\n/**\n *
Returns
the last element, or `null` if the array is empty.\n * \n * @sample samples.collections.Collections.Elements.last\n

```

```

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.lastOrNull(): UInt? {\n return
if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n * \n *
@sample samples.collections.Collections.Elements.last\n

```

```

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.lastOrNull(): ULong? {\n
return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n
* \n * @sample samples.collections.Collections.Elements.last\n

```

```

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.lastOrNull(): UByte? {\n
return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n
* \n * @sample samples.collections.Collections.Elements.last\n

```

```

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic
fun UShortArray.lastOrNull(): UShort? {\n    return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the
last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.lastOrNull(predicate: (UInt) -> Boolean): UInt? {\n    for (index in this.indices.reversed()) {\n        val
element = this[index]\n        if (predicate(element)) return element\n    }\n    return null\n}\n\n/**\n * Returns the last
element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.lastOrNull(predicate: (ULong) -> Boolean): ULong? {\n    for (index in this.indices.reversed())
{\n        val element = this[index]\n        if (predicate(element)) return element\n    }\n    return null\n}\n\n/**\n *
Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.lastOrNull(predicate: (UByte) -> Boolean): UByte? {\n    for (index in this.indices.reversed()) {\n
val element = this[index]\n        if (predicate(element)) return element\n    }\n    return null\n}\n\n/**\n * Returns the
last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.lastOrNull(predicate: (UShort) -> Boolean): UShort? {\n    for (index in this.indices.reversed())
{\n        val element = this[index]\n        if (predicate(element)) return element\n    }\n    return null\n}\n\n/**\n *
Returns a random element from this array.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.random(): UInt {\n    return random(Random)\n}\n\n/**\n * Returns a random element from this array.\n
*\n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.random(): ULong {\n    return random(Random)\n}\n\n/**\n * Returns a random element from this
array.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.random(): UByte {\n    return random(Random)\n}\n\n/**\n * Returns a random element from
this array.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.random(): UShort {\n    return random(Random)\n}\n\n/**\n * Returns a random element from this
array using the specified source of randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.random(random: Random): UInt
{\n    if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.random(random: Random):
ULong {\n    if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.random(random: Random):
UByte {\n    if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.random(random: Random):
UShort {\n if (isEmpty())\n     throw NoSuchElementException("Array is empty.")\n return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic
inline fun UIntArray.randomOrNull(): UInt? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a random
element from this array, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun ULongArray.randomOrNull(): ULong? {\n return
randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this array, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun UByteArray.randomOrNull(): UByte? {\n return
randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this array, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun UShortArray.randomOrNull(): UShort?
{\n return randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this array using the specified
source of randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\np
ublic fun UIntArray.randomOrNull(random: Random): UInt? {\n if (isEmpty())\n     return null\n return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\np
ublic fun ULongArray.randomOrNull(random: Random): ULong? {\n if (isEmpty())\n     return null\n return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\np
ublic
fun UByteArray.randomOrNull(random: Random): UByte? {\n if (isEmpty())\n     return null\n return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\np
ublic fun UShortArray.randomOrNull(random: Random): UShort? {\n if (isEmpty())\n     return null\n return
get(random.nextInt(size))\n}\n\n/**\n * Returns the single element, or throws an exception if the array is empty or
has more than one element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.single(): UInt {\n return storage.single().toUInt()\n}\n\n/**\n * Returns the single element, or throws an
exception if the array is empty or has more than one element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun ULongArray.single(): ULong {\n return storage.single().toULong()\n}\n\n/**\n * Returns the single
element, or throws an exception if the array is empty or has more than one element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.single(): UByte {\n return storage.single().toUByte()\n}\n\n/**\n * Returns the single element, or
throws an exception if the array is empty or has more than one element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.single(): UShort {\n return storage.single().toUShort()\n}\n\n/**\n * Returns the single element
matching the given [predicate], or throws exception if there is no or more than one matching element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.single(predicate: (UInt) -> Boolean): UInt {\n

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    var single: UInt? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) throw IllegalArgumentException("Array contains more than one matching element.")\n            single = element\n            found = true\n        }\n    }\n    if (!found) throw NoSuchElementException("Array contains no element matching the predicate.")\n    @Suppress("UNCHECKED_CAST")\n    return single as UInt\n}\n\n/**\n * Returns the single element matching the given [predicate], or throws exception if there is no or more than one matching element.\n */\n\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nULongArray.single(predicate: (ULong) -> Boolean): ULong {\n    var single: ULong? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) throw IllegalArgumentException("Array contains more than one matching element.")\n            single = element\n            found = true\n        }\n    }\n    if (!found) throw NoSuchElementException("Array contains no element matching the predicate.")\n    @Suppress("UNCHECKED_CAST")\n    return single as ULong\n}\n\n/**\n * Returns the single element matching the given [predicate], or throws exception if there is no or more than one matching element.\n */\n\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUByteArray.single(predicate: (UByte) -> Boolean): UByte {\n    var single: UByte? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) throw IllegalArgumentException("Array contains more than one matching element.")\n            single = element\n            found = true\n        }\n    }\n    if (!found) throw NoSuchElementException("Array contains no element matching the predicate.")\n    @Suppress("UNCHECKED_CAST")\n    return single as UByte\n}\n\n/**\n * Returns the single element matching the given [predicate], or throws exception if there is no or more than one matching element.\n */\n\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUShortArray.single(predicate: (UShort) -> Boolean): UShort {\n    var single: UShort? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) throw IllegalArgumentException("Array contains more than one matching element.")\n            single = element\n            found = true\n        }\n    }\n    if (!found) throw NoSuchElementException("Array contains no element matching the predicate.")\n    @Suppress("UNCHECKED_CAST")\n    return single as UShort\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one element.\n */\n\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.singleOrNull(): UInt? {\n    return if (size == 1) this[0]\n    else null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one element.\n */\n\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.singleOrNull(): ULong? {\n    return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one element.\n */\n\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.singleOrNull(): UByte? {\n    return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one element.\n */\n\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.singleOrNull(): UShort? {\n    return if (size == 1) this[0] else null\n}\n\n/**\n * Returns the single element matching the given [predicate], or `null` if element was not found or more than one element was found.\n */\n\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic\ninline fun UIntArray.singleOrNull(predicate: (UInt) -> Boolean): UInt? {\n    var single: UInt? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) return null\n            single = element\n            found = true\n        }\n    }\n    if (!found) return null\n    return single\n}\n\n/**\n * Returns the single element matching the given [predicate], or `null` if element was not found or more than one element was found.\n */\n\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nULongArray.singleOrNull(predicate: (ULong) -> Boolean): ULong? {\n    var single: ULong? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) return null\n            single

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= element\n      found = true\n      }\n      }\n      if (!found) return null\n      return single\n}\n\n**\n * Returns the
single element matching the given
[predicate], or `null` if element was not found or more than one element was found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.singleOrNull(predicate: (UByte) -> Boolean): UByte? {\n  var single: UByte? = null\n  var found =
false\n  for (element in this) {\n    if (predicate(element)) {\n      if (found) return null\n      single =
element\n      found = true\n    }\n  }\n  if (!found) return null\n  return single\n}\n\n**\n * Returns the
single element matching the given [predicate], or `null` if element was not found or more than one element was
found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
fun UShortArray.singleOrNull(predicate: (UShort) -> Boolean): UShort? {\n  var single: UShort? = null\n  var
found = false\n  for (element in this) {\n    if (predicate(element)) {\n      if (found) return null\n
single = element\n      found = true\n    }\n  }\n  if (!found) return null\n  return single\n}\n\n**\n *
Returns a list containing all elements except first [n] elements.\n
*\n * @throws IllegalArgumentException if [n] is
negative.\n
*\n * @sample samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.drop(n: Int): List<UInt> {\n
require(n >= 0) { "Requested element count $n is less than zero." }\n  return takeLast((size -
n).coerceAtLeast(0))\n}\n\n**\n * Returns a list containing all elements except first [n] elements.\n
*\n * @throws
IllegalArgumentException if [n] is negative.\n
*\n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.drop(n: Int): List<ULong> {\n
require(n >= 0) { "Requested element count $n is less than zero." }\n  return takeLast((size -
n).coerceAtLeast(0))\n}\n\n**\n * Returns a list containing all elements except first [n] elements.\n
*\n * @throws
IllegalArgumentException if [n] is negative.\n
*\n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.drop(n: Int): List<UByte> {\n
require(n >= 0) { "Requested element count $n is less than zero." }\n  return takeLast((size -
n).coerceAtLeast(0))\n}\n\n**\n * Returns a list containing all elements except first [n] elements.\n
*\n * @throws
IllegalArgumentException if [n] is negative.\n
*\n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.drop(n: Int): List<UShort> {\n
require(n >= 0) { "Requested element count $n is less than zero." }\n  return takeLast((size -
n).coerceAtLeast(0))\n}\n\n**\n * Returns a list containing all elements except last [n] elements.\n
*\n * @throws
IllegalArgumentException
if [n] is negative.\n
*\n * @sample samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.dropLast(n: Int): List<UInt> {\n
require(n >= 0) { "Requested element count $n is less than zero." }\n  return take((size -
n).coerceAtLeast(0))\n}\n\n**\n * Returns a list containing all elements except last [n] elements.\n
*\n * @throws
IllegalArgumentException if [n] is negative.\n
*\n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.dropLast(n: Int):
List<ULong> {\n  require(n >= 0) { "Requested element count $n is less than zero." }\n  return take((size -
n).coerceAtLeast(0))\n}\n\n**\n * Returns a list containing all elements except last [n] elements.\n
*\n * @throws
IllegalArgumentException if [n] is negative.\n
*\n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic
fun UByteArray.dropLast(n: Int): List<UByte> {\n  require(n >= 0) { "Requested element count $n is less than
zero." }\n  return take((size - n).coerceAtLeast(0))\n}\n\n**\n * Returns a list containing all elements except last
[n] elements.\n
*\n * @throws IllegalArgumentException if [n] is negative.\n
*\n * @sample

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samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.dropLast(n: Int):
List<UShort> {\n    require(n >= 0) { "Requested element count $n is less than zero." }\n    return take((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given
[predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.dropLastWhile(predicate: (UInt) -> Boolean):
List<UInt> {\n    for (index in lastIndex downTo 0) {\n        if (!predicate(this[index])) {\n            return take(index
+ 1)\n        }\n    }\n    return emptyList()\n}\n\n/**\n * Returns a list containing all elements except last elements
that satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.dropLastWhile(predicate: (ULong) -> Boolean): List<ULong> {\n    for (index in lastIndex downTo 0)
{\n        if (!predicate(this[index])) {\n            return take(index + 1)\n        }\n    }\n    return emptyList()\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.dropLastWhile(predicate:
(UByte) -> Boolean): List<UByte> {\n    for (index in lastIndex downTo 0) {\n        if (!predicate(this[index])) {\n
            return take(index + 1)\n        }\n    }\n    return emptyList()\n}\n\n/**\n * Returns a list containing all elements
except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.dropLastWhile(predicate: (UShort) -> Boolean): List<UShort> {\n    for (index in lastIndex downTo
0) {\n        if (!predicate(this[index])) {\n            return take(index + 1)\n        }\n    }\n    return
emptyList()\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given
[predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UIntArray.dropWhile(predicate: (UInt) -> Boolean): List<UInt> {\n    var yielding = false\n    val list =
ArrayList<UInt>()\n    for (item in this)\n        if (yielding)\n            list.add(item)\n        else if (!predicate(item)) {\n
            list.add(item)\n            yielding = true\n        }\n    return list\n}\n\n/**\n * Returns a list containing all
elements except first elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.dropWhile(predicate: (ULong) -> Boolean): List<ULong> {\n    var yielding = false\n    val list =
ArrayList<ULong>()\n    for (item in this)\n        if (yielding)\n            list.add(item)\n        else if (!predicate(item))
{\n            list.add(item)\n            yielding = true\n        }\n    return list\n}\n\n/**\n * Returns a list containing all
elements except
first elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.dropWhile(predicate: (UByte) -> Boolean): List<UByte> {\n    var yielding = false\n    val list =
ArrayList<UByte>()\n    for (item in this)\n        if (yielding)\n            list.add(item)\n        else if (!predicate(item))
{\n            list.add(item)\n            yielding = true\n        }\n    return list\n}\n\n/**\n * Returns a list containing all
elements except first elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.dropWhile(predicate: (UShort) -> Boolean): List<UShort> {\n    var yielding = false\n    val list =
ArrayList<UShort>()\n    for (item in this)\n

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    if (yielding)\n        list.add(item)\n    else if (!predicate(item)) {\n        list.add(item)\n        yielding =
true\n    }\n    return list\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n *\n * @sample samples.collections.Collections.Filtering.filter\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.filter(predicate: (UInt) -> Boolean): List<UInt> {\n    return filterTo(ArrayList<UInt>(),
predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n *\n * @sample
samples.collections.Collections.Filtering.filter\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.filter(predicate: (ULong) -> Boolean): List<ULong> {\n    return filterTo(ArrayList<ULong>(),
predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n *\n * @sample
samples.collections.Collections.Filtering.filter\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.filter(predicate: (UByte) -> Boolean): List<UByte> {\n    return filterTo(ArrayList<UByte>(),
predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n *\n * @sample
samples.collections.Collections.Filtering.filter\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.filter(predicate: (UShort) -> Boolean): List<UShort> {\n    return filterTo(ArrayList<UShort>(),
predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n *\n * @param
[predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate
evaluation on the element.\n *\n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UIntArray.filterIndexed(predicate: (index: Int, UInt) -> Boolean): List<UInt> {\n    return
filterIndexedTo(ArrayList<UInt>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the
given [predicate].\n *\n * @param [predicate] function that takes the index of an element and the element itself\n * and
returns the result of predicate evaluation on the element.\n *\n * @sample
samples.collections.Collections.Filtering.filterIndexed\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.filterIndexed(predicate: (index: Int, ULong) -> Boolean): List<ULong> {\n    return
filterIndexedTo(ArrayList<ULong>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the
given [predicate].\n *\n * @param [predicate] function that takes the index of an element and the element itself\n * and
returns the result of predicate evaluation
on the element.\n *\n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.filterIndexed(predicate: (index: Int, UByte) -> Boolean): List<UByte> {\n    return
filterIndexedTo(ArrayList<UByte>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the
given [predicate].\n *\n * @param [predicate] function that takes the index of an element and the element itself\n * and
returns the result of predicate evaluation on the element.\n *\n * @sample
samples.collections.Collections.Filtering.filterIndexed\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.filterIndexed(predicate: (index: Int, UShort) -> Boolean): List<UShort> {\n    return
filterIndexedTo(ArrayList<UShort>(), predicate)\n}\n\n/**\n * Appends all elements matching the given [predicate]
to the given [destination].\n *\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of
predicate evaluation on the element.\n *\n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UInt>> UIntArray.filterIndexedTo(destination: C, predicate: (index: Int, UInt) -> Boolean): C
{\n    forEachIndexed { index, element ->\n        if (predicate(index, element)) destination.add(element)\n    }\n    return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n *\n *

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@param [predicate] function that takes the index of an element and the element itself\n * and returns the result of
predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun <C : MutableCollection<in ULong>> ULongArray.filterIndexedTo(destination: C, predicate: (index: Int,
ULong) -> Boolean): C {\n    forEachIndexed { index, element ->\n        if (predicate(index, element))
destination.add(element)\n    }\n    return destination\n}\n\n/**\n * Appends all elements matching the given
[predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the
element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexedTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UByte>> UByteArray.filterIndexedTo(destination: C, predicate: (index: Int, UByte) ->
Boolean): C {\n    forEachIndexed { index, element ->\n        if (predicate(index, element))
destination.add(element)\n    }\n    return destination\n}\n\n/**\n * Appends all
elements matching the given [predicate] to the given [destination].\n * @param [predicate] function that takes the
index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n *
@sample samples.collections.Collections.Filtering.filterIndexedTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UShort>> UShortArray.filterIndexedTo(destination: C, predicate: (index: Int, UShort) ->
Boolean): C {\n    forEachIndexed { index, element ->\n        if (predicate(index, element))
destination.add(element)\n    }\n    return destination\n}\n\n/**\n * Returns a list containing all elements not
matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.filterNot(predicate: (UInt) -> Boolean): List<UInt> {\n    return
filterNotTo(ArrayList<UInt>(), predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the
given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.filterNot(predicate: (ULong) -> Boolean): List<ULong> {\n    return filterNotTo(ArrayList<ULong>(),
predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.filterNot(predicate: (UByte) -> Boolean): List<UByte> {\n    return filterNotTo(ArrayList<UByte>(),
predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UShortArray.filterNot(predicate: (UShort) -> Boolean): List<UShort> {\n    return
filterNotTo(ArrayList<UShort>(), predicate)\n}\n\n/**\n * Appends all elements not matching the given [predicate]
to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UInt>> UIntArray.filterNotTo(destination: C, predicate: (UInt) -> Boolean): C {\n    for
(element in this) if (!predicate(element)) destination.add(element)\n    return destination\n}\n\n/**\n * Appends all
elements not matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in ULong>> ULongArray.filterNotTo(destination:
C, predicate: (ULong) -> Boolean): C {\n    for (element in this) if (!predicate(element)) destination.add(element)\n
return destination\n}\n\n/**\n * Appends all elements not matching the given [predicate] to the given
[destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :

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MutableCollection<in UByte>> UByteArray.filterNotTo(destination: C, predicate: (UByte) -> Boolean): C {\n for
(element in this) if (!predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends all
elements not matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UShort>> UShortArray.filterNotTo(destination: C, predicate: (UShort) -> Boolean):
C {\n for (element in this) if (!predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n *
Appends all elements matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UInt>> UIntArray.filterTo(destination: C, predicate: (UInt) -> Boolean): C {\n for (element
in this) if (predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends all elements
matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in ULong>> ULongArray.filterTo(destination: C, predicate: (ULong) -> Boolean): C {\n for
(element in this) if (predicate(element))
destination.add(element)\n return destination\n}\n\n/**\n * Appends all elements matching the given [predicate]
to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UByte>> UByteArray.filterTo(destination: C, predicate: (UByte) -> Boolean): C {\n for
(element in this) if (predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends all
elements matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UShort>> UShortArray.filterTo(destination: C, predicate: (UShort) -> Boolean): C {\n for
(element in this) if (predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n
* Returns a list containing elements at indices in the specified [indices] range.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.slice(indices: IntRange):
List<UInt> {\n if (indices.isEmpty()) return listOf()\n return copyOfRange(indices.start, indices.endInclusive +
1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.slice(indices: IntRange):
List<ULong> {\n if (indices.isEmpty()) return listOf()\n return copyOfRange(indices.start, indices.endInclusive
+ 1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.slice(indices: IntRange):
List<UByte> {\n if (indices.isEmpty()) return listOf()\n return copyOfRange(indices.start, indices.endInclusive
+ 1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.slice(indices: IntRange):
List<UShort> {\n if (indices.isEmpty()) return listOf()\n return copyOfRange(indices.start, indices.endInclusive
+ 1).asList()\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.slice(indices: Iterable<Int>):
List<UInt> {\n val size = indices.collectionSizeOrDefault(10)\n if (size == 0) return emptyList()\n val list =
ArrayList<UInt>(size)\n for (index in indices) {\n list.add(get(index))\n }\n return list\n}\n\n/**\n *
Returns a list containing elements at specified [indices].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.slice(indices: Iterable<Int>):
List<ULong> {\n val size = indices.collectionSizeOrDefault(10)\n if (size ==

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0) return emptyList()\n  val list = ArrayList<ULong>(size)\n  for (index in indices) {\n    list.add(get(index))\n  }\n  return list\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.slice(indices: Iterable<Int>):\nList<UByte> {\n  val size = indices.collectionSizeOrDefault(10)\n  if (size == 0) return emptyList()\n  val list =\n  ArrayList<UByte>(size)\n  for (index in indices) {\n    list.add(get(index))\n  }\n  return list\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.slice(indices: Iterable<Int>):\nList<UShort> {\n  val size = indices.collectionSizeOrDefault(10)\n  if (size == 0) return emptyList()\n  val list =\n  ArrayList<UShort>(size)\n  for (index in indices) {\n    list.add(get(index))\n  }\n  return list\n}\n\n/**\n * Returns an array\n * containing elements of this array at specified [indices].\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sliceArray(indices:\nCollection<Int>): UIntArray {\n  return UIntArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an array\n * containing elements of this array at specified [indices].\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sliceArray(indices:\nCollection<Int>): ULongArray {\n  return ULongArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an array\n * containing elements of this array at specified [indices].\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sliceArray(indices:\nCollection<Int>): UByteArray {\n  return UByteArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an array\n * containing elements of this array at specified [indices].\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sliceArray(indices:\nCollection<Int>): UShortArray {\n  return UShortArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an array containing elements at indices in\n * the specified [indices] range.\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun\nUIntArray.sliceArray(indices: IntRange): UIntArray {\n  return UIntArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices] range.\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sliceArray(indices: IntRange):\nULongArray {\n  return ULongArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an array containing\n * elements at indices in the specified [indices] range.\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sliceArray(indices: IntRange):\nUByteArray {\n  return UByteArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an array containing\n * elements at indices in the specified [indices] range.\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic\nfun UShortArray.sliceArray(indices: IntRange): UShortArray {\n  return\n  UShortArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample\n * samples.collections.Collections.Transformations.take\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.take(n: Int): List<UInt> {\n  require(n >= 0) { "Requested element count $n is less than zero." }\n  if (n == 0) return emptyList()\n  if (n >=\n  size) return toList()\n  if (n == 1) return listOf(this[0])\n  var count = 0\n  val list = ArrayList<UInt>(n)\n  for\n  (item in this) {\n    list.add(item)\n    if (++count == n)\n      break\n  }\n  return list\n}\n\n/**\n * Returns\n * a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample\n * samples.collections.Collections.Transformations.take\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic\nfun ULongArray.take(n: Int): List<ULong> {\n  require(n >= 0) { "Requested element count $n is less than\n  zero." }\n  if (n == 0) return emptyList()\n  if (n >= size) return toList()\n  if (n == 1) return listOf(this[0])\n  var count = 0\n  val list = ArrayList<ULong>(n)\n  for (item in this) {\n    list.add(item)\n    if (++count ==\n    n)\n      break\n  }\n  return list\n}\n\n/**\n * Returns a list containing first [n] elements.\n * \n * @throws\n */

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IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.take(n: Int): List<UByte> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n if (n >=
size) return toList()\n if (n == 1) return listOf(this[0])\n var count = 0\n val list = ArrayList<UByte>(n)\n
for (item in this) {\n list.add(item)\n if (++count == n)\n break\n }\n return list\n}\n\n/**\n *
Returns a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n *
@sample samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.take(n: Int): List<UShort> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n if (n >=
size) return toList()\n if (n == 1) return listOf(this[0])\n var count = 0\n val list = ArrayList<UShort>(n)\n for
(item in this) {\n list.add(item)\n if (++count == n)\n break\n }\n return list\n}\n\n/**\n * Returns
a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic
fun UIntArray.takeLast(n: Int): List<UInt> {\n require(n >= 0) { \"Requested element count $n is less than zero.\"
}\n if (n == 0) return emptyList()\n val size = size\n if (n >= size) return toList()\n if (n == 1) return
listOf(this[size - 1])\n val list = ArrayList<UInt>(n)\n for (index in size - n until size)\n
list.add(this[index])\n return list\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.takeLast(n: Int): List<ULong>
{\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val
size = size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list =
ArrayList<ULong>(n)\n for (index in size - n
until size)\n list.add(this[index])\n return list\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n *
@throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.takeLast(n: Int): List<UByte>
{\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val
size = size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list =
ArrayList<UByte>(n)\n for (index in size - n until size)\n list.add(this[index])\n return list\n}\n\n/**\n *
Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n *
@sample samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.takeLast(n: Int): List<UShort>
{\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val
size = size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list =
ArrayList<UShort>(n)\n for (index in size - n until size)\n list.add(this[index])\n return list\n}\n\n/**\n *
Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.takeLastWhile(predicate: (UInt) -> Boolean): List<UInt> {\n for (index in lastIndex downTo 0) {\n
if (!predicate(this[index])) {\n return drop(index + 1)\n }\n }\n return toList()\n}\n\n/**\n * Returns a
list containing last elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun ULongArray.takeLastWhile(predicate: (ULong) -> Boolean): List<ULong> {\n for (index in lastIndex
downTo 0) {\n if (!predicate(this[index])) {\n return drop(index + 1)\n }\n }\n return

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toList()\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.takeLastWhile(predicate: (UByte) -> Boolean): List<UByte> {\n  for (index in lastIndex downTo 0)
{\n    if (!predicate(this[index])) {\n      return drop(index + 1)\n    }\n  }\n  return toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UShortArray.takeLastWhile(predicate: (UShort) -> Boolean): List<UShort> {\n  for (index in lastIndex
downTo 0) {\n    if (!predicate(this[index])) {\n      return drop(index + 1)\n    }\n  }\n  return
toList()\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.takeWhile(predicate: (UInt) -> Boolean): List<UInt> {\n  val list = ArrayList<UInt>()\n  for (item in
this) {\n    if (!predicate(item))\n      break\n    list.add(item)\n  }\n  return list\n}\n\n/**\n * Returns a list
containing first elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun ULongArray.takeWhile(predicate: (ULong) -> Boolean): List<ULong> {\n  val list =
ArrayList<ULong>()\n  for (item in this) {\n    if (!predicate(item))\n      break\n    list.add(item)\n  }\n
return list\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.takeWhile(predicate: (UByte) -> Boolean): List<UByte> {\n  val list = ArrayList<UByte>()\n  for
(item in this) {\n    if (!predicate(item))\n      break\n    list.add(item)\n  }\n  return list\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UShortArray.takeWhile(predicate: (UShort) -> Boolean): List<UShort> {\n  val list =
ArrayList<UShort>()\n  for (item in this) {\n    if (!predicate(item))\n      break\n    list.add(item)\n  }\n
return list\n}\n\n/**\n * Reverses elements in the array in-place.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.reverse(): Unit {\n  storage.reverse()\n}\n\n/**\n * Reverses elements in the array in-place.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.reverse(): Unit {\n  storage.reverse()\n}\n\n/**\n * Reverses elements in the array in-place.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.reverse(): Unit {\n  storage.reverse()\n}\n\n/**\n * Reverses elements in the array in the
specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n * @param
toIndex the end of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is
less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if
[fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n  storage.reverse(fromIndex, toIndex)\n}\n\n/**\n *
Reverses elements of the array in the specified range in-place.\n * \n * @param fromIndex the start of the range
(inclusive) to reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is

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less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n

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*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n    storage.reverse(fromIndex, toIndex)\n}\n\n/**\n * Reverses elements of the array in the specified range in-place.\n * \n * @param fromIndex the start of the range
(inclusive) to reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *
@throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n

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*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n    storage.reverse(fromIndex, toIndex)\n}\n\n/**\n * Reverses elements
of the array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to
reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *
@throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n

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*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n    storage.reverse(fromIndex, toIndex)\n}\n\n/**\n * Returns a list with elements in reversed order.\n *
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic
fun UIntArray.reversed(): List<UInt> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic
fun ULongArray.reversed(): List<ULong> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.reversed(): List<UByte> {\n
if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n}\n\n/**\n * Returns
a list with elements in reversed order.\n *
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UShortArray.reversed(): List<UShort> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n

```

```

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.reversedArray(): UIntArray {\n    return UIntArray(storage.reversedArray())\n}\n\n/**\n * Returns an
array with elements of this array in reversed order.\n

```

```

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.reversedArray(): ULongArray {\n    return ULongArray(storage.reversedArray())\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n

```

```

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.reversedArray(): UByteArray {\n    return UByteArray(storage.reversedArray())\n}\n\n/**\n * Returns
an array with elements of this array in reversed order.\n

```

```

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.reversedArray(): UShortArray {\n    return UShortArray(storage.reversedArray())\n}\n\n/**\n * Randomly
shuffles elements in this array in-place.\n

```

```

*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.shuffle(): Unit {\n
shuffle(Random)\n}\n\n/**\n * Randomly shuffles
elements in this array in-place.\n *
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun
ULongArray.shuffle(): Unit {\n    shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-
place.\n *
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.shuffle(): Unit {\n
shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n

```

```

*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.shuffle(): Unit {\n

```

```

shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-place using the specified [random]
instance as the source of randomness.\n * \n * See:
https://en.wikipedia.org/wiki/Fisher%E2%80%93Yates\_shuffle#The\_modern\_algorithm\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.shuffle(random: Random): Unit
{\n    for (i in lastIndex downTo 1) {\n        val j = random.nextInt(i + 1)\n        val copy = this[i]\n        this[i] =
this[j]\n        this[j]
= copy\n    }\n}\n\n/**\n * Randomly shuffles elements in this array in-place using the specified [random] instance
as the source of randomness.\n * \n * See:
https://en.wikipedia.org/wiki/Fisher%E2%80%93Yates\_shuffle#The\_modern\_algorithm\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.shuffle(random: Random):
Unit {\n    for (i in lastIndex downTo 1) {\n        val j = random.nextInt(i + 1)\n        val copy = this[i]\n        this[i] =
this[j]\n        this[j] = copy\n    }\n}\n\n/**\n * Randomly shuffles elements in this array in-place using the specified [random] instance as the
source of randomness.\n * \n * See:
https://en.wikipedia.org/wiki/Fisher%E2%80%93Yates\_shuffle#The\_modern\_algorithm\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.shuffle(random: Random):
Unit {\n    for (i in lastIndex downTo 1) {\n        val j = random.nextInt(i + 1)\n        val copy = this[i]\n        this[i] =
this[j]\n        this[j] = copy\n    }\n}\n\n/**\n * Randomly shuffles elements in this array in-place using the specified [random] instance as the
source of randomness.\n * \n * See:
https://en.wikipedia.org/wiki/Fisher%E2%80%93Yates\_shuffle#The\_modern\_algorithm\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.shuffle(random: Random):
Unit {\n    for (i in lastIndex downTo 1) {\n        val j = random.nextInt(i + 1)\n        val copy = this[i]\n        this[i] =
this[j]\n        this[j] = copy\n    }\n}\n\n/**\n * Sorts elements in the array in-place descending according to their
natural sort order.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UIntArray.sortDescending(): Unit {\n    if (size > 1) {\n        sort()\n        reverse()\n    }\n}\n\n/**\n * Sorts elements
in the array in-place descending according to their natural sort order.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sortDescending(): Unit {\n    if
(size > 1)
{\n        sort()\n        reverse()\n    }\n}\n\n/**\n * Sorts elements in the array in-place descending according to their
natural sort order.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UByteArray.sortDescending(): Unit {\n    if (size > 1) {\n        sort()\n        reverse()\n    }\n}\n\n/**\n * Sorts
elements in the array in-place descending according to their natural sort order.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sortDescending(): Unit {\n    if
(size > 1) {\n        sort()\n        reverse()\n    }\n}\n\n/**\n * Returns a list of all elements sorted according to their
natural sort order.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sorted():
List<UInt> {\n    return copyOf().apply { sort() }.asList()\n}\n\n/**\n * Returns a list of all elements sorted
according to their natural sort order.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
ULongArray.sorted():
List<ULong> {\n    return copyOf().apply { sort() }.asList()\n}\n\n/**\n * Returns a list of all elements sorted
according to their natural sort order.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UByteArray.sorted(): List<UByte> {\n    return copyOf().apply { sort() }.asList()\n}\n\n/**\n * Returns a list of all
elements sorted according to their natural sort order.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sorted(): List<UShort> {\n    if
(size > 1) {\n        return copyOf().apply { sort() }.asList()\n    }\n}\n\n/**\n * Returns an array with all elements of this array sorted
according to their natural sort order.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UIntArray.sortedArray(): UIntArray {\n    if (isEmpty()) return this\n    return this.copyOf().apply { sort()
}\n}\n\n/**\n * Returns an array with all elements of this array sorted according to their natural sort order.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic

```

```

fun ULongArray.sortedArray(): ULongArray {
    if (isEmpty()) return this
    return this.copyOf().apply { sort() }
}

```

* Returns an array with all elements of this array sorted according to their natural sort order.

```

@SinceKotlin("1.3")@ExperimentalUnsignedTypes
public fun UByteArray.sortedArray(): UByteArray {
    if (isEmpty()) return this
    return this.copyOf().apply { sort() }
}

```

* Returns an array with all elements of this array sorted according to their natural sort order.

```

@SinceKotlin("1.3")@ExperimentalUnsignedTypes
public fun UShortArray.sortedArray(): UShortArray {
    if (isEmpty()) return this
    return this.copyOf().apply { sort() }
}

```

* Returns an array with all elements of this array sorted descending according to their natural sort order.

```

@SinceKotlin("1.3")@ExperimentalUnsignedTypes
public fun UIntArray.sortedArrayDescending():
    UIntArray {
    if (isEmpty()) return this
    return this.copyOf().apply {
        sortDescending() }
}

```

* Returns an array with all elements of this array sorted descending according to their natural sort order.

```

@SinceKotlin("1.3")@ExperimentalUnsignedTypes
public fun
    ULongArray.sortedArrayDescending(): ULongArray {
    if (isEmpty()) return this
    return this.copyOf().apply {
        sortDescending() }
}

```

* Returns an array with all elements of this array sorted descending according to their natural sort order.

```

@SinceKotlin("1.3")@ExperimentalUnsignedTypes
public fun
    UByteArray.sortedArrayDescending(): UByteArray {
    if (isEmpty()) return this
    return this.copyOf().apply {
        sortDescending() }
}

```

* Returns an array with all elements of this array sorted descending according to their natural sort order.

```

@SinceKotlin("1.3")@ExperimentalUnsignedTypes
public fun
    UShortArray.sortedArrayDescending(): UShortArray {
    if (isEmpty()) return this
    return this.copyOf().apply {
        sortDescending() }
}

```

* Returns a list of all elements sorted descending according to their natural sort order. * The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.

```

@SinceKotlin("1.3")@ExperimentalUnsignedTypes
public fun UIntArray.sortedDescending(): List<UInt> {
    return copyOf().apply { sort() }.reversed()
}

```

* Returns a list of all elements sorted descending according to their natural sort order. * The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.

```

@SinceKotlin("1.3")@ExperimentalUnsignedTypes
public fun
    ULongArray.sortedDescending(): List<ULong> {
    return copyOf().apply { sort() }.reversed()
}

```

* Returns a list of all elements sorted descending according to their natural sort order. * The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.

```

@SinceKotlin("1.3")@ExperimentalUnsignedTypes
public
    fun UByteArray.sortedDescending(): List<UByte> {
    return copyOf().apply { sort() }.reversed()
}

```

* Returns a list of all elements sorted descending according to their natural sort order. * The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.

```

@SinceKotlin("1.3")@ExperimentalUnsignedTypes
public fun UShortArray.sortedDescending():
    List<UShort> {
    return copyOf().apply { sort() }.reversed()
}

```

* Returns an array of type `[ByteArray]`, which is a view of this array where each element is a signed reinterpretation * of the corresponding element of this array.

```

@SinceKotlin("1.3")@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
    UByteArray.asByteArray(): ByteArray {
    return storage
}

```

* Returns an array of type `[IntArray]`, which is a view of this array where each element is a signed reinterpretation * of the corresponding element of this array.

```

@SinceKotlin("1.3")@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
    UIntArray.asIntArray(): IntArray {
    return storage
}

```

* Returns a `[List]` that wraps the original array.

```

@SinceKotlin("1.3")@ExperimentalUnsignedTypes
public expect fun UIntArray.asList():
    List<UInt>

```

* Returns a `[List]` that wraps the original array.

```

@SinceKotlin("1.3")@ExperimentalUnsignedTypes
public expect fun ULongArray.asList():
    List<ULong>

```

* Returns a `[List]` that wraps the original array.

```

@SinceKotlin("1.3")@ExperimentalUnsignedTypes
public expect fun UByteArray.asList():
    List<UByte>

```

* Returns a `[List]` that wraps the original array.

```

*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes\npublic expect fun UShortArray.asList():
List<UShort>\n\n/**\n * Returns an array of type [LongArray], which is a view of this array where each element is
a signed reinterpretation\n
 * of the corresponding element of this array.\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.asLongArray(): LongArray {\n    return storage\n}\n\n/**\n * Returns an array of type [ShortArray],
which is a view of this array where each element is a signed reinterpretation\n * of the corresponding element of this
array.\n *^@SinceKotlin("1.3")@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.asShortArray(): ShortArray {\n    return storage\n}\n\n/**\n * Returns an array of type [UByteArray],
which is a view of this array where each element is an unsigned reinterpretation\n * of the corresponding element of
this array.\n *^@SinceKotlin("1.3")@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
fun UByteArray.asUByteArray(): UByteArray {\n    return UByteArray(this)\n}\n\n/**\n * Returns an array of type
[UIntArray], which is a view of this array where
each element is an unsigned reinterpretation\n * of the corresponding element of this array.\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
IntArray.asUIntArray(): UIntArray {\n    return UIntArray(this)\n}\n\n/**\n * Returns an array of type
[ULongArray], which is a view of this array where each element is an unsigned reinterpretation\n * of the
corresponding element of this array.\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
LongArray.asULongArray(): ULongArray {\n    return ULongArray(this)\n}\n\n/**\n * Returns an array of type
[UShortArray], which is a view of this array where each element is an unsigned reinterpretation\n * of the
corresponding element of this array.\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ShortArray.asUShortArray(): UShortArray {\n    return UShortArray(this)\n}\n\n/**\n * Returns `true`
if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same
elements in the same order.\n *^@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.")\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@ExperimentalUnsignedTypes\npublic infix fun UIntArray.contentEquals(other: UIntArray): Boolean {\n
return this.contentEquals(other)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to
one another,\n * i.e. contain the same number of the same elements in the same order.\n *^@Deprecated("Use
Kotlin compiler 1.4 to avoid deprecation
warning.")\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@ExperimentalUnsignedTypes\npublic infix fun ULongArray.contentEquals(other: ULongArray):
Boolean {\n    return this.contentEquals(other)\n}\n\n/**\n * Returns `true` if the two specified arrays are
*structurally* equal to one another,\n * i.e. contain
the same number of the same elements in the same order.\n *^@Deprecated("Use Kotlin compiler 1.4 to avoid
deprecation warning.")\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@ExperimentalUnsignedTypes\npublic infix fun UByteArray.contentEquals(other: UByteArray): Boolean
{\n    return this.contentEquals(other)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally*
equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n *^@Deprecated("Use
Kotlin compiler 1.4 to avoid deprecation
warning.")\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@ExperimentalUnsignedTypes\npublic infix fun UShortArray.contentEquals(other: UShortArray): Boolean
{\n    return this.contentEquals(other)\n}\n\n/**\n * Returns `true` if the two specified arrays are
*structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n
*^@SinceKotlin("1.4")@ExperimentalUnsignedTypes\npublic
infix fun UIntArray?.contentEquals(other: UIntArray?): Boolean {\n    return
this?.storage.contentEquals(other?.storage)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally*

```


equal to one another, \n * i.e. contain the same number of the same elements in the same order. \n

```

*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic infix fun ULongArray?.contentEquals(other:
ULongArray?): Boolean {\n    return this?.storage.contentEquals(other?.storage)\n}\n\n/**\n * Returns `true` if the
two specified arrays are *structurally* equal to one another, \n * i.e. contain the same number of the same elements
in the same order. \n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic infix fun
UByteArray?.contentEquals(other: UByteArray?): Boolean {\n    return
this?.storage.contentEquals(other?.storage)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally*
equal to one another, \n * i.e. contain the same number
of the same elements in the same order. \n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic infix
fun UShortArray?.contentEquals(other: UShortArray?): Boolean {\n    return
this?.storage.contentEquals(other?.storage)\n}\n\n/**\n * Returns a hash code based on the contents of this array as
if it is [List]. \n
*\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.")\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.contentHashCode(): Int {\n    return
this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List]. \n
*\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.")\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.contentHashCode(): Int {\n    return
this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List]. \n
*\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.")\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.contentHashCode(): Int {\n    return
this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as
if it is [List]. \n
*\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.")\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.contentHashCode(): Int {\n    return
this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List]. \n
*\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.")\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.contentHashCode(): Int {\n    return
this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List]. \n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray?.contentHashCode(): Int {\n
return this?.storage.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it
is [List]. \n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic
fun ULongArray?.contentHashCode(): Int {\n    return this?.storage.contentHashCode()\n}\n\n/**\n * Returns a
hash code based on the contents of this array as if it is [List]. \n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray?.contentHashCode(): Int {\n
return this?.storage.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it
is [List]. \n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun
UShortArray?.contentHashCode(): Int {\n    return this?.storage.contentHashCode()\n}\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List]. \n
*\n * @sample
samples.collections.Arrays.ContentOperations.contentToString \n
*\n@Deprecated("Use Kotlin compiler 1.4 to
avoid deprecation warning.")\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.contentToString(): String {\n    return
this.contentToString()\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is
[List]. \n
*\n * @sample samples.collections.Arrays.ContentOperations.contentToString \n
*\n@Deprecated("Use
Kotlin compiler 1.4 to avoid deprecation
warning.")\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.contentToString(): String {\n    return
this.contentToString()\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is
[List]. \n
*\n * @sample samples.collections.Arrays.ContentOperations.contentToString \n
*\n@Deprecated("Use
Kotlin compiler 1.4 to avoid deprecation

```

```

warning.\n)\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.contentToString(): String {\n    return
this.contentToString()\n}\n\n/**\n * Returns a string representation of the contents of the specified array as
if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.\n)\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.contentToString(): String {\n    return
this.contentToString()\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is
[List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray?.contentToString(): String {\n
return this?.joinToString(", ", "[", "]") ?: "null"\n}\n\n/**\n * Returns a string representation of the contents of
the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun ULongArray?.contentToString(): String
{\n    return this?.joinToString(", ", "[", "]") ?: "null"\n}\n\n/**\n * Returns a string representation of the
contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray?.contentToString(): String {\n
return this?.joinToString(", ", "[", "]") ?: "null"\n}\n\n/**\n * Returns a string representation of the contents of
the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UShortArray?.contentToString(): String {\n
return this?.joinToString(", ", "[", "]") ?: "null"\n}\n\n/**\n * Copies this array or its subrange into the
[destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even
specify the subrange so that it overlaps with
the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position
in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to
copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n
*\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out
of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the
subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is
out of the [destination] array indices range.\n * \n * @return the [destination] array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.copyInto(destination: UIntArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int =
size): UIntArray {\n    storage.copyInto(destination.storage, destinationOffset, startIndex, endIndex)\n    return
destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n *
It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the
destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the
[destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy,
0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n *
@throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of
range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the
subrange doesn't fit into the [destination] array starting at the specified
[destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the
[destination] array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.copyInto(destination: ULongArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size):
ULongArray {\n    storage.copyInto(destination.storage, destinationOffset, startIndex, endIndex)\n    return

```

destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n *
It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n

```
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UByteArray.copyInto(destination: UByteArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size):  
UByteArray {\n    storage.copyInto(destination.storage, destinationOffset, startIndex, endIndex)\n    return  
destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n *  
It's allowed to pass the same array in the [destination] and even  
specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy  
to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param  
startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive)  
of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or  
[IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex  
> endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array  
starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n
```

```
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UShortArray.copyInto(destination: UShortArray, destinationOffset:  
Int = 0, startIndex: Int = 0, endIndex: Int = size): UShortArray {\n    storage.copyInto(destination.storage,  
destinationOffset, startIndex, endIndex)\n    return destination\n}\n\n/**\n * Returns new array which is a copy of  
the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n
```

```
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UIntArray.copyOf(): UIntArray {\n    return UIntArray(storage.copyOf())\n}\n\n/**\n * Returns new array which is  
a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n
```

```
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
ULongArray.copyOf(): ULongArray {\n    return ULongArray(storage.copyOf())\n}\n\n/**\n * Returns new array  
which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n
```

```
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic  
inline fun UByteArray.copyOf(): UByteArray {\n    return UByteArray(storage.copyOf())\n}\n\n/**\n * Returns  
new array which is a copy of the original array.\n * \n * @sample  
samples.collections.Arrays.CopyOfOperations.copyOf\n
```

```
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UShortArray.copyOf(): UShortArray {\n    return UShortArray(storage.copyOf())\n}\n\n/**\n * Returns new array  
which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at  
the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array  
is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the  
copy array are filled with zero values.\n
```

```
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UIntArray.copyOf(newSize:  
Int): UIntArray {\n    return UIntArray(storage.copyOf(newSize))\n}\n\n/**\n * Returns new array which is a copy  
of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero
```

values if necessary.
- If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].
- If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
ULongArray.copyOf(newSize: Int): ULongArray {\n    return ULongArray(storage.copyOf(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.  
- If [newSize] is less than the size of the original array, the copy array is truncated
```

```
to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UByteArray.copyOf(newSize: Int): UByteArray {\n    return UByteArray(storage.copyOf(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.  
- If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UShortArray.copyOf(newSize: Int): UShortArray {\n    return UShortArray(storage.copyOf(newSize))\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.  
- @param fromIndex the start of the range (inclusive) to copy.  
- @param toIndex the end of the range (exclusive) to copy.  
- @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.  
- @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UIntArray.copyOfRange(fromIndex: Int, toIndex: Int): UIntArray {\n    return  
    UIntArray(storage.copyOfRange(fromIndex, toIndex))\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.  
- @param fromIndex the start of the range (inclusive) to copy.  
- @param toIndex the end of the range (exclusive) to copy.  
- @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.  
- @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
ULongArray.copyOfRange(fromIndex: Int, toIndex: Int): ULongArray {\n    return  
    ULongArray(storage.copyOfRange(fromIndex, toIndex))\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.  
- @param fromIndex the start of the range (inclusive) to copy.  
- @param toIndex the end of the range (exclusive) to copy.  
- @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.  
- @throws  
    IllegalArgumentException if [fromIndex] is greater than [toIndex].
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UByteArray.copyOfRange(fromIndex: Int, toIndex: Int): UByteArray {\n    return  
    UByteArray(storage.copyOfRange(fromIndex, toIndex))\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.  
- @param fromIndex the start of the range (inclusive) to copy.  
- @param toIndex the end of the range (exclusive) to copy.  
- @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.  
- @throws  
    IllegalArgumentException if [fromIndex] is greater than [toIndex].
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UShortArray.copyOfRange(fromIndex: Int, toIndex: Int): UShortArray {\n    return  
    UShortArray(storage.copyOfRange(fromIndex, toIndex))\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.  
- @param fromIndex the start of the range (inclusive) to fill, 0 by default.  
- @param toIndex the end of the range (exclusive) to fill, size of this array by default.  
- @throws
```

IndexOutOfBoundsException if [fromIndex] is less than zero
or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater
than [toIndex].\n *
@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.fill(element:
UInt, fromIndex: Int = 0, toIndex: Int = size): Unit {\n storage.fill(element.toInt(), fromIndex,
toIndex)\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex
the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size
of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex]
is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than
[toIndex].\n *
@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.fill(element:
ULong, fromIndex: Int = 0, toIndex: Int = size): Unit {\n storage.fill(element.toLong(), fromIndex,
toIndex)\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the
range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array
by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater
than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *
@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.fill(element: UByte,
fromIndex: Int = 0, toIndex: Int = size): Unit {\n storage.fill(element.toByte(), fromIndex, toIndex)\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range
(inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by
default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less
than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is
greater than [toIndex].\n *
@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UShortArray.fill(element: UShort, fromIndex: Int = 0, toIndex: Int = size): Unit {\n storage.fill(element.toShort(),
fromIndex, toIndex)\n}\n\n/**\n * Returns the range of valid indices for the array.\n *
@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val UIntArray.indices: IntRange\n get()
= storage.indices\n\n/**\n * Returns the range of valid indices for the array.\n *
@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val ULongArray.indices: IntRange\n
get() = storage.indices\n\n/**\n * Returns the range of valid indices for the array.\n *
@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val UByteArray.indices: IntRange\n
get() = storage.indices\n\n/**\n * Returns the range of valid indices for the array.\n *
@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val UShortArray.indices: IntRange\n
get() = storage.indices\n\n/**\n * Returns the last valid index for the array.\n *
@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val UIntArray.lastIndex: Int\n get() =
storage.lastIndex\n\n/**\n * Returns the last valid index for the array.\n *
@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val ULongArray.lastIndex: Int\n get() =
storage.lastIndex\n\n/**\n * Returns the last valid index for the array.\n *
@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val UByteArray.lastIndex: Int\n get() =
storage.lastIndex\n\n/**\n * Returns the last valid index for the array.\n *
@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val UShortArray.lastIndex: Int\n get() =
storage.lastIndex\n\n/**\n * Returns an array containing all elements of the original array and then the given
[element].\n *
@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline operator fun UIntArray.plus(element: UInt): UIntArray {\n return UIntArray(storage +
element.toInt())\n}\n\n/**\n * Returns an array containing all elements of the original array and then the given
[element].\n *
@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
operator fun ULongArray.plus(element: ULong): ULongArray {\n return ULongArray(storage +
element.toLong())\n}\n\n/**\n * Returns an array containing all elements of the original array and then the given
[element].\n *
@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
operator fun UByteArray.plus(element: UByte): UByteArray {\n return UByteArray(storage +

```

element.toByteArray())\n\n/**\n * Returns an array containing all elements of the original array and then the given
[element].\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline operator fun UShortArray.plus(element: UShort): UShortArray {\n    return UShortArray(storage +
element.toShort())\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements
of the given [elements] collection.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic operator
fun UIntArray.plus(elements: Collection<UInt>): UIntArray {\n    var index = size\n    val result =
storage.copyOfOf(size + elements.size)\n    for (element in elements) result[index++] = element.toInt()\n    return
UIntArray(result)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements
of the given [elements] collection.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic operator
fun ULongArray.plus(elements: Collection<ULong>): ULongArray {\n    var index = size\n    val result =
storage.copyOfOf(size + elements.size)\n    for (element in elements) result[index++] = element.toLong()\n
return ULongArray(result)\n}\n\n/**\n * Returns an array containing all elements of the original array and then
all elements of the given [elements] collection.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic operator fun UByteArray.plus(elements:
Collection<UByte>): UByteArray {\n    var index = size\n    val result = storage.copyOfOf(size + elements.size)\n
for (element in elements) result[index++] = element.toByte()\n    return UByteArray(result)\n}\n\n/**\n * Returns
an array containing all elements of the original array and then all elements of the given [elements] collection.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic operator fun UShortArray.plus(elements:
Collection<UShort>): UShortArray {\n    var index = size\n    val result = storage.copyOfOf(size + elements.size)\n
for (element in elements) result[index++] = element.toShort()\n    return UShortArray(result)\n}\n\n/**\n * Returns
an array containing all elements of the original array
and then all elements of the given [elements] array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UIntArray.plus(elements: UIntArray): UIntArray {\n    return UIntArray(storage + elements.storage)\n}\n\n/**\n *
Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
ULongArray.plus(elements: ULongArray): ULongArray {\n    return ULongArray(storage +
elements.storage)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements
of the given [elements] array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UByteArray.plus(elements: UByteArray): UByteArray {\n    return UByteArray(storage +
elements.storage)\n}\n\n/**\n * Returns an array containing
all elements of the original array and then all elements of the given [elements] array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UShortArray.plus(elements: UShortArray): UShortArray {\n    return UShortArray(storage +
elements.storage)\n}\n\n/**\n * Sorts the array in-place.\n * \n * @sample
samples.collections.Arrays.Sorting.sortArray\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic
fun UIntArray.sort(): Unit {\n    if (size > 1) sortArray(this, 0, size)\n}\n\n/**\n * Sorts the array in-place.\n * \n *
@sample samples.collections.Arrays.Sorting.sortArray\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sort(): Unit {\n    if (size > 1)
sortArray(this, 0, size)\n}\n\n/**\n * Sorts the array in-place.\n * \n * @sample
samples.collections.Arrays.Sorting.sortArray\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic
fun UByteArray.sort(): Unit {\n    if (size >
1) sortArray(this, 0, size)\n}\n\n/**\n * Sorts the array in-place.\n * \n * @sample
samples.collections.Arrays.Sorting.sortArray\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic
fun UShortArray.sort(): Unit {\n    if (size > 1) sortArray(this, 0, size)\n}\n\n/**\n * Sorts a range in the array in-
place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end
of the range (exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if

```

```

[fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample
samples.collections.Arrays.Sorting.sortRangeOfArray\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sort(fromIndex: Int = 0, toIndex:
Int = size): Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    sortArray(this, fromIndex,
toIndex)\n}\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range
(inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by
default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than
the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n *
@sample samples.collections.Arrays.Sorting.sortRangeOfArray\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sort(fromIndex: Int = 0,
toIndex: Int = size): Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    sortArray(this,
fromIndex, toIndex)\n}\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the
range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array
by default.\n * \n * @throws IndexOutOfBoundsException\n
if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample
samples.collections.Arrays.Sorting.sortRangeOfArray\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sort(fromIndex: Int = 0,
toIndex: Int = size): Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    sortArray(this,
fromIndex, toIndex)\n}\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the
range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array
by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater
than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n *
@sample samples.collections.Arrays.Sorting.sortRangeOfArray\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic
fun UShortArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    sortArray(this, fromIndex, toIndex)\n}\n\n/**\n *
Sorts elements of the array in the specified range in-place.\n * The elements are sorted descending according to their
natural sort order.\n * \n * @param fromIndex the start of the range (inclusive) to sort.\n * @param toIndex the end
of the range (exclusive) to sort.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or
[toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than
[toIndex].\n *\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun
UIntArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n    sort(fromIndex, toIndex)\n    reverse(fromIndex,
toIndex)\n}\n\n/**\n * Sorts elements of the array in the specified range in-place.\n * The elements
are sorted descending according to their natural sort order.\n * \n * @param fromIndex the start of the range
(inclusive) to sort.\n * @param toIndex the end of the range (exclusive) to sort.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *
@throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sortDescending(fromIndex:
Int, toIndex: Int): Unit {\n    sort(fromIndex, toIndex)\n    reverse(fromIndex, toIndex)\n}\n\n/**\n * Sorts elements
of the array in the specified range in-place.\n * The elements are sorted descending according to their natural sort
order.\n * \n * @param fromIndex the start of the range (inclusive) to sort.\n * @param toIndex the end of the range
(exclusive) to sort.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is
greater than the size
of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sortDescending(fromIndex:
Int, toIndex: Int): Unit {\n    sort(fromIndex, toIndex)\n    reverse(fromIndex, toIndex)\n}\n\n/**\n * Sorts elements

```


[UIntArray], which is a copy of this array where each element is an unsigned reinterpretation of the corresponding element of this array.

```

*\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/n@kotlin.internal.InlineOnly\/npublic inline fun
LongArray.toUIntArray(): UIntArray {\/n    return UIntArray(this.copyOf())\/n}\/n\/n**\/n * Returns an array
of UShort containing all of the elements of this generic array.\/n
*\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/npublic fun Array<out UShort>.toUShortArray():
UShortArray {\/n    return UShortArray(size) { index -> this[index] }\/n}\/n\/n**\/n * Returns an array of type
[UShortArray], which is a copy of this array where each element is an unsigned reinterpretation of the
corresponding element of this array.\/n
*\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/n@kotlin.internal.InlineOnly\/npublic inline fun
ShortArray.toUShortArray(): UShortArray {\/n    return UShortArray(this.copyOf())\/n}\/n\/n**\/n * Returns a [Map]
where keys are elements from the given array and values
are produced by the [valueSelector] function applied to each element.\/n *\/n * If any two elements are equal, the
last one gets added to the map.\/n *\/n * The returned map preserves the entry iteration order of the original array.\/n *
\/n * @sample samples.collections.Collections.Transformations.associateWith\/n
*\/n@SinceKotlin("1.4")\/n@ExperimentalUnsignedTypes\/n@kotlin.internal.InlineOnly\/npublic inline fun <V>
UIntArray.associateWith(valueSelector: (UInt) -> V): Map<UInt, V> {\/n    val result = LinkedHashMap<UInt,
V>(mapCapacity(size).coerceAtLeast(16))\/n    return associateWithTo(result, valueSelector)\/n}\/n\/n**\/n * Returns a
[Map] where keys are elements from the given array and values are produced by the [valueSelector] function
applied to each element.\/n *\/n * If any two elements are equal, the last one gets added to the map.\/n *\/n * The
returned map preserves the entry iteration order of the original array.\/n *\/n * @sample
samples.collections.Collections.Transformations.associateWith\/n
*\/n@SinceKotlin("1.4")\/n@ExperimentalUnsignedTypes\/n@kotlin.internal.InlineOnly\/npublic inline fun <V>
UIntArray.associateWith(valueSelector: (UShort) -> V): Map<UShort, V> {\/n    val result =
LinkedHashMap<UShort, V>(mapCapacity(size).coerceAtLeast(16))\/n    return associateWithTo(result,
valueSelector)\/n}\/n\/n**\/n * Returns a [Map] where keys are elements from the given array and values are
produced by the [valueSelector] function applied to each element.\/n *\/n * If any two elements are equal, the last one
gets added to the map.\/n *\/n * The returned map preserves the entry iteration order of the original array.\/n *\/n *
@sample samples.collections.Collections.Transformations.associateWith\/n
*\/n@SinceKotlin("1.4")\/n@ExperimentalUnsignedTypes\/n@kotlin.internal.InlineOnly\/npublic inline fun <V>
UShortArray.associateWith(valueSelector: (UByte) -> V): Map<UByte, V> {\/n    val result =
LinkedHashMap<UByte, V>(mapCapacity(size).coerceAtLeast(16))\/n    return associateWithTo(result,
valueSelector)\/n}\/n\/n**\/n * Returns a [Map] where keys are elements from the given array and values are
produced by the [valueSelector] function applied to each element.\/n *\/n * If any two elements are equal, the last one
gets added to the map.\/n *\/n * The returned map preserves the entry iteration order of the original array.\/n *\/n *
@sample samples.collections.Collections.Transformations.associateWith\/n
*\/n@SinceKotlin("1.4")\/n@ExperimentalUnsignedTypes\/n@kotlin.internal.InlineOnly\/npublic inline fun <V>
UShortArray.associateWith(valueSelector: (UShort) -> V): Map<UShort, V> {\/n    val result =
LinkedHashMap<UShort, V>(mapCapacity(size).coerceAtLeast(16))\/n    return associateWithTo(result,
valueSelector)\/n}\/n\/n**\/n * Populates and returns the [destination] mutable map with key-value pairs for each
element of the given array, where key is the element itself and value is provided by the [valueSelector] function
applied to that key.\/n *\/n * If any
two elements are equal, the last one overwrites the former value in the map.\/n *\/n * @sample
samples.collections.Collections.Transformations.associateWithTo\/n
*\/n@SinceKotlin("1.4")\/n@ExperimentalUnsignedTypes\/n@kotlin.internal.InlineOnly\/npublic inline fun <V, M :
MutableMap<in UInt, in V>> UIntArray.associateWithTo(destination: M, valueSelector: (UInt) -> V): M {\/n    for
(element in this) {\/n        destination.put(element, valueSelector(element))\/n    }\/n    return destination\/n}\/n\/n**\/n *
Populates and returns the [destination] mutable map with key-value pairs for each element of the given array,

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where key is the element itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n * @sample samples.collections.Collections.Transformations.associateWithTo\n

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in ULong, in V>> ULongArray.associateWithTo(destination: M, valueSelector: (ULong) -> V): M {\n    for (element in this) {\n        destination.put(element, valueSelector(element))\n    }\n    return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n * @sample samples.collections.Collections.Transformations.associateWithTo\n
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in UByte, in V>> UByteArray.associateWithTo(destination: M, valueSelector: (UByte) -> V): M {\n    for (element in this) {\n        destination.put(element, valueSelector(element))\n    }\n    return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n * @sample samples.collections.Collections.Transformations.associateWithTo\n
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in UShort, in V>> UShortArray.associateWithTo(destination: M, valueSelector: (UShort) -> V): M {\n    for (element in this) {\n        destination.put(element, valueSelector(element))\n    }\n    return destination\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element of original array.\n * \n * @sample samples.collections.Collections.Transformations.flatMap\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UIntArray.flatMap(transform: (UInt) -> Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element of original array.\n * \n * @sample samples.collections.Collections.Transformations.flatMap\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> ULongArray.flatMap(transform: (ULong) -> Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element of original array.\n * \n * @sample samples.collections.Collections.Transformations.flatMap\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UByteArray.flatMap(transform: (UByte) -> Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element of original array.\n * \n * @sample samples.collections.Collections.Transformations.flatMap\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UShortArray.flatMap(transform: (UShort) -> Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n * @sample samples.collections.Collections.Transformations.flatMapIndexed\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UIntArray.flatMapIndexed(transform: (index: Int, UInt)
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-> Iterable<R>): List<R> {\n    return flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a
single list of all elements yielded from results of [transform] function being invoked on each element\n * and its
index in the original array.\n * \n * @sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
ULongArray.flatMapIndexed(transform: (index: Int, ULong) -> Iterable<R>): List<R> {\n    return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun <R> UByteArray.flatMapIndexed(transform: (index: Int, UByte) -> Iterable<R>): List<R> {\n    return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UShortArray.flatMapIndexed(transform: (index: Int, UShort) -> Iterable<R>): List<R> {\n    return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Appends all elements yielded from results of
[transform] function being invoked on each element\n * and its
index in the original array, to the given [destination].\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> UIntArray.flatMapIndexedTo(destination: C, transform: (index: Int, UInt) ->
Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list = transform(index++, element)\n
destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of
[transform] function being invoked on each element\n * and its index in the original array, to the given
[destination].\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> ULongArray.flatMapIndexedTo(destination:
C, transform: (index: Int, ULong) -> Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list =
transform(index++, element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all
elements yielded from results of [transform] function being invoked on each element\n * and its index in the original
array, to the given [destination].\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> UByteArray.flatMapIndexedTo(destination: C, transform: (index: Int, UByte) ->
Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list = transform(index++, element)\n
destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of
[transform] function being invoked on each
element\n * and its index in the original array, to the given [destination].\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> UShortArray.flatMapIndexedTo(destination: C, transform: (index: Int, UShort) ->
Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list = transform(index++, element)\n
destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of
[transform] function being invoked on each element of original array, to the given [destination].\n

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*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> UIntArray.flatMapTo(destination: C, transform: (UInt) -> Iterable<R>): C {\n for
(element in this) {\n val list = transform(element)\n
destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements yielded from results of
[transform] function being invoked on each element of original array, to the given [destination].\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> ULongArray.flatMapTo(destination: C, transform: (ULong) -> Iterable<R>): C {\n for
(element in this) {\n val list = transform(element)\n destination.addAll(list)\n }\n return
destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each
element of original array, to the given [destination].\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> UByteArray.flatMapTo(destination: C, transform: (UByte) -> Iterable<R>): C {\n for
(element in this) {\n val list =
transform(element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements
yielded from results of [transform] function being invoked on each element of original array, to the given
[destination].\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic
inline fun <R, C : MutableCollection<in R>> UShortArray.flatMapTo(destination: C, transform: (UShort) ->
Iterable<R>): C {\n for (element in this) {\n val list = transform(element)\n destination.addAll(list)\n
}\n return destination\n}\n\n/**\n * Groups elements of the original array by the key returned by the given
[keySelector] function\n * applied to each element and returns a map where each group key is associated with a list
of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from
the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic inline fun <K>
UIntArray.groupBy(keySelector: (UInt) -> K): Map<K, List<UInt>> {\n return groupByTo(LinkedHashMap<K,
MutableList<UInt>>(), keySelector)\n}\n\n/**\n * Groups elements of the original array by the key returned by the
given [keySelector] function\n * applied to each element and returns a map where each group key is associated with
a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced
from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic inline fun <K>
ULongArray.groupBy(keySelector: (ULong) -> K): Map<K, List<ULong>> {\n return
groupByTo(LinkedHashMap<K, MutableList<ULong>>(), keySelector)\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector]
function\n * applied to each element and returns a map where each group key is associated with a list of
corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the
original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic inline fun <K>
UByteArray.groupBy(keySelector: (UByte) -> K): Map<K, List<UByte>> {\n return
groupByTo(LinkedHashMap<K, MutableList<UByte>>(), keySelector)\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map
where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the
entry iteration order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic
inline fun <K> UShortArray.groupBy(keySelector: (UShort) -> K): Map<K, List<UShort>> {\n return
groupByTo(LinkedHashMap<K, MutableList<UShort>>(), keySelector)\n}\n\n/**\n * Groups values returned by
the [valueTransform] function applied to each element of the original array\n * by the key returned by the given
[keySelector] function applied to the element\n * and returns a map where each group key is associated with a list of
corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys produced from the

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M {\n  for (element in this) {\n    val key = keySelector(element)\n    val list = destination.getOrPut(key) {
ArrayList<UByte>() }\n    list.add(element)\n  }\n  return destination\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and puts to the
[destination] map each group key associated with a list of corresponding elements.\n * \n * @return The
[destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun <K, M : MutableMap<in K, MutableList<UShort>>> UShortArray.groupByTo(destination: M,
keySelector: (UShort) -> K): M {\n  for (element in this) {\n    val key = keySelector(element)\n    val list =
destination.getOrPut(key) { ArrayList<UShort>() }\n    list.add(element)\n  }\n  return destination\n}\n\n/**\n
* Groups values returned by the [valueTransform] function applied to each element of the original array\n * by the
key returned by the given [keySelector] function applied to the element\n * and puts to the [destination] map each
group key associated with a list of corresponding values.\n * \n * @return The [destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V,
M : MutableMap<in K, MutableList<V>>> UIntArray.groupByTo(destination:
M, keySelector: (UInt) -> K, valueTransform: (UInt) -> V): M {\n  for (element in this) {\n    val key =
keySelector(element)\n    val list = destination.getOrPut(key) { ArrayList<V>() }\n
list.add(valueTransform(element))\n  }\n  return destination\n}\n\n/**\n * Groups values returned by the
[valueTransform] function applied to each element of the original array\n * by the key returned by the given
[keySelector] function applied to the element\n * and puts to the [destination] map each group key associated with a
list of corresponding values.\n * \n * @return The [destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V,
M : MutableMap<in K, MutableList<V>>> ULongArray.groupByTo(destination: M, keySelector: (ULong) -> K,
valueTransform: (ULong) -> V): M {\n  for (element in this) {\n    val
key = keySelector(element)\n    val list = destination.getOrPut(key) { ArrayList<V>() }\n
list.add(valueTransform(element))\n  }\n  return destination\n}\n\n/**\n * Groups values returned by the
[valueTransform] function applied to each element of the original array\n * by the key returned by the given
[keySelector] function applied to the element\n * and puts to the [destination] map each group key associated with a
list of corresponding values.\n * \n * @return The [destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V,
M : MutableMap<in K, MutableList<V>>> UByteArray.groupByTo(destination: M, keySelector: (UByte) -> K,
valueTransform: (UByte) -> V): M {\n  for (element in this) {\n    val key = keySelector(element)\n    val list
= destination.getOrPut(key) { ArrayList<V>() }\n    list.add(valueTransform(element))\n
  }\n  return destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each
element of the original array\n * by the key returned by the given [keySelector] function applied to the element\n *
and puts to the [destination] map each group key associated with a list of corresponding values.\n * \n * @return
The [destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V,
M : MutableMap<in K, MutableList<V>>> UShortArray.groupByTo(destination: M, keySelector: (UShort) -> K,
valueTransform: (UShort) -> V): M {\n  for (element in this) {\n    val key = keySelector(element)\n    val list
= destination.getOrPut(key) { ArrayList<V>() }\n    list.add(valueTransform(element))\n  }\n  return
destination\n}\n\n/**\n * Returns a list containing the results of applying the
given [transform] function\n * to each element in the original array.\n * \n * @sample
samples.collections.Collections.Transformations.map\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>

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UIntArray.map(transform: (UInt) -> R): List<R> {\n  return mapTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each element in the original array.\n * \n * @sample samples.collections.Collections.Transformations.map\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun <R>
ULongArray.map(transform: (ULong) -> R): List<R> {\n  return mapTo(ArrayList<R>(size),
transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each element in the original array.\n * \n * @sample samples.collections.Collections.Transformations.map\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public
inline fun <R> UByteArray.map(transform: (UByte) -> R): List<R> {\n  return mapTo(ArrayList<R>(size),
transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each element in the original array.\n * \n * @sample samples.collections.Collections.Transformations.map\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun <R>
UShortArray.map(transform: (UShort) -> R): List<R> {\n  return mapTo(ArrayList<R>(size),
transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each element and its index in the original array.\n * \n * @param [transform] function that takes the index of an element and
the element itself\n * and returns the result of the transform applied to the element.\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline
fun <R> UIntArray.mapIndexed(transform: (index: Int, UInt) -> R): List<R> {\n  return
mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the
given [transform] function\n * to each element and its index in the original array.\n * \n * @param [transform] function
that takes the index of an element and the element itself\n * and returns the result of the transform applied to the
element.\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline
fun <R> ULongArray.mapIndexed(transform: (index: Int, ULong) -> R): List<R> {\n  return
mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the
given [transform] function\n * to each element and its index in the original array.\n * \n * @param [transform] function
that takes the index of an element and the element itself\n * and returns the result of the transform applied to the
element.\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public
inline fun <R> UByteArray.mapIndexed(transform: (index: Int, UByte) -> R): List<R> {\n  return
mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the
given [transform] function\n * to each element and its index in the original array.\n * \n * @param [transform] function
that takes the index of an element and the element itself\n * and returns the result of the transform applied to the
element.\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline
fun <R> UShortArray.mapIndexed(transform: (index: Int, UShort) -> R): List<R> {\n  return
mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Applies the given [transform] function to each
element and its index in the original array\n * and appends the results to the given [destination].\n * \n * @param
[transform] function that takes the index of an element and
the element itself\n * and returns the result of the transform applied to the element.\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun <R, C :
MutableCollection<in R>> UIntArray.mapIndexedTo(destination: C, transform: (index: Int, UInt) -> R): C {\n  var
index = 0\n  for (item in this)\n    destination.add(transform(index++, item))\n  return destination\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original array\n * and appends the results
to the given [destination].\n * \n * @param [transform] function that takes the index of an element and the element
itself\n * and returns the result of the transform applied to the element.\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun <R, C :
MutableCollection<in R>> ULongArray.mapIndexedTo(destination: C, transform: (index: Int, ULong) -> R): C {\n  var
index = 0\n  for (item in this)\n    destination.add(transform(index++, item))\n  return destination\n}\n\n/**\n * Applies the given [transform]
function to each element and its index in the original array\n * and appends the results to the given [destination].\n * \n
*/

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@param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n

```

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UByteArray.mapIndexedTo(destination: C, transform: (index: Int, UByte) -> R): C {\n    var index = 0\n    for (item in this)\n        destination.add(transform(index++, item))\n    return destination\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original array\n * and appends the results to the given [destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n */
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UShortArray.mapIndexedTo(destination: C, transform: (index: Int, UShort) -> R): C {\n    var index = 0\n    for (item in this)\n        destination.add(transform(index++, item))\n    return destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original array\n * and appends the results to the given [destination].\n */
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UIntArray.mapTo(destination: C, transform: (UInt) -> R): C {\n    for (item in this)\n        destination.add(transform(item))\n    return destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original array\n * and appends the results to the given [destination].\n */
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> ULongArray.mapTo(destination: C, transform: (ULong) -> R): C {\n    for (item in this)\n        destination.add(transform(item))\n    return destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original array\n * and appends the results to the given [destination].\n */
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UByteArray.mapTo(destination: C, transform: (UByte) -> R): C {\n    for (item in this)\n        destination.add(transform(item))\n    return destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original array\n * and appends the results to the given [destination].\n */
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UShortArray.mapTo(destination: C, transform: (UShort) -> R): C {\n    for (item in this)\n        destination.add(transform(item))\n    return destination\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the element itself.\n */
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.withIndex(): Iterable<IndexedValue<UInt>> {\n    return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the element itself.\n */
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.withIndex(): Iterable<IndexedValue<ULong>> {\n    return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the element itself.\n */
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.withIndex(): Iterable<IndexedValue<UByte>> {\n    return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the element itself.\n */
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.withIndex(): Iterable<IndexedValue<UShort>> {\n    return IndexingIterable { iterator() }\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * @sample samples.collections.Collections.Aggregates.all\n */
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.all(predicate: (UInt) -> Boolean): Boolean {\n    for (element in this) if (!predicate(element)) return false\n    return true\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * @sample samples.collections.Collections.Aggregates.all\n */

```



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*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.all(predicate: (ULong) -> Boolean): Boolean {\n  for (element in this) if (!predicate(element)) return
false\n  return true\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.all\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.all(predicate: (UByte) -> Boolean): Boolean {\n  for (element in this) if (!predicate(element)) return
false\n  return true\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.all\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.all(predicate: (UShort) -> Boolean): Boolean {\n  for (element in this) if (!predicate(element))
return false\n  return true\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample
samples.collections.Collections.Aggregates.any\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.any(): Boolean {\n  return storage.any()\n}\n\n/**\n * Returns `true` if array has at least one element.\n
*\n * @sample samples.collections.Collections.Aggregates.any\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.any(): Boolean {\n  return storage.any()\n}\n\n/**\n * Returns `true` if array has at least one
element.\n * \n * @sample samples.collections.Collections.Aggregates.any\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.any(): Boolean {\n  return storage.any()\n}\n\n/**\n * Returns `true` if array has at least one
element.\n * \n * @sample samples.collections.Collections.Aggregates.any\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.any(): Boolean {\n  return storage.any()\n}\n\n/**\n * Returns `true` if at least one element matches
the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.any(predicate: (UInt) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return true\n
return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.any(predicate: (ULong) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return
true\n  return false\n}\n\n/**\n * Returns
`true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.any(predicate: (UByte) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return
true\n  return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n *
@sample samples.collections.Collections.Aggregates.anyWithPredicate\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.any(predicate: (UShort) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return
true\n  return false\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n
*\n * @sample samples.collections.Collections.Aggregates.count\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.count(predicate: (UInt)
-> Boolean): Int {\n  var count = 0\n  for (element in this) if (predicate(element)) ++count\n  return
count\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n
*\n * @sample samples.collections.Collections.Aggregates.count\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.count(predicate: (ULong) -> Boolean): Int {\n  var count = 0\n  for (element in this) if
(predicate(element)) ++count\n  return count\n}\n\n/**\n * Returns the number of elements matching the given
[predicate].\n * \n * @sample samples.collections.Collections.Aggregates.count\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic

```

```

inline fun UByteArray.count(predicate: (UByte) -> Boolean): Int {
    var count = 0
    for (element in this) if (predicate(element)) ++count
    return count
}

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly@public
inline fun UShortArray.count(predicate: (UShort)
-> Boolean): Int {
    var count = 0
    for (element in this) if (predicate(element)) ++count
    return count
}

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly@public
inline fun <R> UIntArray.fold(initial: R, operation: (acc: R, UInt) -> R): R {
    var accumulator = initial
    for (element in this) accumulator = operation(accumulator, element)
    return accumulator
}

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly@public
inline fun <R> ULongArray.fold(initial: R, operation: (acc: R, ULong) -> R): R {
    var accumulator = initial
    for (element in this) accumulator = operation(accumulator, element)
    return accumulator
}

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly@public
inline fun <R> UByteArray.fold(initial: R, operation: (acc: R, UByte) -> R): R {
    var accumulator = initial
    for (element in this) accumulator = operation(accumulator, element)
    return accumulator
}

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly@public
inline fun <R> UShortArray.fold(initial: R, operation: (acc: R, UShort) -> R): R {
    var accumulator = initial
    for (element in this) accumulator = operation(accumulator, element)
    return accumulator
}

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly@public
inline fun <R> ULongArray.foldIndexed(initial: R, operation: (index: Int, acc: R, ULong) -> R): R {
    var index = 0
    var accumulator = initial
    for (element in this) accumulator = operation(index++, accumulator, element)
    return accumulator
}

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly@public
inline fun <R> UShortArray.foldIndexed(initial: R, operation: (index: Int, acc: R, UShort) -> R): R {
    var index = 0
    var accumulator = initial
    for (element in this) accumulator = operation(index++, accumulator, element)
    return accumulator
}

```

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element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UByteArray.foldIndexed(initial: R, operation: (index: Int, acc: R, UByte) -> R): R {\n  var index = 0\n  var
accumulator = initial\n
  for (element in this) accumulator = operation(index++, accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current
accumulator value and each element with its index in the original array.\n * \n * Returns the specified [initial] value
if the array is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator
value\n * and the element itself, and calculates the next accumulator value.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UShortArray.foldIndexed(initial: R, operation: (index: Int, acc: R, UShort) -> R): R {\n  var index = 0\n  var
accumulator = initial\n  for (element in this) accumulator = operation(index++, accumulator, element)\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to
left\n
 * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the array is
empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the
next accumulator value.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UIntArray.foldRight(initial: R, operation: (UInt, acc: R) -> R): R {\n  var index = lastIndex\n  var accumulator =
initial\n  while (index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to
left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the array is
empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the
next accumulator value.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun <R> ULongArray.foldRight(initial: R, operation: (ULong, acc: R) -> R): R {\n  var index = lastIndex\n
var accumulator = initial\n  while (index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n
return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right
to left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the array is
empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the
next accumulator value.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UByteArray.foldRight(initial: R, operation: (UByte, acc: R) -> R): R {\n  var index = lastIndex\n  var
accumulator = initial\n  while (index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n
  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation]
from right to left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if
the array is empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and
calculates the next accumulator value.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UShortArray.foldRight(initial: R, operation: (UShort, acc: R) -> R): R {\n  var index = lastIndex\n  var
accumulator = initial\n  while (index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n
return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right
to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns the
specified [initial] value if the
array is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself\n * and
current accumulator value, and calculates the next accumulator value.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UIntArray.foldRightIndexed(initial: R, operation: (index: Int, UInt, acc: R) -> R): R {\n  var index = lastIndex\n

```

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var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n
--index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying
[operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n
*\n * Returns the specified [initial] value if the array is empty.\n *\n * @param [operation] function that takes the
index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator
value.\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
fun <R> ULongArray.foldRightIndexed(initial: R, operation: (index: Int, ULong, acc: R) -> R): R {\n var index =
lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index, get(index),
accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial]
value and applying [operation] from right to left\n * to each element with its index in the original array and current
accumulator value.\n *\n * Returns the specified [initial] value if the array is empty.\n *\n * @param [operation]
function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the
next accumulator value.\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UByteArray.foldRightIndexed(initial: R, operation:
(index: Int, UByte, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0)
{\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to
left\n * to each element with its index in the original array and current accumulator value.\n *\n * Returns the
specified [initial] value if the array is empty.\n *\n * @param [operation] function that takes the index of an
element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UShortArray.foldRightIndexed(initial: R, operation: (index: Int, UShort, acc: R) -> R): R {\n var index =
lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index, get(index),
accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Performs the given [action] on each
element.\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
fun UIntArray.forEach(action: (UInt) -> Unit): Unit {\n for (element in this) action(element)\n}\n\n/**\n *
Performs the given [action] on each element.\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.forEach(action: (ULong) -> Unit): Unit {\n for (element in this) action(element)\n}\n\n/**\n *
Performs the given [action] on each element.\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.forEach(action: (UByte) -> Unit): Unit {\n for (element in this) action(element)\n}\n\n/**\n *
Performs the given [action] on each element.\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
fun UShortArray.forEach(action: (UShort) -> Unit): Unit {\n for (element in this) action(element)\n}\n\n/**\n *
Performs the given [action] on each element, providing sequential index with the element.\n *\n * @param [action]
function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.forEachIndexed(action: (index: Int, UInt) -> Unit): Unit {\n var index = 0\n for (item in this)
action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with
the element.\n *\n * @param [action] function that takes the index of an element and the element itself\n * and performs
the action on the element.\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.forEachIndexed(action: (index: Int, ULong) -> Unit): Unit {\n var index
= 0\n for (item in this) action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element,
providing sequential index with the element.\n *\n * @param [action] function that takes the index of an element and
the element itself\n * and performs the action on the element.\n */

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.forEachIndexed(action: (index: Int, UByte) -> Unit): Unit {\n  var index = 0\n  for (item in this)
action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with
the element.\n * @param [action] function that takes the index of an element and the element itself\n * and performs
the action on the element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.forEachIndexed(action: (index: Int, UShort) -> Unit): Unit {\n  var index = 0\n  for (item in this)
action(index++, item)\n}\n\n@Deprecated("Use
maxOrNull instead.", ReplaceWith("this.maxOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4",
errorSince = "1.5", hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UIntArray.max(): UInt? {\n  return maxOrNull()\n}\n\n@Deprecated("Use maxOrNull instead.",
ReplaceWith("this.maxOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.max():
ULong? {\n  return maxOrNull()\n}\n\n@Deprecated("Use maxOrNull instead.",
ReplaceWith("this.maxOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.max():
UByte? {\n  return maxOrNull()\n}\n\n@Deprecated("Use maxOrNull instead.",
ReplaceWith("this.maxOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UShortArray.max(): UShort? {\n  return maxOrNull()\n}\n\n@Deprecated("Use maxByOrNull instead.",
ReplaceWith("this.maxByOrNull(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince =
"1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
<R : Comparable<R>> UIntArray.maxBy(selector: (UInt) -> R): UInt? {\n  return
maxByOrNull(selector)\n}\n\n@Deprecated("Use maxByOrNull instead.",
ReplaceWith("this.maxByOrNull(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince =
"1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
<R : Comparable<R>> ULongArray.maxBy(selector: (ULong) -> R): ULong? {\n  return
maxByOrNull(selector)\n}\n\n@Deprecated("Use maxByOrNull instead.",
ReplaceWith("this.maxByOrNull(selector)"))\n@DeprecatedSinceKotlin(warningSince
= "1.4", errorSince = "1.5", hiddenSince =
"1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
<R : Comparable<R>> UByteArray.maxBy(selector: (UByte) -> R): UByte? {\n  return
maxByOrNull(selector)\n}\n\n@Deprecated("Use maxByOrNull instead.",
ReplaceWith("this.maxByOrNull(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince =
"1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
<R : Comparable<R>> UShortArray.maxBy(selector: (UShort) -> R): UShort? {\n  return
maxByOrNull(selector)\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or
`null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.maxByOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun <R : Comparable<R>> UIntArray.maxByOrNull(selector: (UInt) -> R): UInt? {\n  if (isEmpty()) return
null\n  var maxElem = this[0]\n  val lastIndex = this.lastIndex\n  if (lastIndex == 0) return maxElem\n  var
maxValue = selector(maxElem)\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    val v = selector(e)\n    if
(maxValue < v) {\n      maxElem = e\n      maxValue = v\n    }\n  }\n  return maxElem\n}\n\n/**\n *
Returns the first element yielding the largest value of the given function or `null` if there are no elements.\n * \n *
@sample samples.collections.Collections.Aggregates.maxByOrNull\n

```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> ULongArray.maxByOrNull(selector: (ULong) -> R): ULong? {\n    if (isEmpty()) return null\n    var maxElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return maxElem\n    var maxValue = selector(maxElem)\n
```

```
    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (maxValue < v) {\n            maxElem = e\n            maxValue = v\n        }\n    }\n    return maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.maxByOrNull\n
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> UByteArray.maxByOrNull(selector: (UByte) -> R): UByte? {\n    if (isEmpty()) return null\n    var maxElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return maxElem\n    var maxValue = selector(maxElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (maxValue < v) {\n            maxElem = e\n            maxValue = v\n        }\n    }\n    return maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.maxByOrNull\n
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> UShortArray.maxByOrNull(selector: (UShort) -> R): UShort? {\n    if (isEmpty()) return null\n    var maxElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return maxElem\n    var maxValue = selector(maxElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (maxValue < v) {\n            maxElem = e\n            maxValue = v\n        }\n    }\n    return maxElem\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
```

```
the array is empty.\n\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.maxOf(selector: (UInt) -> Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
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```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.maxOf(selector: (ULong) -> Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
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```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.maxOf(selector: (UByte) -> Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
```

```

ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.maxOf(selector: (UShort) -> Double): Double {\n    if (isEmpty()) throw
NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v =
selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the
largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If
any of values produced by [selector]
function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n *\n @SinceKotlin("1.4")\n @OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n @OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.maxOf(selector: (UInt) -> Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var
maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue =
maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector]
function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n *\n @SinceKotlin("1.4")\n @OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n @OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun ULongArray.maxOf(selector: (ULong) -> Float): Float {\n    if (isEmpty()) throw
NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v =
selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the
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UByteArray.maxOf(selector: (UByte) -> Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var
maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue =
maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
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function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
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ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.maxOf(selector: (UShort) -> Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var
maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue =
maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
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function\n * applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is
empty.\n
*\n *\n @SinceKotlin("1.4")\n @OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n @OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UIntArray.maxOf(selector: (UInt) -> R): R {\n    if (isEmpty()) throw
NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v =
selector(this[i])\n        if (maxValue < v) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the
array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n *\n @SinceKotlin("1.4")\n @OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n @OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic

```

```

inline fun <R : Comparable<R>> ULongArray.maxOf(selector: (ULong) -> R): R {
    if (isEmpty()) throw NoSuchElementException()
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (maxValue < v) {
            maxValue = v
        }
    }
    return maxValue
}

Returns the largest value among all values produced by [selector] function
* applied to each element in the array.
* @throws NoSuchElementException if the array is empty.

* \n @SinceKotlin("1.4") \n @OptIn(kotlin.experimental.ExperimentalTypeInference::class) \n @OverloadResolution
ByLambdaReturnType \n @ExperimentalUnsignedTypes \n @kotlin.internal.InlineOnly \n public inline fun <R :
Comparable<R>> UByteArray.maxOf(selector: (UByte) -> R): R {
    if (isEmpty()) throw
NoSuchElementException()
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v =
selector(this[i])
        if (maxValue < v) {
            maxValue = v
        }
    }
    return maxValue
}

Returns the largest value among all values
produced by [selector] function
* applied to each element in the array.
* @throws
NoSuchElementException if the array is empty.

* \n @SinceKotlin("1.4") \n @OptIn(kotlin.experimental.ExperimentalTypeInference::class) \n @OverloadResolution
ByLambdaReturnType \n @ExperimentalUnsignedTypes \n @kotlin.internal.InlineOnly \n public inline fun <R :
Comparable<R>> UShortArray.maxOf(selector: (UShort) -> R): R {
    if (isEmpty()) throw
NoSuchElementException()
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v =
selector(this[i])
        if (maxValue < v) {
            maxValue = v
        }
    }
    return maxValue
}

Returns the largest value among all values produced by [selector] function
* applied to each element in the array
or `null` if there are no elements.
* If any of values produced by [selector] function
is `NaN`, the returned result is `NaN`.

* \n @SinceKotlin("1.4") \n @OptIn(kotlin.experimental.ExperimentalTypeInference::class) \n @OverloadResolution
ByLambdaReturnType \n @ExperimentalUnsignedTypes \n @kotlin.internal.InlineOnly \n public inline fun
UIntArray.maxOfOrNull(selector: (UInt) -> Double): Double? {
    if (isEmpty()) return null
    var maxValue =
selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        maxValue = maxOf(maxValue, v)
    }
    return maxValue
}

Returns the largest value among all values produced by [selector] function
* applied to each element in the array or `null` if there are no elements.
* If any of values produced by [selector]
function is `NaN`, the returned result is `NaN`.

* \n @SinceKotlin("1.4") \n @OptIn(kotlin.experimental.ExperimentalTypeInference::class) \n @OverloadResolution
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ULongArray.maxOfOrNull(selector:
(ULong) -> Double): Double? {
    if (isEmpty()) return null
    var maxValue = selector(this[0])
    for (i in
1..lastIndex) {
        val v = selector(this[i])
        maxValue = maxOf(maxValue, v)
    }
    return
maxValue
}

Returns the largest value among all values produced by [selector] function
* applied to
each element in the array or `null` if there are no elements.
* If any of values produced by [selector] function
is `NaN`, the returned result is `NaN`.

* \n @SinceKotlin("1.4") \n @OptIn(kotlin.experimental.ExperimentalTypeInference::class) \n @OverloadResolution
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    var maxValue
= selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        maxValue = maxOf(maxValue,
v)
    }
    return maxValue
}

Returns
the largest value among all values produced by [selector] function
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`NaN`.

* \n @SinceKotlin("1.4") \n @OptIn(kotlin.experimental.ExperimentalTypeInference::class) \n @OverloadResolution
ByLambdaReturnType \n @ExperimentalUnsignedTypes \n @kotlin.internal.InlineOnly \n public inline fun
UShortArray.maxOfOrNull(selector: (UShort) -> Double): Double? {
    if (isEmpty()) return null
    var
maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        maxValue =

```



```

maxOf(maxValue, v)\n } return maxValue\n}\n\n**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of
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UShortArray.maxOfOrNull(selector: (UShort) -> Float): Float? {\n if (isEmpty()) return null\n var maxValue =
selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n
}\n return maxValue\n}\n\n**\n * Returns the largest value among all values produced by [selector] function\n
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inline fun <R : Comparable<R>> UIntArray.maxOfOrNull(selector: (UInt) -> R): R? {\n if (isEmpty()) return
null\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if
(maxValue < v) {\n maxValue = v\n }\n }\n return maxValue\n}\n\n**\n * Returns the largest value
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Comparable<R>> ULongArray.maxOfOrNull(selector: (ULong) -> R): R? {\n if (isEmpty()) return null\n var
maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (maxValue < v) {\n
maxValue = v\n }\n }\n return maxValue\n}\n\n**\n * Returns the largest value among all values produced by [selector] function\n
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ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UByteArray.maxOfOrNull(selector: (UByte) -> R): R? {\n if (isEmpty()) return null\n var
maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (maxValue < v) {\n

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    maxValue = v\n    }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values
produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun <R : Comparable<R>> UShortArray.maxOrNull(selector: (UShort) -> R): R? {\n    if (isEmpty())
return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if
(maxValue < v) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UIntArray.maxOfWith(comparator: Comparator<in R>, selector: (UInt) -> R): R {\n    if (isEmpty()) throw
NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v
= selector(this[i])\n        if (comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n    }\n
return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all
values produced by [selector] function applied to each element in the array.\n * \n * @throws
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ULongArray.maxOfWith(comparator: Comparator<in R>, selector: (ULong) -> R): R {\n    if (isEmpty()) throw
NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v =
selector(this[i])\n        if (comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n    }\n
return
maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values
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UByteArray.maxOfWith(comparator: Comparator<in R>, selector: (UByte) -> R): R {\n    if (isEmpty()) throw
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selector(this[i])\n        if (comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n    }\n
return
maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values
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NoSuchElementException if
the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun <R> UShortArray.maxOfWith(comparator: Comparator<in R>, selector: (UShort) -> R): R {\n    if
(isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n
val v = selector(this[i])\n        if (comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n
}\n    return
maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all
values produced by [selector] function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UIntArray.maxOfWithOrNull(comparator: Comparator<in R>, selector:
(UInt) -> R): R? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n
val v = selector(this[i])\n        if (comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n
}\n    return
maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all
values produced by [selector] function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution

```

```

ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
ULongArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (ULong) -> R): R? {\n  if (isEmpty())
return null\n  var maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(maxValue, v) < 0) {\n      maxValue = v\n    }\n  }\n  return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among
all values produced by [selector] function applied to each element in the array or `null` if there are no elements.\n
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UByteArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (UByte) -> R): R? {\n  if (isEmpty())
return null\n  var maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(maxValue, v) < 0) {\n      maxValue = v\n    }\n  }\n  return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun <R> UShortArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (UShort) -> R): R? {\n
if (isEmpty()) return null\n  var maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v =
selector(this[i])\n    if (comparator.compare(maxValue, v) < 0) {\n      maxValue = v\n    }\n  }\n  return
maxValue\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.maxOrNull(): UInt? {\n  if
(isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if (max < e) max
= e\n  }\n  return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic
fun ULongArray.maxOrNull(): ULong? {\n  if (isEmpty()) return null\n  var max = this[0]\n  for (i in
1..lastIndex) {\n    val e = this[i]\n    if (max < e) max = e\n  }\n  return max\n}\n\n/**\n * Returns the largest
element or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun
UByteArray.maxOrNull(): UByte? {\n  if (isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n
val e = this[i]\n    if (max < e) max = e\n  }\n  return max\n}\n\n/**\n * Returns the largest element or `null`
if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun
UShortArray.maxOrNull(): UShort? {\n  if (isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex)
{\n    val e = this[i]\n    if (max < e) max = e\n  }\n  return max\n}\n\n@Deprecated("Use maxWithOrNull
instead.", ReplaceWith("this.maxWithOrNull(comparator)"))\n@DeprecatedSinceKotlin(warningSince
= "1.4", errorSince = "1.5", hiddenSince =
"1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.maxWith(comparator:
Comparator<in UInt>): UInt? {\n  return maxWithOrNull(comparator)\n}\n\n@Deprecated("Use maxWithOrNull
instead.", ReplaceWith("this.maxWithOrNull(comparator)"))\n@DeprecatedSinceKotlin(warningSince = "1.4",
errorSince = "1.5", hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
ULongArray.maxWith(comparator: Comparator<in ULong>): ULong? {\n  return
maxWithOrNull(comparator)\n}\n\n@Deprecated("Use maxWithOrNull instead.",
ReplaceWith("this.maxWithOrNull(comparator)"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UByteArray.maxWith(comparator: Comparator<in UByte>): UByte? {\n  return
maxWithOrNull(comparator)\n}\n\n@Deprecated("Use maxWithOrNull
instead.", ReplaceWith("this.maxWithOrNull(comparator)"))\n@DeprecatedSinceKotlin(warningSince = "1.4",
errorSince = "1.5", hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UShortArray.maxWith(comparator: Comparator<in UShort>): UShort? {\n  return
maxWithOrNull(comparator)\n}\n\n/**\n * Returns the first element having the largest value according to the
provided [comparator] or `null` if there are no elements.\n

```

```

*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.maxWithOrNull(comparator:
Comparator<in UInt>): UInt? {\n  if (isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n
val e = this[i]\n    if (comparator.compare(max, e) < 0) max = e\n  }\n  return max\n}\n\n/**\n * Returns the
first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun
ULongArray.maxWithOrNull(comparator: Comparator<in ULong>): ULong? {\n  if (isEmpty()) return null\n
var max = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if (comparator.compare(max, e) < 0) max =
e\n  }\n  return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided
[comparator] or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun
UByteArray.maxWithOrNull(comparator: Comparator<in UByte>): UByte? {\n  if (isEmpty()) return null\n
var max = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if (comparator.compare(max, e) < 0) max =
e\n  }\n  return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided
[comparator] or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun
UShortArray.maxWithOrNull(comparator: Comparator<in UShort>): UShort?
{\n  if (isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if
(comparator.compare(max, e) < 0) max = e\n  }\n  return max\n}\n\n@Deprecated("Use minOrNull instead.",
ReplaceWith("this.minOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.min(): UInt?
{\n  return minOrNull()\n}\n\n@Deprecated("Use minOrNull instead.",
ReplaceWith("this.minOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.min():
ULong? {\n  return minOrNull()\n}\n\n@Deprecated("Use minOrNull instead.",
ReplaceWith("this.minOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UByteArray.min(): UByte? {\n  return minOrNull()\n}\n\n@Deprecated("Use minOrNull instead.",
ReplaceWith("this.minOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UShortArray.min(): UShort? {\n  return minOrNull()\n}\n\n@Deprecated("Use minByOrNull instead.",
ReplaceWith("this.minByOrNull(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince =
"1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
<R : Comparable<R>> UIntArray.minBy(selector: (UInt) -> R): UInt? {\n  return
minByOrNull(selector)\n}\n\n@Deprecated("Use minByOrNull instead.",
ReplaceWith("this.minByOrNull(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince =
"1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
<R : Comparable<R>> ULongArray.minBy(selector: (ULong) -> R): ULong? {\n  return
minByOrNull(selector)\n}\n\n@Deprecated("Use minByOrNull instead.",
ReplaceWith("this.minByOrNull(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince =
"1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
<R : Comparable<R>> UByteArray.minBy(selector: (UByte) -> R): UByte? {\n  return
minByOrNull(selector)\n}\n\n@Deprecated("Use minByOrNull instead.",
ReplaceWith("this.minByOrNull(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince =
"1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
<R : Comparable<R>> UShortArray.minBy(selector: (UShort) -> R): UShort? {\n  return

```

`minByOrNull(selector)` Returns the first element yielding the smallest value of the given function or `null`

if there are no elements.

```
* @sample samples.collections.Collections.Aggregates.minByOrNull
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> UIntArray.minByOrNull(selector: (UInt) -> R): UInt? {\n    if (isEmpty()) return null\n    var minElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return minElem\n    var minValue = selector(minElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (minValue > v)\n            minElem = e\n            minValue = v\n    }\n    return minElem\n}
```

```
* Returns the first element yielding the smallest value of the given function or `null` if there are no elements.\n * @sample samples.collections.Collections.Aggregates.minByOrNull
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> ULongArray.minByOrNull(selector: (ULong) -> R): ULong? {\n    if (isEmpty()) return null\n    var minElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return minElem\n    var minValue = selector(minElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (minValue > v) {\n            minElem = e\n            minValue = v\n        }\n    }\n    return minElem\n}
```

```
* Returns the first element yielding the smallest value of the given function or `null` if there are no elements.\n * @sample samples.collections.Collections.Aggregates.minByOrNull
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> UByteArray.minByOrNull(selector: (UByte) -> R): UByte? {\n    if (isEmpty()) return null\n    var minElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return minElem\n    var minValue = selector(minElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (minValue > v) {\n            minElem = e\n            minValue = v\n        }\n    }\n    return minElem\n}
```

```
* Returns the first element yielding the smallest value of the given function or `null` if there are no elements.\n * @sample samples.collections.Collections.Aggregates.minByOrNull
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> UShortArray.minByOrNull(selector: (UShort) -> R): UShort? {\n    if (isEmpty()) return null\n    var minElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return minElem\n    var minValue = selector(minElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (minValue > v)\n            minElem = e\n            minValue = v\n    }\n    return minElem\n}
```

```
* Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * @throws NoSuchElementException if the array is empty.
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
```

```
UIntArray.minOf(selector: (UInt) -> Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}
```

```
* Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * @throws NoSuchElementException if the array is empty.
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.minOf(selector: (ULong) -> Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}
```

```
* Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * @throws NoSuchElementException if the array is empty.
```

```

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.minOf(selector: (UByte)
-> Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return
minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to
each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
`NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.minOf(selector: (UShort) -> Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n
    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue =
minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector]
function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`,
the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.minOf(selector: (UInt) -> Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var
minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue =
minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector]
function is `NaN`, the
returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.minOf(selector: (ULong) -> Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n
    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue =
minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector]
function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UByteArray.minOf(selector: (UByte) -> Float): Float {\n    if (isEmpty()) throw
NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v =
selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest
value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of
values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws
NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.minOf(selector: (UShort) -> Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n
    var minValue = selector(this[0])\n    for (i
in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return
minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to
each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :

```

```

Comparable<R>> UIntArray.minOf(selector: (UInt) -> R): R {
    if (isEmpty()) throw NoSuchElementException()
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (minValue > v) {
            minValue = v
        }
    }
    return minValue
}

Returns the smallest value among all values produced by [selector] function applied to each element in the array.

@throws NoSuchElementException if the array is empty.

@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun <R : Comparable<R>> ULongArray.minOf(selector: (ULong) -> R): R {
    if (isEmpty()) throw NoSuchElementException()
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (minValue > v) {
            minValue = v
        }
    }
    return minValue
}

Returns the smallest value among all values produced by [selector] function applied to each element in the array.

@throws NoSuchElementException if the array is empty.

@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun <R : Comparable<R>> UByteArray.minOf(selector: (UByte) -> R): R {
    if (isEmpty()) throw NoSuchElementException()
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (minValue > v) {
            minValue = v
        }
    }
    return minValue
}

Returns the smallest value among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.

If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.

@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun UIntArray.minOfOrNull(selector: (UInt) -> Double): Double? {
    if (isEmpty()) return null
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        minValue = minOf(minValue, v)
    }
    return minValue
}

Returns the smallest value among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.

If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.

@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun ULongArray.minOfOrNull(selector: (ULong) -> Double): Double? {
    if (isEmpty()) return null
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        minValue = minOf(minValue, v)
    }
    return minValue
}

Returns the smallest value among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.

If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.

@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
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@kotlin.internal.InlineOnly
public inline fun UByteArray.minOfOrNull(selector: (UByte) -> Double): Double? {
    if (isEmpty()) return null
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        minValue = minOf(minValue, v)
    }
    return minValue
}

Returns the smallest value among all

```

values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n *
 \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n

```

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.minOrNull(selector: (UShort) -> Double): Double? {\n  if (isEmpty()) return null\n  var minValue
= selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    minValue = minOf(minValue, v)\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector]
function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values
produced by [selector] function is `NaN`, the returned result is `NaN`.\n

```

```

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.minOrNull(selector: (UInt) -> Float): Float? {\n  if (isEmpty()) return null\n  var minValue =
selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    minValue = minOf(minValue, v)\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n *
applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector]
function is `NaN`, the returned result is `NaN`.\n

```

```

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun ULongArray.minOrNull(selector: (ULong) -> Float): Float? {\n  if (isEmpty()) return null\n  var
minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    minValue =
minOf(minValue, v)\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values produced
by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of
values produced by [selector] function is `NaN`, the returned result is `NaN`.\n

```

```

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
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UByteArray.minOrNull(selector: (UByte) -> Float): Float? {\n  if (isEmpty()) return null\n  var minValue =
selector(this[0])\n  for
(i in 1..lastIndex) {\n    val v = selector(this[i])\n    minValue = minOf(minValue, v)\n  }\n  return
minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to
each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function
is `NaN`, the returned result is `NaN`.\n

```

```

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.minOrNull(selector: (UShort) -> Float): Float? {\n  if (isEmpty()) return null\n  var minValue =
selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    minValue = minOf(minValue, v)\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n *
applied to each element in the array or `null`
if there are no elements.\n

```

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UIntArray.minOrNull(selector: (UInt) -> R): R? {\n  if (isEmpty()) return null\n  var
minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if (minValue > v) {\n
minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values
produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n

```

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> ULongArray.minOrNull(selector: (ULong) -> R): R? {\n  if (isEmpty())

```



```
return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> UByteArray.minOrNull(selector: (UByte) -> R): R? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> UShortArray.minOrNull(selector: (UShort) -> R): R? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * @throws NoSuchElementException if the array is empty.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UIntArray.minOfWith(comparator: Comparator<in R>, selector: (UInt) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * @throws NoSuchElementException if the array is empty.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> ULongArray.minOfWith(comparator: Comparator<in R>, selector: (ULong) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * @throws NoSuchElementException if the array is empty.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UByteArray.minOfWith(comparator: Comparator<in R>, selector: (UByte) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * @throws NoSuchElementException if the array is empty.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UShortArray.minOfWith(comparator: Comparator<in R>, selector: (UShort) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * @throws NoSuchElementException if the array is empty.\n
```

```

produced by [selector] function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic\ninline fun <R> UIntArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (UInt) -> R): R? {\n    if\n    (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v =\n        selector(this[i])\n        if (comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return\n    minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values\n    produced by [selector] function applied to each element in the array or `null` if there are no elements.\n\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\n    ULongArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (ULong) -> R): R? {\n        if (isEmpty()) return null\n        var minValue = selector(this[0])\n        for (i in 1..lastIndex) {\n            val v =\n            selector(this[i])\n            if (comparator.compare(minValue, v) > 0) {\n                minValue = v\n            }\n        }\n        return\n        minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values\n    produced by [selector] function applied to each element in the array or `null` if there are no elements.\n\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\n    UByteArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (UByte) -> R): R? {\n        if (isEmpty())\n        return null\n        var minValue = selector(this[0])\n        for (i in 1..lastIndex) {\n            val v = selector(this[i])\n            if\n            (comparator.compare(minValue, v) > 0) {\n                minValue = v\n            }\n        }\n        return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]\n    function applied to each element in the array or `null` if there are no elements.\n\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\n    UShortArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (UShort) -> R): R? {\n        if (isEmpty())\n        return null\n        var minValue = selector(this[0])\n        for (i in 1..lastIndex) {\n            val v = selector(this[i])\n            if\n            (comparator.compare(minValue, v) > 0) {\n                minValue = v\n            }\n        }\n        return minValue\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n\n*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.minOrNull(): UInt? {\n    if\n    (isEmpty()) return null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (min > e) min = e\n    }\n    return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n\n*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.minOrNull(): ULong? {\n    if\n    (isEmpty()) return null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (min > e) min =\n        e\n    }\n    return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n\n*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.minOrNull(): UByte? {\n    if\n    (isEmpty()) return null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (min > e) min =\n        e\n    }\n    return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n\n*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.minOrNull(): UShort? {\n    if\n    (isEmpty()) return\n    null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (min > e) min = e\n    }\n    return\n    min\n}\n\n@Deprecated("Use minWithOrNull instead.")\nReplaceWith("this.minWithOrNull(comparator)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince\n    = "1.5", hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun\n    UIntArray.minWith(comparator: Comparator<in UInt>): UInt? {\n        return\n        minWithOrNull(comparator)\n    }\n\n@Deprecated("Use minWithOrNull instead.")\nReplaceWith("this.minWithOrNull(comparator)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince\n    = "1.5", hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun

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ULongArray.minWith(comparator: Comparator<in ULong>): ULong? {\n  return
minWithOrNull(comparator)\n}\n\n@Deprecated(\\"Use minWithOrNull instead.\",
ReplaceWith(\\"this.minWithOrNull(comparator)\")\n)\n@DeprecatedSinceKotlin(warningSince = \\"1.4\", errorSince
= \\"1.5\", hiddenSince = \\"1.6\")\n@SinceKotlin(\\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun
UByteArray.minWith(comparator: Comparator<in UByte>): UByte? {\n  return
minWithOrNull(comparator)\n}\n\n@Deprecated(\\"Use minWithOrNull instead.\",
ReplaceWith(\\"this.minWithOrNull(comparator)\")\n)\n@DeprecatedSinceKotlin(warningSince = \\"1.4\", errorSince
= \\"1.5\", hiddenSince = \\"1.6\")\n@SinceKotlin(\\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun
UShortArray.minWith(comparator: Comparator<in UShort>): UShort? {\n  return
minWithOrNull(comparator)\n}\n\n/**\n * Returns the first element having the smallest value according to the
provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin(\\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.minWithOrNull(comparator:
Comparator<in UInt>): UInt? {\n  if (isEmpty()) return null\n  var min = this[0]\n  for (i in 1..lastIndex) {\n
val e = this[i]\n    if (comparator.compare(min, e) > 0) min = e\n  }\n  return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided
[comparator] or `null` if there are no elements.\n
*\n@SinceKotlin(\\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.minWithOrNull(comparator:
Comparator<in ULong>): ULong? {\n  if (isEmpty()) return null\n  var min = this[0]\n  for (i in 1..lastIndex) {\n
val e = this[i]\n    if (comparator.compare(min, e) > 0) min = e\n  }\n  return min\n}\n\n/**\n * Returns the
first element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin(\\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.minWithOrNull(comparator:
Comparator<in UByte>): UByte? {\n  if (isEmpty()) return null\n  var min = this[0]\n  for (i in 1..lastIndex) {\n
val e = this[i]\n    if (comparator.compare(min, e) > 0) min = e\n  }\n  return min\n}\n\n/**\n * Returns the
first element having
the smallest value according to the provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin(\\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.minWithOrNull(comparator:
Comparator<in UShort>): UShort? {\n  if (isEmpty()) return null\n  var min = this[0]\n  for (i in 1..lastIndex) {\n
val e = this[i]\n    if (comparator.compare(min, e) > 0) min = e\n  }\n  return min\n}\n\n/**\n * Returns
`true` if the array has no elements.\n * \n * @sample samples.collections.Collections.Aggregates.none\n
*\n@SinceKotlin(\\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.none(): Boolean {\n  return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n *
@sample samples.collections.Collections.Aggregates.none\n
*\n@SinceKotlin(\\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.none(): Boolean {\n  return isEmpty()\n}\n\n/**\n * Returns
`true` if the array has no elements.\n * \n * @sample samples.collections.Collections.Aggregates.none\n
*\n@SinceKotlin(\\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.none(): Boolean {\n  return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n *
@sample samples.collections.Collections.Aggregates.none\n
*\n@SinceKotlin(\\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.none(): Boolean {\n  return isEmpty()\n}\n\n/**\n * Returns `true` if no elements match the given
[predicate].\n * \n * @sample samples.collections.Collections.Aggregates.noneWithPredicate\n
*\n@SinceKotlin(\\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.none(predicate: (UInt) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return
false\n  return true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n
*\n * \n * @sample samples.collections.Collections.Aggregates.noneWithPredicate\n
*\n@SinceKotlin(\\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.none(predicate: (ULong) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return
false\n  return true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n
*\n * \n * @sample

```

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samples.collections.Collections.Aggregates.noneWithPredicate\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.none(predicate: (UByte) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return
false\n  return true\n}\n\n**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.none(predicate:
(UShort) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return false\n  return
true\n}\n\n**\n * Performs the given [action] on each element and returns the array itself afterwards.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.onEach(action: (UInt) -> Unit): UIntArray {\n  return apply { for (element in this) action(element)
}\n}\n\n**\n * Performs the given [action] on each element and returns the array itself afterwards.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.onEach(action: (ULong) -> Unit): ULongArray {\n  return apply { for (element in this)
action(element) }\n}\n\n**\n * Performs the given [action] on each element and returns the array itself
afterwards.\n *\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UByteArray.onEach(action: (UByte) -> Unit): UByteArray
{\n  return apply { for (element in this) action(element) }\n}\n\n**\n * Performs the given [action] on each
element and returns the array itself afterwards.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.onEach(action: (UShort) -> Unit): UShortArray {\n  return apply { for (element in this)
action(element) }\n}\n\n**\n * Performs the given [action] on each element, providing sequential index with the
element,\n * and returns the array itself afterwards.\n * @param [action] function that takes the index of an element
and the element itself\n * and performs the action on the element.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.onEachIndexed(action: (index: Int, UInt) -> Unit): UIntArray {\n  return apply {
forEachIndexed(action) }\n}\n\n**\n * Performs the given [action] on each element, providing sequential index
with the element,\n
* and returns the array itself afterwards.\n * @param [action] function that takes the index of an element and the
element itself\n * and performs the action on the element.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.onEachIndexed(action: (index: Int, ULong) -> Unit): ULongArray {\n  return apply {
forEachIndexed(action) }\n}\n\n**\n * Performs the given [action] on each element, providing sequential index
with the element,\n * and returns the array itself afterwards.\n * @param [action] function that takes the index of an
element and the element itself\n * and performs the action on the element.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.onEachIndexed(action: (index: Int, UByte) -> Unit): UByteArray {\n  return apply {
forEachIndexed(action) }\n}\n\n**\n * Performs the given [action] on each element, providing sequential index
with the
element,\n * and returns the array itself afterwards.\n * @param [action] function that takes the index of an element
and the element itself\n * and performs the action on the element.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.onEachIndexed(action: (index: Int, UShort) -> Unit): UShortArray {\n  return apply {
forEachIndexed(action) }\n}\n\n**\n * Accumulates value starting with the first element and applying [operation]
from left to right\n * to current accumulator value and each element.\n * \n * Throws an exception if this array is
empty. If the array can be empty in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its
receiver is empty.\n * \n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UIntArray.reduce(operation: (acc: UInt, UInt) -> UInt): UInt {\n if (isEmpty())\n throw
UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in
1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current
accumulator value and each element.\n * \n * Throws an exception if this array is empty. If the array can be empty
in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n *
@param [operation] function that takes current accumulator value and an element,\n * and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun ULongArray.reduce(operation: (acc: ULong, ULong) -> ULong): ULong {\n if (isEmpty())\n
throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for
(index in 1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to
right\n * to current accumulator value and each element.\n * \n * Throws an exception if this array is empty. If the
array can be empty in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is
empty.\n * \n * @param [operation] function that takes current accumulator value and an element,\n * and calculates
the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
fun UByteArray.reduce(operation: (acc: UByte, UByte) -> UByte): UByte {\n if (isEmpty())\n throw
UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in
1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current
accumulator value and each element.\n * \n * Throws an exception if this array is empty. If the array can be empty
in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n *
@param [operation] function that takes current accumulator value and an element,\n * and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.reduce(operation:
(acc: UShort, UShort) -> UShort): UShort {\n if (isEmpty())\n throw
UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in
1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current
accumulator value and each element with its index in the original array.\n * \n * Throws an exception if this array is
empty. If the array can be empty in an expected way,\n * please use [reduceIndexedOrNull] instead. It returns `null`
when its receiver is empty.\n * \n * @param [operation] function that takes the index of an element, current
accumulator value and the element itself,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduce\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UIntArray.reduceIndexed(operation: (index: Int, acc: UInt, UInt) -> UInt): UInt {\n if (isEmpty())\n
throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for
(index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to
right\n * to current accumulator value and each element with its index in the original array.\n * \n * Throws an
exception if this array is empty. If the array can be empty in an expected way,\n * please use [reduceIndexedOrNull]
instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes the index of an
element, current accumulator value and the element itself,\n * and calculates the next accumulator value.\n * \n *
@sample samples.collections.Collections.Aggregates.reduce\n

```

```

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.reduceIndexed(operation: (index: Int, acc: ULong, ULong) -> ULong): ULong {\n  if (isEmpty())\n    throw UnsupportedOperationException("Empty array can't be reduced.")\n  var accumulator = this[0]\n  for
(index in 1..lastIndex) {\n    accumulator = operation(index, accumulator, this[index])\n  }\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to
right\n * to current accumulator value and each element with its index in the original array.\n * \n * Throws an
exception if this array is empty. If the array can be empty in an expected way,\n * please use [reduceIndexedOrNull]
instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes the index of an
element, current accumulator value and the element itself,\n * and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.reduceIndexed(operation: (index: Int, acc: UByte, UByte) -> UByte): UByte {\n  if (isEmpty())\n
throw UnsupportedOperationException("Empty array can't be reduced.")\n  var accumulator = this[0]\n  for
(index in 1..lastIndex) {\n    accumulator = operation(index, accumulator, this[index])\n  }\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to
right\n * to current accumulator value and each element with its index in the original array.\n * \n * Throws an
exception if this array is empty. If the array can be empty in an expected way,\n * please use [reduceIndexedOrNull]
instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes the index of an
element,
current accumulator value and the element itself,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduce\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.reduceIndexed(operation: (index: Int, acc: UShort, UShort) -> UShort): UShort {\n  if (isEmpty())\n
throw UnsupportedOperationException("Empty array can't be reduced.")\n  var accumulator = this[0]\n  for
(index in 1..lastIndex) {\n    accumulator = operation(index, accumulator, this[index])\n  }\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to
right\n * to current accumulator value and each element with its index in the original array.\n * \n * Returns `null` if
the array is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator
value and the element itself,\n * and
calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.reduceIndexedOrNull(operation: (index: Int, acc: UInt, UInt) -> UInt): UInt? {\n  if (isEmpty())\n
return null\n  var accumulator = this[0]\n  for (index in 1..lastIndex) {\n    accumulator = operation(index,
accumulator, this[index])\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with the first
element and applying [operation] from left to right\n * to current accumulator value and each element with its index
in the original array.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes
the index of an element, current accumulator value and the element itself,\n * and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun ULongArray.reduceIndexedOrNull(operation: (index: Int, acc: ULong, ULong) -> ULong): ULong? {\n
if (isEmpty())\n  return null\n  var accumulator = this[0]\n  for (index in 1..lastIndex) {\n    accumulator =
operation(index, accumulator, this[index])\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting
with the first element and applying [operation] from left to right\n * to current accumulator value and each element
with its index in the original array.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value and the element itself,\n * and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

```

UByteArray.reduceIndexedOrNull(operation:

(index: Int, acc: UByte, UByte) -> UByte): UByte? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return accumulator}\n\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * Returns `null` if the array is empty.\n * @param [operation] function that takes the index of an element, current accumulator value and the element itself,\n * and calculates the next accumulator value.\n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n

*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.reduceIndexedOrNull(operation: (index: Int, acc: UShort, UShort) -> UShort): UShort? {\n if (isEmpty())\n

return null\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return accumulator}\n\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * Returns `null` if the array is empty.\n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next accumulator value.\n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n

*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.reduceOrNull(operation: (acc: UInt, UInt) -> UInt): UInt? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return

accumulator}\n\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * Returns `null` if the array is empty.\n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next accumulator value.\n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n

*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.reduceOrNull(operation: (acc: ULong, ULong) -> ULong): ULong? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator}\n\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each

element.\n * Returns `null` if the array is empty.\n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next accumulator value.\n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n

*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.reduceOrNull(operation: (acc: UByte, UByte) -> UByte): UByte? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator}\n\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * Returns `null` if the array is empty.\n * @param [operation] function that takes current accumulator value and an element,\n * and calculates

the next accumulator value.\n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n

*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.reduceOrNull(operation: (acc: UShort, UShort) -> UShort): UShort? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator}\n\n * Accumulates value starting with the last element and applying [operation] from right to left\n * to each element and current accumulator value.\n * Throws an exception if this array is empty. If the array can be empty in an expected

way, please use `reduceRightOrNull` instead. It returns `null` when its receiver is empty.

`@param [operation]` function that takes an element and current accumulator value and calculates the next accumulator value.

```

@sample samples.collections.Collections.Aggregates.reduceRight
*\/@SinceKotlin("1.3")\/@ExperimentalUnsignedTypes\/@kotlin.internal.InlineOnly\/npublic inline fun
UIntArray.reduceRight(operation: (UInt, acc: UInt) -> UInt): UInt {
    var index = lastIndex
    if (index < 0)
        throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return accumulator
}

```

Accumulates value starting with the last element and applying `[operation]` from right to left to each element and current accumulator value. Throws an exception if this array is empty. If the array can be empty in an expected way, please use `reduceRightOrNull` instead. It returns `null` when its receiver is empty.

`@param [operation]` function that takes an element and current accumulator value and calculates the next accumulator value.

```

@sample samples.collections.Collections.Aggregates.reduceRight
*\/@SinceKotlin("1.3")\/@ExperimentalUnsignedTypes\/@kotlin.internal.InlineOnly\/npublic inline fun
ULongArray.reduceRight(operation: (ULong, acc: ULong) -> ULong): ULong {
    var index = lastIndex
    if (index < 0)
        throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator =
get(index--)
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return accumulator
}

```

Accumulates value starting with the last element and applying `[operation]` from right to left to each element and current accumulator value. Throws an exception if this array is empty. If the array can be empty in an expected way, please use `reduceRightOrNull` instead. It returns `null` when its receiver is empty.

`@param [operation]` function that takes an element and current accumulator value and calculates the next accumulator value.

```

@sample samples.collections.Collections.Aggregates.reduceRight
*\/@SinceKotlin("1.3")\/@ExperimentalUnsignedTypes\/@kotlin.internal.InlineOnly\/npublic inline fun
UByteArray.reduceRight(operation: (UByte, acc: UByte) -> UByte): UByte {
    var index = lastIndex
    if (index < 0)
        throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return accumulator
}

```

Accumulates value starting with the last element and applying `[operation]` from right to left to each element and current accumulator value. Throws an exception if this array is empty. If the array can be empty in an expected way, please use `reduceRightOrNull` instead. It returns `null` when its receiver is empty.

`@param [operation]` function that takes an element and current accumulator value and calculates the next accumulator value.

```

@sample samples.collections.Collections.Aggregates.reduceRight
*\/@SinceKotlin("1.3")\/@ExperimentalUnsignedTypes\/@kotlin.internal.InlineOnly\/npublic inline fun
UShortArray.reduceRight(operation: (UShort, acc: UShort) -> UShort): UShort {
    var index = lastIndex
    if (index < 0)
        throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator =
get(index--)
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return accumulator
}

```

Accumulates value starting with the last element and applying `[operation]` from right to left to each element with its index in the original array and current accumulator value. Throws an exception if this array is empty. If the array can be empty in an expected way, please use `reduceRightIndexedOrNull` instead. It returns `null` when its receiver is empty.

`@param [operation]` function that takes the index of an element, the element itself and current accumulator value and calculates the next accumulator value.

```

@sample samples.collections.Collections.Aggregates.reduceRight
*\/@SinceKotlin("1.3")\/@ExperimentalUnsignedTypes\/@kotlin.internal.InlineOnly\/npublic inline fun
UIntArray.reduceRightIndexed(operation: (index: Int, UInt, acc: UInt) -> UInt): UInt {
    var index = lastIndex
    if (index < 0)
        throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator =
get(index--)
    while (index >= 0) {
        accumulator = operation(index, get(index), accumulator)
        --index
    }
}

```


}
return accumulator
} Accumulates value starting with the last element and applying [operation] from right to left to each element with its index in the original array and current accumulator value.
Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceRightIndexedOrNull]

instead. It returns `null` when its receiver is empty.
@param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value.
@sample samples.collections.Collections.Aggregates.reduceRight

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
ULongArray.reduceRightIndexed(operation: (index: Int, ULong, acc: ULong) -> ULong): ULong {\n    var index =  
lastIndex\n    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var  
accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index),  
accumulator)\n        --index\n    }\n    return accumulator\n}
```

Accumulates value starting with the last element and applying [operation] from right to left to each element with its index in the original array and current accumulator value.
Throws

an exception if this array is empty. If the array can be empty in an expected way, please use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.
@param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value.
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UByteArray.reduceRightIndexed(operation: (index: Int, UByte, acc: UByte) -> UByte): UByte {\n    var index =  
lastIndex\n    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var  
accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index),  
accumulator)\n        --index\n    }\n    return accumulator\n}
```

Accumulates value starting with the last element and applying [operation]

from right to left to each element with its index in the original array and current accumulator value.
Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.
@param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value.
@sample samples.collections.Collections.Aggregates.reduceRight

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UShortArray.reduceRightIndexed(operation: (index: Int, UShort, acc: UShort) -> UShort): UShort {\n    var index =  
lastIndex\n    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var  
accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index),  
accumulator)\n
```

```
--index\n    }\n    return accumulator\n}
```

Accumulates value starting with the last element and applying [operation] from right to left to each element with its index in the original array and current accumulator value.
Returns `null` if the array is empty.
@param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value.
@sample samples.collections.Collections.Aggregates.reduceRightOrNull

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UIntArray.reduceRightIndexedOrNull(operation: (index: Int, UInt, acc: UInt) -> UInt): UInt? {\n    var index =  
lastIndex\n    if (index < 0) return null\n    var accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index), accumulator)\n        --index\n    }\n    return accumulator\n}
```

Accumulates value starting

with the last element and applying [operation] from right to left to each element with its index in the original array and current accumulator value.
Returns `null` if the array is empty.
@param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value.
@sample samples.collections.Collections.Aggregates.reduceRightOrNull

```

*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.reduceRightIndexedOrNull(operation: (index: Int, ULong, acc: ULong) -> ULong): ULong? {\n  var
index = lastIndex\n  if (index < 0) return null\n  var accumulator = get(index--)\n  while (index >= 0) {\n
accumulator = operation(index, get(index), accumulator)\n    --index\n  }\n  return accumulator\n}\n\n/**\n *
Accumulates value starting with the last element and applying [operation] from right to left\n
* to each element with its index in the original array and current accumulator value.\n * \n * Returns `null` if the
array is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself and
current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.reduceRightIndexedOrNull(operation: (index: Int, UByte, acc: UByte) -> UByte): UByte? {\n  var
index = lastIndex\n  if (index < 0) return null\n  var accumulator = get(index--)\n  while (index >= 0) {\n
accumulator = operation(index, get(index), accumulator)\n    --index\n  }\n  return accumulator\n}\n\n/**\n *
Accumulates value starting with the last element and applying [operation] from right to left\n * to each element with
its index in the original array and current accumulator
value.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes the index of an
element, the element itself and current accumulator value,\n * and calculates the next accumulator value.\n * \n *
@sample samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.reduceRightIndexedOrNull(operation: (index: Int, UShort, acc: UShort) -> UShort): UShort? {\n  var
index = lastIndex\n  if (index < 0) return null\n  var accumulator = get(index--)\n  while (index >= 0) {\n
accumulator = operation(index, get(index), accumulator)\n    --index\n  }\n  return accumulator\n}\n\n/**\n *
Accumulates value starting with the last element and applying [operation] from right to left\n * to each element and
current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that
takes
an element and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun UIntArray.reduceRightOrNull(operation: (UInt, acc: UInt) -> UInt):
UInt? {\n  var index = lastIndex\n  if (index < 0) return null\n  var accumulator = get(index--)\n  while (index
>= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n  return accumulator\n}\n\n/**\n *
Accumulates value starting with the last element and applying [operation] from right to left\n * to each element and
current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that
takes an element and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun ULongArray.reduceRightOrNull(operation: (ULong, acc: ULong) ->
ULong): ULong? {\n  var index = lastIndex\n  if (index < 0) return null\n  var accumulator = get(index--)\n
while (index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to
left\n * to each element and current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n * @param
[operation] function that takes an element and current accumulator value,\n * and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic
inline fun UByteArray.reduceRightOrNull(operation: (UByte, acc: UByte) -> UByte): UByte? {\n  var index =
lastIndex\n  if (index < 0) return null\n  var accumulator = get(index--)\n  while (index >= 0) {\n
accumulator = operation(get(index--), accumulator)\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value

```

starting with the last element and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes an element and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRightOrNull\n

```

*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.reduceRightOrNull(operation: (UShort, acc: UShort) -> UShort): UShort? {\n    var
    index = lastIndex\n    if (index < 0) return null\n    var accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(get(index--), accumulator)\n    }\n    return accumulator\n}\n\n**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UIntArray.runningFold(initial: R, operation: (acc: R, UInt) -> R): List<R> {\n    if (isEmpty()) return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\n    for (element in this) {\n        accumulator = operation(accumulator, element)\n        result.add(accumulator)\n    }\n    return result\n}\n\n**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> ULongArray.runningFold(initial: R, operation: (acc: R, ULong) -> R): List<R> {\n    if (isEmpty()) return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\n    for (element in this) {\n        accumulator = operation(accumulator, element)\n        result.add(accumulator)\n    }\n    return result\n}\n\n**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UByteArray.runningFold(initial: R, operation: (acc: R, UByte) -> R): List<R> {\n    if (isEmpty()) return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\n    for (element in this) {\n        accumulator = operation(accumulator, element)\n        result.add(accumulator)\n    }\n    return result\n}\n\n**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UShortArray.runningFold(initial: R, operation: (acc: R, UShort) -> R): List<R> {\n    if (isEmpty()) return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\n    for (element in this) {\n

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accumulator = operation(accumulator, element)\n    result.add(accumulator)\n } \n return result\n}\n\n/**\n *
Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to
each element, its index in the original array and current accumulator value that starts with [initial] value.\n * \n *
Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the
previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current
accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningFold\n
*/\n\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun <R> UIntArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, UInt) -> R): List<R> {\n
if (isEmpty()) return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator
= initial\n    for (index in indices) {\n        accumulator = operation(index, accumulator, this[index])\n
result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation]
function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n *
@param [operation] function that takes the index of an element, current accumulator value\n * and the element
itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
*/\n\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
ULongArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, ULong) -> R): List<R> {\n    if
(isEmpty()) return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator =
initial\n    for (index in indices) {\n        accumulator = operation(index, accumulator, this[index])\n
result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation]
function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n *
@param [operation] function that takes the index of an element, current accumulator value\n * and the
element itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningFold\n
*/\n\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UByteArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, UByte) -> R): List<R> {\n    if
(isEmpty()) return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator =
initial\n    for (index in indices) {\n        accumulator = operation(index, accumulator, this[index])\n
result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with [initial] value.\n * \n * Note
that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous
value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator
value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningFold\n
*/\n\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UShortArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, UShort) -> R): List<R> {\n    if
(isEmpty()) return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator =
initial\n    for (index in indices) {\n        accumulator = operation(index, accumulator, this[index])\n
result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to
right\n * to each element and current accumulator value that starts with the first element of this array.\n * \n * Note
that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous
value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element,

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and calculates the next accumulator value.

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samples.collections.Collections.Aggregates.runningReduce
*/n@SinceKotlin("1.4")n@ExperimentalUnsignedTypesn@kotlin.internal.InlineOnlynpublic inline fun
UIntArray.runningReduce(operation: (acc: UInt, UInt) -> UInt): List<UInt> {n if (isEmpty()) return
emptyList()n var accumulator = this[0]n val result = ArrayList<UInt>(size).apply { add(accumulator) }n for
(index in 1 until size) {n accumulator = operation(accumulator, this[index])n result.add(accumulator)n
}n return resultn}n/n/**n * Returns a list containing successive accumulation
values generated by applying [operation] from left to rightn * to each element and current accumulator value that
starts with the first element of this array.n * n * Note that `acc` value passed to [operation] function should not be
mutated;n * otherwise it would affect the previous value in resulting list.n * n * @param [operation] function that
takes current accumulator value and an element, and calculates the next accumulator value.n * n * @sample
samples.collections.Collections.Aggregates.runningReduce
*/n@SinceKotlin("1.4")n@ExperimentalUnsignedTypesn@kotlin.internal.InlineOnlynpublic inline fun
ULongArray.runningReduce(operation: (acc: ULong, ULong) -> ULong): List<ULong> {n if (isEmpty()) return
emptyList()n var accumulator = this[0]n val result = ArrayList<ULong>(size).apply { add(accumulator) }n
for (index in 1 until size) {n accumulator = operation(accumulator, this[index])n result.add(accumulator)n
}n return resultn}n/n/**n
* Returns a list containing successive accumulation values generated by applying [operation] from left to rightn *
to each element and current accumulator value that starts with the first element of this array.n * n * Note that `acc`
value passed to [operation] function should not be mutated;n * otherwise it would affect the previous value in
resulting list.n * n * @param [operation] function that takes current accumulator value and an element, and
calculates the next accumulator value.n * n * @sample
samples.collections.Collections.Aggregates.runningReduce
*/n@SinceKotlin("1.4")n@ExperimentalUnsignedTypesn@kotlin.internal.InlineOnlynpublic inline fun
UByteArray.runningReduce(operation: (acc: UByte, UByte) -> UByte): List<UByte> {n if (isEmpty()) return
emptyList()n var accumulator = this[0]n val result = ArrayList<UByte>(size).apply { add(accumulator) }n
for (index in 1 until size) {n accumulator = operation(accumulator, this[index])n
result.add(accumulator)n }n return resultn}n/n/**n * Returns a list containing successive accumulation
values generated by applying [operation] from left to rightn * to each element and current accumulator value that
starts with the first element of this array.n * n * Note that `acc` value passed to [operation] function should not be
mutated;n * otherwise it would affect the previous value in resulting list.n * n * @param [operation] function that
takes current accumulator value and an element, and calculates the next accumulator value.n * n * @sample
samples.collections.Collections.Aggregates.runningReduce
*/n@SinceKotlin("1.4")n@ExperimentalUnsignedTypesn@kotlin.internal.InlineOnlynpublic inline fun
UShortArray.runningReduce(operation: (acc: UShort, UShort) -> UShort): List<UShort> {n if (isEmpty()) return
emptyList()n var accumulator = this[0]n val result = ArrayList<UShort>(size).apply { add(accumulator) }n
for (index in 1 until size)
{n accumulator = operation(accumulator, this[index])n result.add(accumulator)n }n return
resultn}n/n/**n * Returns a list containing successive accumulation values generated by applying [operation] from
left to rightn * to each element, its index in the original array and current accumulator value that starts with the first
element of this array.n * n * Note that `acc` value passed to [operation] function should not be mutated;n *
otherwise it would affect the previous value in resulting list.n * n * @param [operation] function that takes the
index of an element, current accumulator valuen * and the element itself, and calculates the next accumulator
value.n * n * @sample samples.collections.Collections.Aggregates.runningReduce
*/n@SinceKotlin("1.4")n@ExperimentalUnsignedTypesn@kotlin.internal.InlineOnlynpublic inline fun
UIntArray.runningReduceIndexed(operation: (index: Int, acc: UInt, UInt) -> UInt): List<UInt> {n if (isEmpty())
return

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emptyList()\n    var accumulator = this[0]\n    val result = ArrayList<UInt>(size).apply { add(accumulator) }\n    for
(index in 1 until size) {\n        accumulator = operation(index, accumulator, this[index])\n    }\n    result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with the first element of this array.\n * \n * Note that `acc` value passed to
[operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n *
@param [operation] function that takes the index of an element, current accumulator value\n * and the element
itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun ULongArray.runningReduceIndexed(operation: (index: Int, acc: ULong, ULong) -> ULong):
List<ULong> {\n    if (isEmpty()) return emptyList()\n    var accumulator = this[0]\n    val result =
ArrayList<ULong>(size).apply { add(accumulator) }\n    for (index in 1 until size) {\n        accumulator =
operation(index, accumulator, this[index])\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with the first element of this
array.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would
affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element,
current accumulator value\n * and the element itself, and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.runningReduceIndexed(operation: (index: Int, acc: UByte, UByte) -> UByte): List<UByte> {\n    if
(isEmpty()) return emptyList()\n    var accumulator = this[0]\n    val result = ArrayList<UByte>(size).apply {
add(accumulator) }\n    for (index in 1 until size) {\n        accumulator = operation(index, accumulator, this[index])\n
        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with the first element of this array.\n * \n * Note that `acc` value passed to
[operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n *
@param [operation] function that takes the index of an element, current accumulator value\n * and the element
itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.runningReduceIndexed(operation: (index: Int, acc: UShort, UShort) -> UShort): List<UShort> {\n    if
(isEmpty()) return emptyList()\n    var accumulator = this[0]\n    val result = ArrayList<UShort>(size).apply {
add(accumulator) }\n    for (index in 1 until size) {\n        accumulator = operation(index, accumulator, this[index])\n
        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element and current accumulator value that
starts with [initial] value.\n * \n * Note that `acc` value passed to [operation]
function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param
[operation] function that takes current accumulator value and an element, and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun <R> UIntArray.scan(initial: R, operation: (acc: R, UInt) -> R):
List<R> {\n    return runningFold(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element and current accumulator value that
starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n *
otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current
accumulator

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value and an element, and calculates the next accumulator value.

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\n * \n * @sample
samples.collections.Collections.Aggregates.scan

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*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun <R> ULongArray.scan(initial: R, operation: (acc: R, ULong) -> R):
List<R> {\n  return runningFold(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element and current accumulator value that
starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n *
otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current
accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.scan

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*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic
inline fun <R> UByteArray.scan(initial: R, operation: (acc: R, UByte) -> R): List<R> {\n  return
runningFold(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by
applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial]
value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would
affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value
and an element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.scan

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*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun <R> UShortArray.scan(initial: R, operation: (acc: R,
UShort) -> R): List<R> {\n  return runningFold(initial, operation)\n}\n\n/**\n * Returns a list containing
successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in
the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed
to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n *
\n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element
itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.scan

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*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun <R> UIntArray.scanIndexed(initial: R, operation: (index: Int, acc: R,
UInt) -> R): List<R> {\n  return runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing
successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in
the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed
to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n *
\n * @param [operation] function that takes the index of an element, current
accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.scan

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*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun <R> ULongArray.scanIndexed(initial: R, operation: (index: Int, acc:
R, ULong) -> R): List<R> {\n  return runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list
containing successive accumulation values generated
by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator
value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be
mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that
takes the index of an element, current accumulator value\n * and the element itself, and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan

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*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun <R> UByteArray.scanIndexed(initial: R, operation: (index: Int, acc:

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R, UByte) -> R): List<R> {
return runningFoldIndexed(initial, operation)\n\n\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n\n

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*/\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <R> UShortArray.scanIndexed(initial: R, operation: (index: Int, acc: R, UShort) -> R): List<R> {\n    return runningFoldIndexed(initial, operation)\n}\n\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.", ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.sumBy(selector: (UInt) -> UInt): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.", ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.sumBy(selector: (ULong) -> UInt): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.", ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.sumBy(selector: (UByte) -> UInt): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.", ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.sumBy(selector: (UShort) -> UInt): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.", ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.sumByDouble(selector: (UInt) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.", ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.sumByDouble(selector: (ULong) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.", ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.sumByDouble(selector: (UByte) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.", ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

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UShortArray.sumByDouble(selector: (UShort) -> Double): Double {
    var sum: Double = 0.0
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
* Returns the sum of all values produced by [selector] function applied to each element in the array.

* Since Kotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@Suppress("INAPPLICABLE_JVM_NAME")
@kotlin.jvm.JvmName("sumOfDouble")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun UIntArray.sumOf(selector: (UInt) -> Double): Double {
    var sum: Double = 0.toDouble()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
* Returns the sum of all values produced by [selector] function applied to each element in the array.

* Since Kotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@Suppress("INAPPLICABLE_JVM_NAME")
@kotlin.jvm.JvmName("sumOfDouble")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun ULongArray.sumOf(selector: (ULong) -> Double): Double {
    var sum: Double = 0.toDouble()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
* Returns the sum of all values produced by [selector] function applied to each element in the array.

* Since Kotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@Suppress("INAPPLICABLE_JVM_NAME")
@kotlin.jvm.JvmName("sumOfDouble")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun UByteArray.sumOf(selector: (UByte) -> Double): Double {
    var sum: Double = 0.toDouble()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
* Returns the sum of all values produced by [selector] function applied to each element in the array.

* Since Kotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@Suppress("INAPPLICABLE_JVM_NAME")
@kotlin.jvm.JvmName("sumOfDouble")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun UShortArray.sumOf(selector: (UShort) -> Double): Double {
    var sum: Double = 0.toDouble()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
* Returns the sum of all values produced by [selector] function applied to each element in the array.

* Since Kotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@Suppress("INAPPLICABLE_JVM_NAME")
@kotlin.jvm.JvmName("sumOfInt")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun UIntArray.sumOf(selector: (UInt) -> Int): Int {
    var sum: Int = 0.toInt()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
* Returns the sum of all values produced by [selector] function applied to each element in the array.

* Since Kotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@Suppress("INAPPLICABLE_JVM_NAME")
@kotlin.jvm.JvmName("sumOfInt")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun ULongArray.sumOf(selector: (ULong) -> Int): Int {
    var sum: Int = 0.toInt()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
* Returns the sum of all values produced by [selector] function applied to each element in the array.

* Since Kotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@Suppress("INAPPLICABLE_JVM_NAME")
@kotlin.jvm.JvmName("sumOfInt")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun UByteArray.sumOf(selector: (UByte) -> Int): Int {
    var sum: Int = 0.toInt()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
* Returns the sum of all values produced by [selector] function applied to each element in the array.

* Since Kotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@Suppress("INAPPLICABLE_JVM_NAME")
@kotlin.jvm.JvmName("sumOfInt")

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@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UShortArray.sumOf(selector: (UShort) -> Int): Int {\n  var sum: Int = 0.toInt()\n  for (element in this)
{\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfLong")
\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.sumOf(selector: (UInt)
-> Long): Long {\n  var sum: Long = 0.toLong()\n  for (element in this) {\n    sum += selector(element)\n  }\n
return sum\n}\n\n/**\n * Returns the sum of all values produced
by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfLong")
\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.sumOf(selector:
(ULong) -> Long): Long {\n  var sum: Long = 0.toLong()\n  for (element in this) {\n    sum +=
selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfLong")
\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.sumOf(selector:
(UByte) -> Long): Long {\n  var sum: Long = 0.toLong()\n  for (element
in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced
by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfLong")
\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.sumOf(selector:
(UShort) -> Long): Long {\n  var sum: Long = 0.toLong()\n  for (element in this) {\n    sum +=
selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfUInt")\n
\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.Inline
Only\npublic
inline fun UIntArray.sumOf(selector: (UInt) -> UInt): UInt {\n  var sum: UInt = 0.toUInt()\n  for (element in this)
{\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfUInt")\n
\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.Inline
Only\npublic inline fun ULongArray.sumOf(selector: (ULong) -> UInt): UInt {\n  var sum: UInt = 0.toUInt()\n
for (element in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all
values produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfUInt")\n
\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.Inline
Only\npublic
inline fun UByteArray.sumOf(selector: (UByte) -> UInt): UInt {\n  var sum: UInt = 0.toUInt()\n  for (element in
this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n

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*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfUInt")\n
\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.Inline
Only\npublic inline fun UShortArray.sumOf(selector: (UShort) -> UInt): UInt {\n    var sum: UInt =
    0.toUInt()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the
sum of all values produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfULong\
")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.Inli
neOnly\npublic inline fun UIntArray.sumOf(selector: (UInt) -> ULong): ULong {\n    var sum: ULong =
0.toULong()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns
the sum of all values produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfULong\
")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.Inli
neOnly\npublic
inline fun ULongArray.sumOf(selector: (ULong) -> ULong): ULong {\n    var sum: ULong = 0.toULong()\n    for
(element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values
produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfULong\
")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.Inli
neOnly\npublic inline fun UByteArray.sumOf(selector: (UByte) -> ULong): ULong {\n    var sum: ULong =
0.toULong()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns
the sum of all values
produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfULong\
")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.Inli
neOnly\npublic inline fun UShortArray.sumOf(selector: (UShort) -> ULong): ULong {\n    var sum: ULong =
0.toULong()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns a
list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has
length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UIntArray.zip(other: Array<out
R>): List<Pair<UInt, R>> {\n    return zip(other) { t1, t2 ->
t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the
same index.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> ULongArray.zip(other:
Array<out R>): List<Pair<ULong, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of
pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has
length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UByteArray.zip(other: Array<out
R>): List<Pair<UByte, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built
from the elements of `this` array and the [other] array with the same index.\n
* The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UShortArray.zip(other:

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Array<out R>): List<Pair<UShort, R>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of
values built from the elements of `this` array and the [other] array with the same index\n * using the provided
[transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n
\n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
UIntArray.zip(other: Array<out R>, transform: (a: UInt, b: R) -> V): List<V> {\n  val size = minOf(size,
other.size)\n  val list = ArrayList<V>(size)\n  for (i in 0 until size) {\n    list.add(transform(this[i], other[i]))\n
  }\n  return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
ULongArray.zip(other: Array<out R>, transform: (a: ULong, b: R) -> V): List<V> {\n  val size = minOf(size,
other.size)\n  val list = ArrayList<V>(size)\n  for (i in 0 until size) {\n    list.add(transform(this[i], other[i]))\n
  }\n  return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
UByteArray.zip(other: Array<out R>, transform: (a: UByte, b: R) -> V): List<V> {\n  val size = minOf(size,
other.size)\n  val list = ArrayList<V>(size)\n  for (i in 0 until size) {\n    list.add(transform(this[i], other[i]))\n
  }\n  return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
UShortArray.zip(other: Array<out R>, transform: (a: UShort, b: R) -> V): List<V> {\n
  val size = minOf(size, other.size)\n  val list = ArrayList<V>(size)\n  for (i in 0 until size) {\n
list.add(transform(this[i], other[i]))\n  }\n  return list\n}\n\n/**\n * Returns a list of pairs built from the elements
of `this` collection and [other] array with the same index.\n * The returned list has length of the shortest collection.\n
\n * @sample samples.collections.Iterables.Operations.zipIterable\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UIntArray.zip(other:
Iterable<R>): List<Pair<UInt, R>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs
built from the elements of `this` collection and [other] array with the same index.\n * The returned list has length of
the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> ULongArray.zip(other:
Iterable<R>): List<Pair<ULong, R>> {\n
  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this`
collection and [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n *
@sample samples.collections.Iterables.Operations.zipIterable\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UByteArray.zip(other:
Iterable<R>): List<Pair<UByte, R>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs
built from the elements of `this` collection and [other] array with the same index.\n * The returned list has length of
the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UShortArray.zip(other:
Iterable<R>): List<Pair<UShort, R>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of
values built from the elements of `this` array and

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the [other] collection with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
UIntArray.zip(other: Iterable<R>, transform: (a: UInt, b: R) -> V): List<V> {\n
    val arraySize = size\n    val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n
    var i = 0\n    for (element in other) {\n
        if (i >= arraySize) break\n
        list.add(transform(this[i++], element))\n
    }\n    return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] collection with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
*/\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
ULongArray.zip(other: Iterable<R>, transform: (a: ULong, b: R) -> V): List<V> {\n
    val arraySize = size\n    val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n
    var i = 0\n    for (element in other) {\n
        if (i >= arraySize) break\n
        list.add(transform(this[i++], element))\n
    }\n    return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] collection with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
*/\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
UByteArray.zip(other: Iterable<R>, transform: (a: UByte, b: R) -> V): List<V> {\n
    val arraySize = size\n    val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n
    var i = 0\n    for (element in other) {\n
        if (i >= arraySize) break\n
        list.add(transform(this[i++], element))\n
    }\n    return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] collection with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
*/\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
UShortArray.zip(other: Iterable<R>, transform: (a: UShort, b: R) -> V): List<V> {\n
    val arraySize = size\n    val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n
    var i = 0\n    for (element in other) {\n
        if (i >= arraySize) break\n
        list.add(transform(this[i++], element))\n
    }\n    return list\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*/\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun UIntArray.zip(other: UIntArray): List<Pair<UInt, UInt>> {\n
    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*/\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun ULongArray.zip(other: ULongArray): List<Pair<ULong, ULong>> {\n
    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*/\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun UByteArray.zip(other: UByteArray): List<Pair<UByte, UByte>> {\n
    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*/\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun UShortArray.zip(other: UShortArray): List<Pair<UShort, UShort>> {\n
    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the provided [transform]

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function applied to each pair of elements.\n * The returned list has length of the shortest array.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V>
UIntArray.zip(other: UIntArray, transform: (a: UInt, b: UInt) -> V): List<V> {\n    val size = minOf(size,
other.size)\n    val list = ArrayList<V>(size)\n    for (i in 0 until size) {\n        list.add(transform(this[i], other[i]))\n    }\n    return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the shortest array.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V>
ULongArray.zip(other: ULongArray, transform: (a: ULong, b: ULong) -> V): List<V> {\n    val size = minOf(size,
other.size)\n    val list = ArrayList<V>(size)\n    for (i in 0 until size) {\n        list.add(transform(this[i], other[i]))\n    }\n    return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the shortest array.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V>
UByteArray.zip(other: UByteArray, transform: (a: UByte, b: UByte) -> V): List<V> {\n    val size = minOf(size,
other.size)\n    val list = ArrayList<V>(size)\n    for (i in 0 until size) {\n        list.add(transform(this[i], other[i]))\n    }\n    return list\n}\n\n/**\n * Returns a list
of values built from the elements of `this` array and the [other] array with the same index\n * using the provided
[transform] function applied to each pair of elements.\n * The returned list has length of the shortest array.\n * \n *
@sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V>
UShortArray.zip(other: UShortArray, transform: (a: UShort, b: UShort) -> V): List<V> {\n    val size = minOf(size,
other.size)\n    val list = ArrayList<V>(size)\n    for (i in 0 until size) {\n        list.add(transform(this[i], other[i]))\n    }\n    return list\n}\n\n/**\n * Returns the sum of all elements in the array.\n
*\n@kotlin.jvm.JvmName("sumOfUInt")\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedT
ypes::class)\npublic fun Array<out UInt>.sum(): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n        sum
+= element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n
*\n@kotlin.jvm.JvmName("sumOfULong")\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsigned
Types::class)\npublic fun Array<out ULong>.sum(): ULong {\n    var sum: ULong = 0uL\n    for (element in this)
{\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n
*\n@kotlin.jvm.JvmName("sumOfUByte")\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsigned
Types::class)\npublic fun Array<out UByte>.sum(): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n
sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n
*\n@kotlin.jvm.JvmName("sumOfUShort")\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsigned
Types::class)\npublic fun Array<out UShort>.sum(): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n
sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all
elements in the array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.sum(): UInt {\n    return storage.sum().toUInt()\n}\n\n/**\n * Returns the sum of all elements in the
array.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.sum(): ULong {\n    return storage.sum().toULong()\n}\n\n/**\n * Returns the sum of all elements in
the array.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
fun UByteArray.sum(): UInt {\n    return sumOf { it.toUInt() }\n}\n\n/**\n * Returns the sum of all elements in the
array.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

```

```

UShortArray.sum(): UInt {\n  return sumOf { it.toUInt() }\n}\n\n"/**\n * Copyright 2010-2021 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("UCollectionsKt")\n\npackage
kotlin.collections\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n\nimport kotlin.random.*\nimport
kotlin.ranges.contains\nimport kotlin.ranges.reversed\n\n/**\n * Returns an array of UByte containing all of the
elements of this collection.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
Collection<UByte>.toUByteArray(): UByteArray {\n  val result = UByteArray(size)\n  var index = 0\n  for
(element in this)\n    result[index++] = element\n  return result\n}\n\n/**\n * Returns an array of UInt containing
all of the elements of this collection.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
Collection<UInt>.toUIntArray(): UIntArray {\n  val result = UIntArray(size)\n
  var index = 0\n  for (element in this)\n    result[index++] = element\n  return result\n}\n\n/**\n * Returns an
array of ULong containing all of the elements of this collection.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun Collection<ULong>.toULongArray():
ULongArray {\n  val result = ULongArray(size)\n  var index = 0\n  for (element in this)\n    result[index++] =
element\n  return result\n}\n\n/**\n * Returns an array of UShort containing all of the elements of this collection.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun Collection<UShort>.toUShortArray():
UShortArray {\n  val result = UShortArray(size)\n  var index = 0\n  for (element in this)\n    result[index++] =
element\n  return result\n}\n\n/**\n * Returns the sum of all elements in the collection.\n */\n\n@kotlin.jvm.JvmName("sumOfUInt")\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedT
ypes::class)\npublic fun Iterable<UInt>.sum():
UInt {\n  var sum: UInt = 0u\n  for (element in this) {\n    sum += element\n  }\n  return sum\n}\n\n/**\n *
Returns the sum of all elements in the collection.\n */\n\n@kotlin.jvm.JvmName("sumOfULong")\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsigned
Types::class)\npublic fun Iterable<ULong>.sum(): ULong {\n  var sum: ULong = 0uL\n  for (element in this) {\n
  sum += element\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n */\n\n@kotlin.jvm.JvmName("sumOfUByte")\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsigned
Types::class)\npublic fun Iterable<UByte>.sum(): UInt {\n  var sum: UInt = 0u\n  for (element in this) {\n
sum += element\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n */\n\n@kotlin.jvm.JvmName("sumOfUShort")\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsigned
Types::class)\npublic fun Iterable<UShort>.sum(): UInt {\n
  var sum: UInt = 0u\n  for (element in this) {\n    sum += element\n  }\n  return sum\n}\n\n"/**\n * Copyright
2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("UComparisonsKt")\n\npackage
kotlin.comparisons\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n\nimport kotlin.random.*\n\n/**\n * Returns the
greater of two values.\n */\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun maxOf(a: UInt, b:
UInt): UInt {\n  return if (a >= b) a else b\n}\n\n/**\n * Returns the greater of two values.\n */\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun maxOf(a: ULong,
b: ULong): ULong {\n  return
if (a >= b) a else b\n}\n\n/**\n * Returns the greater of two values.\n */\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun maxOf(a: UByte,
b: UByte): UByte {\n  return if (a >= b) a else b\n}\n\n/**\n * Returns the greater of two values.\n */\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun maxOf(a: UShort,
b: UShort): UShort {\n  return if (a >= b) a else b\n}\n\n/**\n * Returns the greater of three values.\n */\n

```

```

*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun maxOf(a: UInt, b: UInt, c: UInt): UInt {\n    return maxOf(a, maxOf(b, c))\n}\n\n/* Returns the greater of three values.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun maxOf(a: ULong, b: ULong, c: ULong): ULong {\n    return maxOf(a, maxOf(b, c))\n}\n\n/* Returns the greater of three values.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun maxOf(a: UByte, b: UByte, c: UByte): UByte {\n    return maxOf(a, maxOf(b, c))\n}\n\n/* Returns the greater of three values.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun maxOf(a: UShort, b: UShort, c: UShort): UShort {\n    return maxOf(a, maxOf(b, c))\n}\n\n/* Returns the greater of the given values.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun maxOf(a: UInt, vararg other: UInt): UInt {\n    var max = a\n    for (e in other) max = maxOf(max, e)\n    return max\n}\n\n/* Returns the greater of the given values.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun maxOf(a: ULong, vararg other: ULong): ULong {\n    var max = a\n    for (e in other) max = maxOf(max, e)\n    return max\n}\n\n/* Returns the greater of the given values.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun maxOf(a: UByte, vararg other: UByte): UByte {\n    var max = a\n    for (e in other) max = maxOf(max, e)\n    return max\n}\n\n/* Returns the greater of the given values.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun maxOf(a: UShort, vararg other: UShort): UShort {\n    var max = a\n    for (e in other) max = maxOf(max, e)\n    return max\n}\n\n/* Returns the smaller of two values.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun minOf(a: UInt, b: UInt): UInt {\n    return if (a <= b) a else b\n}\n\n/* Returns the smaller of two values.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun minOf(a: ULong, b: ULong): ULong {\n    return if (a <= b) a else b\n}\n\n/* Returns the smaller of two values.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun minOf(a: UByte, b: UByte): UByte {\n    return if (a <= b) a else b\n}\n\n/* Returns the smaller of two values.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun minOf(a: UShort, b: UShort): UShort {\n    return if (a <= b) a else b\n}\n\n/* Returns the smaller of three values.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun minOf(a: UInt, b: UInt, c: UInt): UInt {\n    return minOf(a, minOf(b, c))\n}\n\n/* Returns the smaller of three values.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun minOf(a: ULong, b: ULong, c: ULong): ULong {\n    return minOf(a, minOf(b, c))\n}\n\n/* Returns the smaller of three values.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun minOf(a: UByte, b: UByte, c: UByte): UByte {\n    return minOf(a, minOf(b, c))\n}\n\n/* Returns the smaller of three values.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun minOf(a: UShort, b: UShort, c: UShort): UShort {\n    return minOf(a, minOf(b, c))\n}\n\n/* Returns the smaller of the given values.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun minOf(a: UInt, vararg other: UInt): UInt {\n    var min = a\n    for (e in other) min = minOf(min, e)\n    return min\n}\n\n/* Returns the smaller of the given values.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun minOf(a: ULong, vararg other: ULong): ULong {\n    var min = a\n    for (e in other) min = minOf(min, e)\n    return min\n}\n\n/* Returns the smaller of the given values.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun minOf(a: UByte,

```



```

vararg other: UByte): UByte {
    var min = a
    for (e
    in other) min = minOf(min, e)
    return min
}

/** Returns the smaller of the given values.
 *
 * @SinceKotlin("1.4")
 * @ExperimentalUnsignedTypes
 * public fun minOf(a: UShort, vararg other: UShort):
 * UShort {
 *     var min = a
 *     for (e in other) min = minOf(min, e)
 *     return min
 * }
 *
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 * Apache 2.0 license that can be found in the license/LICENSE.txt file.
 *
 * @file: kotlin.jvm.JvmMultifileClass
 * @file: kotlin.jvm.JvmName("URangesKt")
 * @package
 * kotlin.ranges
 * // NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt
 * // See:
 * https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib
 * //
 * @nimport kotlin.random.
 *
 * Returns a
 * random element from this range.
 *
 * @throws IllegalArgumentException if this range is empty.
 *
 * @SinceKotlin("1.5")
 * @WasExperimental(ExperimentalUnsignedTypes::class)
 * @kotlin.internal.InlineOnly
 *
 * public
 * inline fun UIntRange.random(): UInt {
 *     return random(Random)
 * }
 *
 * Returns a random element from
 * this range.
 *
 * @throws IllegalArgumentException if this range is empty.
 *
 * @SinceKotlin("1.5")
 * @WasExperimental(ExperimentalUnsignedTypes::class)
 * @kotlin.internal.InlineOnly
 *
 * public inline fun ULongRange.random(): ULong {
 *     return random(Random)
 * }
 *
 * Returns a random
 * element from this range using the specified source of randomness.
 *
 * @throws IllegalArgumentException if
 * this range is empty.
 *
 * @SinceKotlin("1.5")
 * @WasExperimental(ExperimentalUnsignedTypes::class)
 *
 * public fun UIntRange.random(random: Random): UInt {
 *     try {
 *         return random.nextUInt(this)
 *     } catch (e:
 *     IllegalArgumentException) {
 *         throw NoSuchElementException(e.message)
 *     }
 * }
 *
 * Returns a
 * random element from this range using the specified source of randomness.
 *
 * @throws
 * IllegalArgumentException if this range
 * is empty.
 *
 * @SinceKotlin("1.5")
 * @WasExperimental(ExperimentalUnsignedTypes::class)
 *
 * public fun ULongRange.random(random: Random): ULong {
 *     try {
 *         return random.nextULong(this)
 *     } catch (e:
 *     IllegalArgumentException) {
 *         throw NoSuchElementException(e.message)
 *     }
 * }
 *
 * Returns a
 * random element from this range, or `null` if this range is empty.
 *
 * @SinceKotlin("1.5")
 * @WasExperimental(ExperimentalStdlibApi::class,
 * ExperimentalUnsignedTypes::class)
 * @kotlin.internal.InlineOnly
 *
 * public inline fun UIntRange.randomOrNull():
 * UInt? {
 *     return randomOrNull(Random)
 * }
 *
 * Returns a random element from this range, or `null` if this
 * range is empty.
 *
 * @SinceKotlin("1.5")
 * @WasExperimental(ExperimentalStdlibApi::class,
 * ExperimentalUnsignedTypes::class)
 * @kotlin.internal.InlineOnly
 *
 * public inline fun ULongRange.randomOrNull():
 * ULong? {
 *     return randomOrNull(Random)
 * }
 *
 * Returns a random element from this range using the
 * specified
 * source of randomness, or `null` if this range is empty.
 *
 * @SinceKotlin("1.5")
 * @WasExperimental(ExperimentalStdlibApi::class,
 * ExperimentalUnsignedTypes::class)
 *
 * public fun UIntRange.randomOrNull(random: Random): UInt? {
 *     if
 * (isEmpty())
 *         return null
 *     return random.nextUInt(this)
 * }
 *
 * Returns a random element from this
 * range using the specified source of randomness, or `null` if this range is empty.
 *
 * @SinceKotlin("1.5")
 * @WasExperimental(ExperimentalStdlibApi::class,
 * ExperimentalUnsignedTypes::class)
 *
 * public fun ULongRange.randomOrNull(random: Random): ULong? {
 *     if
 * (isEmpty())
 *         return null
 *     return random.nextULong(this)
 * }
 *
 * Returns `true` if this range contains
 * the specified [element].
 *
 * Always returns `false` if the [element] is `null`.
 *
 * @SinceKotlin("1.5")
 * @WasExperimental(ExperimentalUnsignedTypes::class)
 * @kotlin.internal.InlineOnly
 *
 * public inline operator fun UIntRange.contains(element: UInt?): Boolean
 * {
 *     return element != null && contains(element)
 * }
 *
 * Returns `true` if this range contains the specified
 * [element].
 *
 * Always returns `false` if the [element] is `null`.
 *
 * @SinceKotlin("1.5")
 * @WasExperimental(ExperimentalUnsignedTypes::class)
 * @kotlin.internal.InlineOnly
 *
 * public inline operator fun ULongRange.contains(element: ULong?): Boolean {
 *     return element != null &&

```

```

contains(element)\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic operator fun
UIntRange.contains(value: UByte): Boolean {\n    return contains(value.toUInt())\n}\n\n/**\n * Checks if the
specified [value] belongs to this range.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic operator fun
ULongRange.contains(value: UByte): Boolean {\n    return contains(value.toULong())\n}\n\n/**\n * Checks if the
specified [value] belongs to this range.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic
operator fun ULongRange.contains(value: UInt): Boolean {\n    return contains(value.toULong())\n}\n\n/**\n *
Checks if the specified [value] belongs to this range.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic operator fun
UIntRange.contains(value: ULong): Boolean {\n    return (value shr UInt.SIZE_BITS) == 0uL &&
contains(value.toUInt())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic operator fun
UIntRange.contains(value: UShort): Boolean {\n    return contains(value.toUInt())\n}\n\n/**\n * Checks if the
specified [value] belongs to this range.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic operator fun
ULongRange.contains(value: UShort): Boolean {\n    return contains(value.toULong())\n}\n\n/**\n * Returns a
progression
from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal
to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun
UByte.downTo(to: UByte): UIntProgression {\n    return UIntProgression.fromClosedRange(this.toUInt(),
to.toUInt(), -1)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -
1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value
the returned progression is empty.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun
UInt.downTo(to: UInt): UIntProgression {\n    return UIntProgression.fromClosedRange(this, to, -1)\n}\n\n/**\n *
Returns a progression from this value down to the specified [to] value with the
step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this`
value the returned progression is empty.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun
ULong.downTo(to: ULong): ULongProgression {\n    return ULongProgression.fromClosedRange(this, to, -
1L)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n *
The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the
returned progression is empty.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun
UShort.downTo(to: UShort): UIntProgression {\n    return UIntProgression.fromClosedRange(this.toUInt(),
to.toUInt(), -1)\n}\n\n/**\n * Returns a progression that goes over the same range in the opposite direction with the
same step.\n * \n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic
fun UIntProgression.reversed(): UIntProgression {\n    return UIntProgression.fromClosedRange(last, first, -
step)\n}\n\n/**\n * Returns a progression that goes over the same range in the opposite direction with the same
step.\n * \n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
ULongProgression.reversed(): ULongProgression {\n    return ULongProgression.fromClosedRange(last, first, -
step)\n}\n\n/**\n * Returns a progression that goes over the same range with the given step.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun
UIntProgression.step(step: Int): UIntProgression {\n    checkStepIsPositive(step > 0, step)\n    return
UIntProgression.fromClosedRange(first, last, if (this.step > 0) step else -step)\n}\n\n/**\n * Returns a progression

```

that goes over the same range with the given step.\n

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic\ninfix fun ULongProgression.step(step: Long): ULongProgression {\n    checkStepIsPositive(step > 0, step)\n    return ULongProgression.fromClosedRange(first, last, if (this.step > 0) step else -step)\n}\n\n/**\n * Returns a range\n * from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this`\n * value, then the returned range is empty.\n
```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun\nUByte.until(to: UByte): UIntRange {\n    if (to <= UByte.MIN_VALUE) return UIntRange.EMPTY\n    return\n    this.toUInt() .. (to - 1u).toUInt()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to]\n * value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned\n * range is empty.\n
```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun UInt.until(to:\nUInt): UIntRange {\n    if (to <= UInt.MIN_VALUE)\n    return UIntRange.EMPTY\n    return this .. (to - 1u).toUInt()\n}\n\n/**\n * Returns a range from this value up to\n * but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned\n * range is empty.\n
```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic\ninfix fun ULong.until(to: ULong): ULongRange {\n    if (to <= ULong.MIN_VALUE) return\n    ULongRange.EMPTY\n    return this .. (to - 1u).toULong()\n}\n\n/**\n * Returns a range from this value up to but\n * excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned\n * range is empty.\n
```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic\ninfix fun UShort.until(to: UShort): UIntRange {\n    if (to <= UShort.MIN_VALUE) return UIntRange.EMPTY\n    return this.toUInt() .. (to - 1u).toUInt()\n}\n\n/**\n * Ensures that this value is not less than the specified\n * [minimumValue].\n
```

```
 * \n * @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtLeastUnsigned\n
```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun\nUInt.coerceAtLeast(minimumValue: UInt): UInt {\n    return if (this < minimumValue) minimumValue else\n    this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value\n * if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample\n * samples.comparisons.ComparableOps.coerceAtLeastUnsigned\n
```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun\nULong.coerceAtLeast(minimumValue: ULong): ULong {\n    return if (this < minimumValue) minimumValue else\n    this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value\n * if it's greater than or
```

```
equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample\n * samples.comparisons.ComparableOps.coerceAtLeastUnsigned\n
```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun\nUByte.coerceAtLeast(minimumValue: UByte): UByte {\n    return if (this < minimumValue) minimumValue else\n    this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value\n * if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample\n * samples.comparisons.ComparableOps.coerceAtLeastUnsigned\n
```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun\nUShort.coerceAtLeast(minimumValue: UShort): UShort {\n    return if (this < minimumValue) minimumValue else\n    this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this\n * value if it's less than or equal to the [maximumValue] or the [maximumValue]
```

```
otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtMostUnsigned\n
```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun\nUInt.coerceAtMost(maximumValue: UInt): UInt {\n    return if (this > maximumValue) maximumValue else\n    this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this
```

```

value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMostUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
ULong.coerceAtMost(maximumValue: ULong): ULong {\n    return if (this > maximumValue) maximumValue else
this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this
value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMostUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
UByte.coerceAtMost(maximumValue: UByte): UByte {\n    return if (this > maximumValue) maximumValue else
this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this
value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMostUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
UShort.coerceAtMost(maximumValue: UShort): UShort {\n    return if (this > maximumValue) maximumValue
else this\n}\n\n/**\n * Ensures that this value lies in the specified range [minimumValue]..[maximumValue].\n * \n *
@return this value if it's in the range, or [minimumValue] if this value is less than [minimumValue], or
[maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceInUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
UInt.coerceIn(minimumValue: UInt, maximumValue: UInt): UInt {\n    if (minimumValue > maximumValue)
throw IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n    if (this < minimumValue) return minimumValue\n    if (this > maximumValue)
return maximumValue\n    return this\n}\n\n/**\n * Ensures that this value lies in the specified range
[minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value
is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceInUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
ULong.coerceIn(minimumValue: ULong, maximumValue: ULong): ULong {\n    if (minimumValue
> maximumValue) throw IllegalArgumentException("Cannot coerce value to an empty range: maximum
$maximumValue is less than minimum $minimumValue.")\n    if (this < minimumValue) return minimumValue\n
if (this > maximumValue) return maximumValue\n    return this\n}\n\n/**\n * Ensures that this value lies in the
specified range [minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or
[minimumValue] if this value is less than [minimumValue], or [maximumValue] if this value is greater than
[maximumValue].\n * \n * @sample samples.comparisons.ComparableOps.coerceInUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
UByte.coerceIn(minimumValue: UByte, maximumValue: UByte): UByte {\n    if (minimumValue >
maximumValue) throw IllegalArgumentException("Cannot coerce value to an empty range: maximum
$maximumValue is less than minimum $minimumValue.")\n    if (this < minimumValue) return minimumValue\n
if (this
> maximumValue) return maximumValue\n    return this\n}\n\n/**\n * Ensures that this value lies in the specified
range [minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this
value is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n *
@sample samples.comparisons.ComparableOps.coerceInUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
UShort.coerceIn(minimumValue: UShort, maximumValue: UShort): UShort {\n    if (minimumValue >
maximumValue) throw IllegalArgumentException("Cannot coerce value to an empty range: maximum
$maximumValue is less than minimum $minimumValue.")\n    if (this < minimumValue) return minimumValue\n
if (this > maximumValue) return maximumValue\n    return this\n}\n\n/**\n * Ensures that this value lies in the

```

```

specified [range].\n * \n * @return this value if it's in the [range], or `range.start` if this value is
less than `range.start`, or `range.endInclusive` if this value is greater than `range.endInclusive`.\n * \n * @sample
samples.comparisons.ComparableOps.coerceInUnsigned\n
*\n@\n@SinceKotlin("1.5")\n@\n@WasExperimental(ExperimentalUnsignedTypes::class)\n\npublic fun
UInt.coerceIn(range: ClosedRange<UInt>): UInt {\n    if (range is ClosedFloatingPointRange) {\n        return
this.coerceIn<UInt>(range)\n    }\n    if (range.isEmpty()) throw IllegalArgumentException("\n    Cannot coerce value to
an empty range: $range.\n")\n    return when {\n        this < range.start -> range.start\n        this > range.endInclusive -
-> range.endInclusive\n        else -> this\n    }\n}\n\n/**\n * Ensures that this value lies in the specified [range].\n * \n *
@return this value if it's in the [range], or `range.start` if this value is less than `range.start`, or
`range.endInclusive` if this value is greater than `range.endInclusive`.\n * \n * @sample
samples.comparisons.ComparableOps.coerceInUnsigned\n
*\n@\n@SinceKotlin("1.5")\n@\n@WasExperimental(ExperimentalUnsignedTypes::class)\n\npublic
fun ULong.coerceIn(range: ClosedRange<ULong>): ULong {\n    if (range is ClosedFloatingPointRange) {\n
return this.coerceIn<ULong>(range)\n    }\n    if (range.isEmpty()) throw IllegalArgumentException("\n    Cannot
coerce value to an empty range: $range.\n")\n    return when {\n        this < range.start -> range.start\n        this >
range.endInclusive -> range.endInclusive\n        else -> this\n    }\n}\n\n"/*\n * Copyright 2010-2021 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n
*\n@\n@file:kotlin.jvm.JvmMultifileClass\n@\n@file:kotlin.jvm.JvmName("USequencesKt")\n\npackage
kotlin.sequences\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.random.*\n\n/**\n * Returns the sum of all elements in the sequence.\n * \n * The operation is _terminal_.\n
*\n@\n@kotlin.jvm.JvmName("sumOfUInt")\n@\n@SinceKotlin("1.5")\n@\n@WasExperimental(ExperimentalUnsignedT
ypes::class)\n\npublic fun Sequence<UInt>.sum(): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n        sum
+= element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the sequence.\n * \n * The
operation is _terminal_.\n
*\n@\n@kotlin.jvm.JvmName("sumOfULong")\n@\n@SinceKotlin("1.5")\n@\n@WasExperimental(ExperimentalUnsigned
Types::class)\n\npublic fun Sequence<ULong>.sum(): ULong {\n    var sum: ULong = 0uL\n    for (element in this)
{\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the sequence.\n * \n *
The operation is _terminal_.\n
*\n@\n@kotlin.jvm.JvmName("sumOfUByte")\n@\n@SinceKotlin("1.5")\n@\n@WasExperimental(ExperimentalUnsigned
Types::class)\n\npublic fun Sequence<UByte>.sum(): UInt {\n    var sum: UInt = 0u\n    for
(element in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the
sequence.\n * \n * The operation is _terminal_.\n
*\n@\n@kotlin.jvm.JvmName("sumOfUShort")\n@\n@SinceKotlin("1.5")\n@\n@WasExperimental(ExperimentalUnsigned
Types::class)\n\npublic fun Sequence<UShort>.sum(): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n
sum += element\n    }\n    return sum\n}\n\n"/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n * \n *\npackage kotlin\n\npublic expect open class Error : Throwable {\n
    constructor()\n    constructor(message: String?)\n    constructor(message: String?, cause: Throwable?)\n
    constructor(cause: Throwable?)\n}\n\npublic expect open class Exception : Throwable {\n    constructor()\n
    constructor(message: String?)\n    constructor(message: String?, cause:
Throwable?)\n    constructor(cause: Throwable?)\n}\n\npublic expect open class RuntimeException :
Exception {\n    constructor()\n    constructor(message: String?)\n    constructor(message: String?, cause:
Throwable?)\n    constructor(cause: Throwable?)\n}\n\npublic expect open class IllegalArgumentException :
RuntimeException {\n    constructor()\n    constructor(message: String?)\n    constructor(message: String?, cause:
Throwable?)\n    constructor(cause: Throwable?)\n}\n\npublic expect open class IllegalStateException :
RuntimeException {\n    constructor()\n    constructor(message: String?)\n    constructor(message: String?, cause:
Throwable?)\n    constructor(cause: Throwable?)\n}\n

```


access to the collection;\n * read/write access is supported through the [MutableCollection] interface.\n * @param E the type of elements contained in the collection. The collection is covariant in its element type.\n */\npublic interface Collection<out E> : Iterable<E> {\n // Query Operations\n /**\n * Returns the size of the collection.\n */\n public val size: Int\n /**\n * Returns `true` if the collection is empty (contains no elements), `false` otherwise.\n */\n public fun isEmpty(): Boolean\n\n /**\n * Checks if the specified element is contained in this collection.\n */\n public operator fun contains(element: @UnsafeVariance E): Boolean\n\n override fun iterator(): Iterator<E>\n\n // Bulk Operations\n /**\n * Checks if all elements in the specified collection are contained in this collection.\n */\n public fun containsAll(elements: Collection<@UnsafeVariance E>): Boolean\n}\n\n/**\n * A generic collection of elements that supports adding and removing elements.\n */\n * @param E the type of elements contained in the collection. The mutable collection is invariant in its element type.\n */\npublic interface MutableCollection<E> : Collection<E>, MutableIterable<E> {\n // Query Operations\n override fun iterator(): MutableIterator<E>\n\n // Modification Operations\n /**\n * Adds the specified element to the collection.\n */\n * @return `true` if the element has been added, `false` if the collection does not support duplicates and the element is already contained in the collection.\n */\n public fun add(element: E): Boolean\n\n /**\n * Removes a single instance of the specified element from this collection, if it is present.\n */\n * @return `true` if the element has been successfully removed; `false` if it was not present in the collection.\n */\n public fun remove(element: E): Boolean\n\n // Bulk Modification Operations\n /**\n * Adds all of the elements of the specified collection to this collection.\n */\n * @return `true` if any of the specified elements was added to the collection, `false` if the collection was not modified.\n */\n public fun addAll(elements: Collection<E>): Boolean\n\n /**\n * Removes all of this collection's elements that are also contained in the specified collection.\n */\n * @return `true` if any of the specified elements was removed from the collection, `false` if the collection was not modified.\n */\n public fun removeAll(elements: Collection<E>): Boolean\n\n /**\n * Retains only the elements in this collection that are contained in the specified collection.\n */\n * @return `true` if any element was removed from the collection, `false` if the collection was not modified.\n */\n public fun retainAll(elements: Collection<E>): Boolean\n\n /**\n * Removes all elements from this collection.\n */\n public fun clear(): Unit\n}\n\n/**\n * A generic ordered collection of elements. Methods in this interface support only read-only access to the list;\n * read/write access is supported through the [MutableList] interface.\n */\n * @param E the type of elements contained in the list. The list is covariant in its element type.\n */\npublic interface List<out E> : Collection<E> {\n // Query Operations\n\n override val size: Int\n override fun isEmpty(): Boolean\n\n override fun contains(element: @UnsafeVariance E): Boolean\n\n override fun iterator(): Iterator<E>\n\n // Bulk Operations\n override fun containsAll(elements: Collection<@UnsafeVariance E>): Boolean\n\n // Positional Access Operations\n /**\n * Returns the element at the specified index in the list.\n */\n * @return `true` if the element is not contained in the list.\n */\n public operator fun get(index: Int): E\n\n // Search Operations\n /**\n * Returns the index of the first occurrence of the specified element in the list, or -1 if the specified element is not contained in the list.\n */\n * @return `true` if the specified element is not contained in the list.\n */\n public fun indexOf(element: @UnsafeVariance E): Int\n\n /**\n * Returns the index of the last occurrence of the specified element in the list, or -1 if the specified element is not contained in the list.\n */\n * @return `true` if the specified element is not contained in the list.\n */\n public fun lastIndexOf(element: @UnsafeVariance E): Int\n\n // List Iterators\n /**\n * Returns a list iterator over the elements in this list (in proper sequence).\n */\n * @return `true` if the specified element is not contained in the list (in proper sequence), starting at the specified [index].\n */\n public fun listIterator(index: Int): ListIterator<E>\n\n // View\n /**\n * Returns a view of the portion of this list between the specified [fromIndex] (inclusive) and [toIndex] (exclusive).\n */\n * The returned list is backed by this list, so non-structural changes in the returned list are reflected in this list, and vice-versa.\n */\n * Structural changes in the base list make the behavior of the view undefined.\n */\n public fun subList(fromIndex: Int, toIndex: Int): List<E>\n}\n\n/**\n * A generic ordered collection of elements that supports adding and removing elements.\n */\n * @param E the type of elements contained in the list. The mutable list is invariant in its element type.\n */\npublic


```

interface MutableList<E> : List<E>, MutableCollection<E> {
    // Modification Operations
    /**
     * Adds the specified element to the end of this list.
     * @return `true` because the list is always modified as the result of this operation.
     */
    override fun add(element: E): Boolean
    // Bulk Modification Operations
    /**
     * Adds all of the elements of the specified collection to the end of this list.
     * The elements are appended in the order they appear in the [elements] collection.
     * @return `true` if the list was changed as the result of the operation.
     */
    override fun addAll(elements: Collection<E>): Boolean
    /**
     * Inserts all of the elements of the specified collection [elements] into this list at the specified [index].
     * @return `true` if the list was changed as the result of the operation.
     */
    public fun addAll(index: Int, elements: Collection<E>): Boolean
    override fun removeAll(elements: Collection<E>): Boolean
    override fun retainAll(elements: Collection<E>): Boolean
    override fun clear(): Unit
    // Positional Access Operations
    /**
     * Replaces the element at the specified position in this list with the specified element.
     * @return the element previously at the specified position.
     */
    public operator fun set(index: Int, element: E): E
    /**
     * Inserts an element into the list at the specified [index].
     */
    public fun add(index: Int, element: E): Unit
    /**
     * Removes an element at the specified [index] from the list.
     * @return the element that has been removed.
     */
    public fun removeAt(index: Int): E
    // List Iterators
    override fun listIterator(): MutableListIterator<E>
    override fun listIterator(index: Int): MutableListIterator<E>
    // View
    override fun subList(fromIndex: Int, toIndex: Int): MutableList<E>
}
/**
 * A generic unordered collection of elements that does not support duplicate elements.
 * Methods in this interface support only read-only access to the set; read/write access is supported through the [MutableSet] interface.
 * @param E the type of elements contained in the set. The set is covariant in its element type.
 */
public interface Set<out E> : Collection<E> {
    // Query Operations
    override val size: Int
    override fun isEmpty(): Boolean
    override fun contains(element: @UnsafeVariance E): Boolean
    override fun iterator(): Iterator<E>
    // Bulk Operations
    override fun containsAll(elements: Collection<@UnsafeVariance E>): Boolean
}
/**
 * A generic unordered collection of elements that does not support duplicate elements, and supports adding and removing elements.
 * @param E the type of elements contained in the set. The mutable set is invariant in its element type.
 */
public interface MutableSet<E> : Set<E>, MutableCollection<E> {
    // Query Operations
    override fun iterator(): MutableIterator<E>
    // Modification Operations
    /**
     * Adds the specified element to the set.
     * @return `true` if the element has been added, `false` if the element is already contained in the set.
     */
    override fun add(element: E): Boolean
    override fun remove(element: E): Boolean
    // Bulk Modification Operations
    override fun addAll(elements: Collection<E>): Boolean
    override fun removeAll(elements: Collection<E>): Boolean
    override fun retainAll(elements: Collection<E>): Boolean
    override fun clear(): Unit
}
/**
 * A collection that holds pairs of objects (keys and values) and supports efficiently retrieving the value corresponding to each key.
 * Map keys are unique; the map holds only one value for each key.
 * Methods in this interface support only read-only access to the map; read-write access is supported through the [MutableMap] interface.
 * @param K the type of map keys. The map is invariant in its key type, as it can accept key as a parameter (of [containsKey] for example) and return it in [keys] set.
 * @param V the type of map values. The map is covariant in its value type.
 */
public interface Map<K, out V> {
    // Query Operations
    /**
     * Returns the number of key/value pairs in the map.
     */
    public val size: Int
    /**
     * Returns `true` if the map is empty (contains no elements), `false` otherwise.
     */
    public fun isEmpty(): Boolean
    /**
     * Returns `true` if the map contains the specified [key].
     */
    public fun containsKey(key: K): Boolean
    /**
     * Returns `true` if the map maps one or more keys to the specified [value].
     */
    public fun containsValue(value: @UnsafeVariance V): Boolean
    /**
     * Returns the value corresponding to the given [key], or `null` if such a key is not present in the map.
     */
    public operator fun get(key: K): V?
    /**
     * Returns the value corresponding to the given [key], or [defaultValue] if such a key is not present in the map.
     * @since JDK 1.8
     */
    @SinceKotlin("1.1")

```



```

Float\n}\n\n/** An iterator over a sequence of values of type `Double`. */\npublic abstract class DoubleIterator :
Iterator<Double> {\n    override final fun next() = nextDouble()\n\n    /** Returns the next value in the sequence
without boxing. */\n    public abstract fun nextDouble(): Double\n}\n\n/** An iterator over a sequence of values of
type `Boolean`. */\npublic abstract class BooleanIterator : Iterator<Boolean>
{\n    override final fun next() = nextBoolean()\n\n    /** Returns the next value in the sequence without boxing. */\n    public abstract fun nextBoolean(): Boolean\n}\n\n"/\n * Copyright 2010-2022 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage
kotlin.ranges\n\n/**\n * An iterator over a progression of values of type `Char`. \n * @property step the number by
which the value is incremented on each step.\n */\ninternal class CharProgressionIterator(first: Char, last: Char, val
step: Int) : CharIterator() {\n    private val finalElement: Int = last.code\n    private var hasNext: Boolean = if (step >
0) first <= last else first >= last\n    private var next: Int = if (hasNext) first.code else finalElement\n\n    override fun
hasNext(): Boolean = hasNext\n\n    override fun nextChar(): Char {\n
        val value = next\n        if (value == finalElement) {\n            if (!hasNext) throw
kotlin.NoSuchElementException()\n            hasNext = false\n        }\n        else {\n            next += step\n        }\n
return value.toChar()\n    }\n}\n\n/**\n * An iterator over a progression of values of type `Int`. \n * @property step
the number by which the value is incremented on each step.\n */\ninternal class IntProgressionIterator(first: Int, last:
Int, val step: Int) : IntIterator() {\n    private val finalElement: Int = last\n    private var hasNext: Boolean = if (step >
0) first <= last else first >= last\n    private var next: Int = if (hasNext) first else finalElement\n\n    override fun
hasNext(): Boolean = hasNext\n\n    override fun nextInt(): Int {\n        val value = next\n        if (value ==
finalElement) {\n            if (!hasNext) throw kotlin.NoSuchElementException()\n            hasNext = false\n        }\n
else {\n            next += step\n        }\n        return value\n    }\n}\n\n/**\n * An iterator over a progression of values of type `Long`. \n * @property
step the number by which the value is incremented on each step.\n */\ninternal class LongProgressionIterator(first:
Long, last: Long, val step: Long) : LongIterator() {\n    private val finalElement: Long = last\n    private var
hasNext: Boolean = if (step > 0) first <= last else first >= last\n    private var next: Long = if (hasNext) first else
finalElement\n\n    override fun hasNext(): Boolean = hasNext\n\n    override fun nextLong(): Long {\n        val
value = next\n        if (value == finalElement) {\n            if (!hasNext) throw kotlin.NoSuchElementException()\n
            hasNext = false\n        }\n        else {\n            next += step\n        }\n        return value\n    }\n}\n\n"/\n *
Copyright 2010-2022 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is
governed by the Apache 2.0 license that can be found
in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin.ranges\n\nimport
kotlin.internal.getProgressionLastElement\n\n/**\n * A progression of values of type `Char`. \n */\npublic open class
CharProgression\n    internal constructor\n        (\n            start: Char,\n            endInclusive: Char,\n            step: Int\n
) : Iterable<Char> {\n    init {\n        if (step == 0) throw kotlin.IllegalArgumentException("\u201cStep must be non-
zero.\u201c")\n        if (step == Int.MIN_VALUE) throw kotlin.IllegalArgumentException("\u201cStep must be greater than
Int.MIN_VALUE to avoid overflow on negation.\u201c")\n    }\n\n    /**\n     * The first element in the progression.\n
*/\n    public val first: Char = start\n\n    /**\n     * The last element in the progression.\n
*/\n    public val last: Char = getProgressionLastElement(start.code, endInclusive.code, step).toChar()\n\n    /**\n     * The step of the
progression.\n
*/\n    public val step: Int
= step\n\n    override fun iterator(): CharIterator = CharProgressionIterator(first, last, step)\n\n    /**\n     * Checks if
the progression is empty.\n
*/\n    * Progression with a positive step is empty if its first element is greater than the
last element.\n
*/\n    * Progression with a negative step is empty if its first element is less than the last element.\n
*/\n    public open fun isEmpty(): Boolean = if (step > 0) first > last else first < last\n\n    override fun equals(other:
Any?): Boolean =\n        other is CharProgression && (isEmpty() && other.isEmpty() ||\n            first == other.first
&& last == other.last && step == other.step)\n\n    override fun hashCode(): Int =\n        if (isEmpty()) -1 else (31 *
(31 * first.code + last.code) + step)\n\n    override fun toString(): String = if (step > 0) \"$first..$last step $step\" else
\"$first downTo $last step ${-step}\"\n\n    companion object {\n        /**\n         * Creates CharProgression within

```

the specified bounds

```
of a closed range.\n    *\n    * The progression starts with the [rangeStart] value and goes toward the\n[rangeEnd] value not excluding it, with the specified [step].\n    * In order to go backwards the [step] must be\nnegative.\n    *\n    * [step] must be greater than `Int.MIN_VALUE` and not equal to zero.\n    */\npublic fun fromClosedRange(rangeStart: Char, rangeEnd: Char, step: Int): CharProgression =\n    CharProgression(rangeStart, rangeEnd, step)\n}\n\n/**\n * A progression of values of type `Int`.\n */\npublic\nopen class IntProgression\n    internal constructor\n        (\n            start: Int,\n            endInclusive: Int,\n            step:\n                Int\n        ) : Iterable<Int> {\n    init {\n        if (step == 0) throw kotlin.IllegalArgumentException("Step must be non-\nzero.")\n        if (step == Int.MIN_VALUE) throw kotlin.IllegalArgumentException("Step must be greater than\nInt.MIN_VALUE to avoid overflow on negation.")\n    }\n\n    /**\n     * The first element in the progression.\n     */\n    public val first: Int = start\n\n    /**\n     * The last element in\nthe progression.\n     */\n    public val last: Int = getProgressionLastElement(start, endInclusive, step)\n\n    /**\n     * The step of the progression.\n     */\n    public val step: Int = step\n\n    override fun iterator(): IntIterator =\n        IntProgressionIterator(first, last, step)\n\n    /**\n     * Checks if the progression is empty.\n     */\n    * Progression\nwith a positive step is empty if its first element is greater than the last element.\n    * Progression with a negative\nstep is empty if its first element is less than the last element.\n    */\n    public open fun isEmpty(): Boolean = if\n(step > 0) first > last else first < last\n\n    override fun equals(other: Any?): Boolean =\n        other is IntProgression\n        && (isEmpty() && other.isEmpty()) ||\n            first == other.first && last == other.last && step == other.step\n\n    override fun hashCode():\n        Int =\n            if (isEmpty()) -1 else (31 * (31 * first + last) + step)\n\n    override fun toString(): String = if (step > 0)\n        \"$first..$last step $step\" else \"$first downTo $last step ${-step}\"\n\n    companion object {\n        /**\n         * Creates IntProgression within the specified bounds of a closed range.\n         */\n        *\n        * The progression starts with\nthe [rangeStart] value and goes toward the [rangeEnd] value not excluding it, with the specified [step].\n        * In\norder to go backwards the [step] must be negative.\n        *\n        * [step] must be greater than `Int.MIN_VALUE`\nand not equal to zero.\n        */\n        public fun fromClosedRange(rangeStart: Int, rangeEnd: Int, step: Int):\n            IntProgression = IntProgression(rangeStart, rangeEnd, step)\n    }\n\n    /**\n     * A progression of values of type\n`Long`.\n     */\n    public\nopen class LongProgression\n        internal constructor\n            (\n                start: Long,\n                endInclusive: Long,\n                step: Long\n            ) : Iterable<Long> {\n    init {\n        if (step == 0L) throw kotlin.IllegalArgumentException("Step\nmust be non-zero.")\n        if (step == Long.MIN_VALUE) throw kotlin.IllegalArgumentException("Step must be\ngreater than Long.MIN_VALUE to avoid overflow on negation.")\n    }\n\n    /**\n     * The first element in the\nprogression.\n     */\n    public val first: Long = start\n\n    /**\n     * The last element in the progression.\n     */\n    public val last: Long = getProgressionLastElement(start, endInclusive, step)\n\n    /**\n     * The step of the\nprogression.\n     */\n    public val step: Long = step\n\n    override fun iterator(): LongIterator =\n        LongProgressionIterator(first, last, step)\n\n    /**\n     * Checks if the progression is empty.\n     */\n    * Progression\nwith a positive step is empty if its first element is greater than the last element.\n    * Progression with a\nnegative step is empty if its first element is less than the last element.\n    */\n\n    public open fun isEmpty(): Boolean = if (step > 0) first > last else first < last\n\n    override fun\nequals(other: Any?): Boolean =\n        other is LongProgression && (isEmpty() && other.isEmpty()) ||\n            first ==\nother.first && last == other.last && step == other.step\n\n    override fun hashCode(): Int =\n        if (isEmpty()) -1\n        else (31 * (31 * (first xor (first ushr 32)) + (last xor (last ushr 32))) + (step xor (step ushr 32))).toInt()\n\n    override\nfun toString(): String = if (step > 0) \"$first..$last step $step\" else \"$first downTo $last step ${-step}\"\n\n    companion object {\n        /**\n         * Creates LongProgression within the specified bounds of a closed range.\n         */\n        *\n        * The progression starts with the [rangeStart] value and goes toward the [rangeEnd] value not excluding it,\nwith the specified [step].\n        * In order to go backwards the [step] must be negative.\n        *\n        * [step] must\nbe greater than `Long.MIN_VALUE`\nand not equal to zero.\n        */\n        public fun fromClosedRange(rangeStart: Long, rangeEnd: Long, step: Long):\n            LongProgression = LongProgression(rangeStart, rangeEnd, step)\n    }\n}\n\n"/>\n * Copyright 2010-2019
```

JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.ranges\n\n/**\n * Represents a range of values (for example, numbers or characters).\n * See the [Kotlin language documentation](https://kotlinlang.org/docs/reference/ranges.html) for more information.\n */\n\npublic interface ClosedRange<T: Comparable<T>> {\n /**\n * The minimum value in the range.\n */\n public val start: T\n /**\n * The maximum value in the range (inclusive).\n */\n public val endInclusive: T\n /**\n * Checks whether the specified [value] belongs to the range.\n */\n public operator fun contains(value: T): Boolean = value >= start && value <= endInclusive\n /**\n * Checks whether the range is empty.\n */\n * The range is empty if its start value is greater than the end value.\n */\n public fun isEmpty(): Boolean = start > endInclusive\n}\n\n"/>\n * Copyright 2010-2015 JetBrains s.r.o.\n */\n * Licensed under the Apache License, Version 2.0 (the "License");\n * you may not use this file except in compliance with the License.\n * You may obtain a copy of the License at\n * http://www.apache.org/licenses/LICENSE-2.0\n * Unless required by applicable law or agreed to in writing, software\n * distributed under the License is distributed on an "AS IS" BASIS,\n * WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.\n * See the License for the specific language governing permissions and\n * limitations under the License.\n */\n\npackage kotlin\n\n/**\n * The type with only one value: the `Unit` object. This type corresponds to the `void` type in Java.\n */\n\npublic object Unit {\n override fun toString() = "kotlin.Unit"\n}\n\n"/>\n * Copyright 2010-2015 JetBrains s.r.o.\n */\n * Licensed under the Apache License, Version 2.0 (the "License");\n * you may not use this file except in compliance with the License.\n * You may obtain a copy of the License at\n * http://www.apache.org/licenses/LICENSE-2.0\n * Unless required by applicable law or agreed to in writing, software\n * distributed under the License is distributed on an "AS IS" BASIS,\n * WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.\n * See the License for the specific language governing permissions and\n * limitations under the License.\n */\n\npackage kotlin.annotation\n\nimport kotlin.annotation.AnnotationTarget.*\n\n/**\n * Contains the list of code elements which are the possible annotation targets\n */\n\npublic enum class AnnotationTarget {\n /** Class, interface or object, annotation class is also included\n */\n CLASS,\n /** Annotation class only\n */\n ANNOTATION_CLASS,\n /** Generic type parameter\n */\n TYPE_PARAMETER,\n /** Property\n */\n PROPERTY,\n /** Field, including property's backing field\n */\n FIELD,\n /** Local variable\n */\n LOCAL_VARIABLE,\n /** Value parameter of a function or a constructor\n */\n VALUE_PARAMETER,\n /** Constructor only (primary or secondary)\n */\n CONSTRUCTOR,\n /** Function (constructors are not included)\n */\n FUNCTION,\n /** Property getter only\n */\n PROPERTY_GETTER,\n /** Property setter only\n */\n PROPERTY_SETTER,\n /** Type usage\n */\n TYPE,\n /** Any expression\n */\n EXPRESSION,\n /** File\n */\n FILE,\n /** Type alias\n */\n @SinceKotlin("1.1")\n TYPEALIAS\n}\n\n/**\n * Contains the list of possible annotation's retentions.\n */\n * Determines how an annotation is stored in binary output.\n */\n\npublic enum class AnnotationRetention {\n /**\n * Annotation isn't stored in binary output\n */\n SOURCE,\n /**\n * Annotation is stored in binary output, but invisible for reflection\n */\n BINARY,\n /**\n * Annotation is stored in binary output and visible for reflection (default retention)\n */\n RUNTIME\n}\n\n/**\n * This meta-annotation indicates the kinds of code elements which are possible targets of an annotation.\n */\n * If the target meta-annotation is not present on an annotation declaration, the annotation is applicable to the following elements:\n * [CLASS], [PROPERTY], [FIELD], [LOCAL_VARIABLE], [VALUE_PARAMETER], [CONSTRUCTOR], [FUNCTION], [PROPERTY_GETTER], [PROPERTY_SETTER].\n */\n * @property\n * allowedTargets list of allowed annotation targets\n */\n\n@Target(AnnotationTarget.ANNOTATION_CLASS)\n@MustBeDocumented\npublic annotation class Target(vararg val allowedTargets: AnnotationTarget)\n\n/**\n * This meta-annotation determines whether an annotation is stored in binary output and visible for reflection. By default, both are true.\n */\n * @property\n * value\n * necessary annotation retention (RUNTIME, BINARY or SOURCE)\n */\n\n@Target(AnnotationTarget.ANNOTATION_CLASS)\npublic annotation class Retention(val value:

```

AnnotationRetention = AnnotationRetention.RUNTIME)\n\n/**\n * This meta-annotation determines that an
annotation is applicable twice or more on a single code element\n
*/\n\n@Target(AnnotationTarget.ANNOTATION_CLASS)\npublic annotation class Repeatable\n\n/**\n * This
meta-annotation determines that an annotation is a part of public API and therefore should be included in the
generated\n * documentation for the element to which the annotation is applied.\n
*/\n\n@Target(AnnotationTarget.ANNOTATION_CLASS)\npublic annotation class MustBeDocumented\n","/*\n
Copyright 2010-2016 JetBrains s.r.o.\n *\n * Licensed under the Apache License, Version 2.0 (the "License");\n
*\n * you may not use this file except in compliance with the License.\n *\n * You may obtain a copy of the License at\n
*\n * http://www.apache.org/licenses/LICENSE-2.0\n *\n *\n
Unless required by applicable law or agreed to in writing, software\n * distributed under the License is distributed
on an "AS IS" BASIS,\n * WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied.\n * See the License for the specific language governing permissions and\n * limitations under the
License.\n */\n\npackage kotlin.internal\n\n/**\n * Specifies that the corresponding type parameter is not used for
unsafe operations such as casts or 'is' checks\n * That means it's completely safe to use generic types as argument for
such parameter.\n
*/\n\n@Target(AnnotationTarget.TYPE_PARAMETER)\n@Retention(AnnotationRetention.BINARY)\ninternal
annotation class PureReifiable\n\n/**\n * Specifies that the corresponding built-in method exists depending on
platform.\n * Current implementation for JVM looks whether method with same JVM descriptor exists in the
module JDK.\n * For example MutableMap.remove(K, V) available only if corresponding\n * method
'java/util/Map.remove(Ljava/lang/Object;Ljava/lang/Object;)Z'
is defined in JDK (i.e. for major versions >= 8)\n
*/\n\n@Target(AnnotationTarget.FUNCTION)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation
class PlatformDependent\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.internal\n\n// a mod b (in arithmetical sense)\nprivate fun mod(a:
Int, b: Int): Int {\n    val mod = a % b\n    return if (mod >= 0) mod else mod + b\n}\n\nprivate fun mod(a: Long, b:
Long): Long {\n    val mod = a % b\n    return if (mod >= 0) mod else mod + b\n}\n\n// (a - b) mod c\nprivate fun
differenceModulo(a: Int, b: Int, c: Int): Int {\n    return mod(mod(a, c) - mod(b, c), c)\n}\n\nprivate fun
differenceModulo(a: Long, b: Long, c: Long): Long {\n    return mod(mod(a, c) - mod(b, c), c)\n}\n\n/**\n
Calculates the final element of a bounded
arithmetic progression, i.e. the last element of the progression which is in the range\n * from [start] to [end] in case
of a positive [step], or from [end] to [start] in case of a negative\n * [step].\n * No validation on passed
parameters is performed. The given parameters should satisfy the condition:\n * - either `step > 0` and `start <=
end`,\n * - or `step < 0` and `start >= end`.\n * @param start first element of the progression\n * @param end
ending bound for the progression\n * @param step increment, or difference of successive elements in the
progression\n * @return the final element of the progression\n * @suppress\n */\n\n@PublishedApi\ninternal fun
getProgressionLastElement(start: Int, end: Int, step: Int): Int = when {\n    step > 0 -> if (start >= end) end else end -
differenceModulo(end, start, step)\n    step < 0 -> if (start <= end) end else end + differenceModulo(start, end, -
step)\n    else -> throw kotlin.IllegalArgumentException("Step is zero.")\n}\n\n/**\n
Calculates the final element of a bounded arithmetic progression, i.e. the last element of the progression which is
in the range\n * from [start] to [end] in case of a positive [step], or from [end] to [start] in case of a negative\n
* [step].\n * No validation on passed parameters is performed. The given parameters should satisfy the
condition:\n * - either `step > 0` and `start <= end`,\n * - or `step < 0` and `start >= end`.\n * @param start
first element of the progression\n * @param end ending bound for the progression\n * @param step increment, or
difference of successive elements in the progression\n * @return the final element of the progression\n *
@suppress\n */\n\n@PublishedApi\ninternal fun getProgressionLastElement(start: Long, end: Long, step: Long):
Long = when {\n    step > 0 -> if (start >= end) end else end - differenceModulo(end, start, step)\n    step < 0 -> if
(start <= end) end else end + differenceModulo(start, end, -step)\n    else -> throw

```

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kotlin.IllegalArgumentException("Step is zero.")\n\n",/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n\n@JsName("arrayIterator")\ninternal fun arrayIterator(array:
dynamic, type: String?) = when (type) {\n    null -> {\n        val arr: Array<dynamic> = array\n        object :
Iterator<dynamic> {\n            var index = 0\n            override fun hasNext() = index < arr.size\n            override fun
next() = if (index < arr.size) arr[index++] else throw NoSuchElementException("$index")\n        }\n    }\n    "BooleanArray" -> booleanArrayIterator(array)\n    "ByteArray" -> byteArrayIterator(array)\n    "ShortArray" -
> shortArrayIterator(array)\n    "CharArray" -> charArrayIterator(array)\n    "IntArray" ->
intArrayIterator(array)\n    "LongArray" -> longArrayIterator(array)\n    "FloatArray" ->
floatArrayIterator(array)\n    "DoubleArray" -> doubleArrayIterator(array)\n    else -> throw IllegalStateException("Unsupported type
argument for arrayIterator: $type")\n}\n\n@JsName("booleanArrayIterator")\ninternal fun
booleanArrayIterator(array: BooleanArray) = object : BooleanIterator() {\n    var index = 0\n    override fun
hasNext() = index < array.size\n    override fun nextBoolean() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")\n}\n\n@JsName("byteArrayIterator")\ninternal fun byteArrayIterator(array:
ByteArray) = object : ByteIterator() {\n    var index = 0\n    override fun hasNext() = index < array.size\n    override
fun nextByte() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")\n}\n\n@JsName("shortArrayIterator")\ninternal fun
shortArrayIterator(array: ShortArray) = object : ShortIterator() {\n    var index = 0\n    override fun hasNext() =
index < array.size\n    override fun nextShort()
= if (index < array.size) array[index++] else throw
NoSuchElementException("$index")\n}\n\n@JsName("charArrayIterator")\ninternal fun charArrayIterator(array:
CharArray) = object : CharIterator() {\n    var index = 0\n    override fun hasNext() = index < array.size\n    override
fun nextChar() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")\n}\n\n@JsName("intArrayIterator")\ninternal fun intArrayIterator(array:
IntArray) = object : IntIterator() {\n    var index = 0\n    override fun hasNext() = index < array.size\n    override fun
nextInt() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")\n}\n\n@JsName("floatArrayIterator")\ninternal fun
floatArrayIterator(array: FloatArray) = object : FloatIterator() {\n    var index = 0\n    override fun hasNext() = index
< array.size\n    override fun nextFloat() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")\n}\n\n@JsName("doubleArrayIterator")\ninternal
fun doubleArrayIterator(array: DoubleArray) = object : DoubleIterator() {\n    var index = 0\n    override fun
hasNext() = index < array.size\n    override fun nextDouble() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")\n}\n\n@JsName("longArrayIterator")\ninternal fun longArrayIterator(array:
LongArray) = object : LongIterator() {\n    var index = 0\n    override fun hasNext() = index < array.size\n
override fun nextLong() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")\n}\n\n@JsName("PropertyMetadata")\ninternal class
PropertyMetadata(@JsName("callableName") val name:
String)\n\n@JsName("noWhenBranchMatched")\ninternal fun noWhenBranchMatched(): Nothing = throw
NoWhenBranchMatchedException()\n\n@JsName("subSequence")\ninternal fun subSequence(c: CharSequence,
startIndex: Int, endIndex: Int): CharSequence {\n    if (c is String) {\n        return c.substring(startIndex,
endIndex)\n    } else {\n        return c.asDynamic().subSequence_vux9f0$(startIndex, endIndex)\n    }\n}\n\n@JsName("captureStack")\ninternal fun captureStack(@Suppress("UNUSED_PARAMETER")
baseClass: JsClass<in Throwable>, instance: Throwable) {\n    if (js("Error").captureStackTrace) {\n        // Using
uncropped stack traces due to KT-37563.\n        // Precise stack traces are implemented in JS IR compiler and
stdlib\n        js("Error").captureStackTrace(instance);\n    } else {\n        instance.asDynamic().stack = js("new
Error()").stack;\n    }\n}\n\n@JsName("newThrowable")\ninternal fun newThrowable(message: String?, cause:
Throwable?): Throwable {\n    val throwable = js("new Error()")\n    throwable.message = if (jsTypeOf(message)

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== \"undefined\") {\n    if (cause != null) cause.toString() else null\n } else {\n    message\n }\n
throwable.cause = cause\n    throwable.name = \"Throwable\"\n    return
throwable\n}\n\n@JsName(\"BoxedChar\")\ninternal
class BoxedChar(val c: Int) : Comparable<Int> {\n    override fun equals(other: Any?): Boolean {\n        return
other is BoxedChar && c == other.c\n    }\n    override fun hashCode(): Int {\n        return c\n    }\n    override
fun toString(): String {\n        return js(\"this.c\").unsafeCast<Char>().toString()\n    }\n    override fun
compareTo(other: Int): Int {\n        return js(\"this.c - other\").unsafeCast<Int>()\n    }\n    \n    @JsName(\"valueOf\")\n    public fun valueOf(): Int {\n        return c\n    }\n}\n\n@kotlin.internal.InlineOnly\ninternal inline fun <T> concat(args: Array<T>): T {\n    val typed =
js(\"Array\")(args.size)\n    for (i in args.indices) {\n        val arr = args[i]\n        if (arr !is Array<*>) {\n
typed[i] = js(\"[\"]\").slice.call(arr)\n        } else {\n            typed[i] = arr\n        }\n    }\n    return
js(\"[\"]\").concat.apply(js(\"[\"]\"), typed);\n}\n\n/** Concat regular Array's and TypedArray's into an Array.\n
*/\n\n@PublishedApi\n@JsName(\"arrayConcat\")\n@Suppress(\"UNUSED_PARAMETER\")\ninternal
fun <T> arrayConcat(a: T, b: T): T {\n    return concat(js(\"arguments\"))\n}\n\n/** Concat primitive arrays. Main
use: prepare vararg arguments.\n * For compatibility with 1.1.0 the arguments may be a mixture of Array's and
TypedArray's.\n * If the first argument is TypedArray (Byte-, Short-, Char-, Int-, Float-, and DoubleArray)
returns a TypedArray, otherwise an Array.\n * If the first argument has the $type$ property (Boolean-, Char-, and
LongArray) copy its value to result.$type$.\n * If the first argument is a regular Array without the $type$ property
default to arrayConcat.\n
*/\n\n@PublishedApi\n@JsName(\"primitiveArrayConcat\")\n@Suppress(\"UNUSED_PARAMETER\")\ninternal
fun <T> primitiveArrayConcat(a: T, b: T): T {\n    val args: Array<T> = js(\"arguments\")\n    if (a is Array<*> &&
a.asDynamic().`$type$` === undefined) {\n        return concat(args)\n    } else {\n        var size = 0\n
        for (i in args.indices) {\n            size += args[i].asDynamic().length as Int\n        }\n        val result = js(\"new
a.constructor(size)\")\n        kotlin.copyArrayType(a, result)\n        size = 0\n        for (i in args.indices) {\n            val
arr = args[i].asDynamic()\n            for (j in 0 until arr.length) {\n                result[size++] = arr[j]\n            }\n        }\n        return result\n    }\n}\n\n@JsName(\"booleanArrayOf\")\ninternal fun booleanArrayOf() =
withType(\"BooleanArray\", js(\"[].slice.call(arguments)\"))\n\n@JsName(\"charArrayOf\") // The arguments have
to be slice'd here because of Rhino (see KT-16974)\ninternal fun charArrayOf() = withType(\"CharArray\", js(\"new
Uint16Array([].slice.call(arguments)\")))\n\n@JsName(\"longArrayOf\")\ninternal fun longArrayOf() =
withType(\"LongArray\",
js(\"[].slice.call(arguments)\"))\n\n@JsName(\"withType\")\n@kotlin.internal.InlineOnly\ninternal inline fun
withType(type: String, array: dynamic):
dynamic {\n    array.`$type$` = type\n    return array\n}, /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n\npackage kotlin.js\n\n/**\n * Function corresponding to JavaScript's
`typeof` operator\n */\n\n@kotlin.internal.InlineOnly\n@Suppress(\"UNUSED_PARAMETER\")\npublic inline fun
jsTypeOf(a: Any?): String = js(\"typeof a\")\n}, /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n\n@file:Suppress(\"UNUSED_PARAMETER\",
\"NOTHING_TO_INLINE\")\n\npackage kotlin\n\n/**\n * Returns an empty array of the specified type [T].\n
*/\n\npublic inline fun <T> emptyArray(): Array<T> = js(\"[\"])\n\n@library\npublic fun <T> arrayOf(vararg
elements: T): Array<T> = definedExternally\n\n@library\npublic
fun doubleArrayOf(vararg elements: Double): DoubleArray = definedExternally\n\n@library\npublic fun
floatArrayOf(vararg elements: Float): FloatArray = definedExternally\n\n@library\npublic fun longArrayOf(vararg
elements: Long): LongArray = definedExternally\n\n@library\npublic fun intArrayOf(vararg elements: Int):
IntArray = definedExternally\n\n@library\npublic fun charArrayOf(vararg elements: Char): CharArray =
definedExternally\n\n@library\npublic fun shortArrayOf(vararg elements: Short): ShortArray =
definedExternally\n\n@library\npublic fun byteArrayOf(vararg elements: Byte): ByteArray =

```



```

definedExternally\n\n@library\npublic fun booleanArrayOf(vararg elements: Boolean): BooleanArray =
definedExternally\n\n/**\n * Creates a new instance of the [Lazy] that uses the specified initialization function
[initializer].\n *\npublic actual fun <T> lazy(initializer: () -> T): Lazy<T> = UnsafeLazyImpl(initializer)\n\n/**\n *
Creates a new instance of the [Lazy] that uses
the specified initialization function [initializer].\n *\n * The [mode] parameter is ignored. *\npublic actual fun <T>
lazy(mode: LazyThreadSafetyMode, initializer: () -> T): Lazy<T> = UnsafeLazyImpl(initializer)\n\n/**\n * Creates
a new instance of the [Lazy] that uses the specified initialization function [initializer].\n *\n * The [lock] parameter
is ignored.\n *\npublic actual fun <T> lazy(lock: Any?, initializer: () -> T): Lazy<T> =
UnsafeLazyImpl(initializer)\n\n\ninternal fun fillFrom(src: dynamic, dst: dynamic): dynamic {\n val srcLen: Int =
src.length\n val dstLen: Int = dst.length\n var index: Int = 0\n while (index < srcLen && index < dstLen)
dst[index] = src[index++]\n return dst\n}\n\n\ninternal fun arrayCopyResize(source: dynamic, newSize: Int,
defaultValue: Any?): dynamic {\n val result = source.slice(0, newSize)\n copyArrayType(source, result)\n var
index: Int = source.length\n if (newSize > index) {\n result.length = newSize\n
while (index < newSize) result[index++] = defaultValue\n } \n return result\n}\n\n\ninternal fun <T>
arrayPlusCollection(array: dynamic, collection: Collection<T>): dynamic {\n val result = array.slice()\n
result.length += collection.size\n copyArrayType(array, result)\n var index: Int = array.length\n for (element in
collection) result[index++] = element\n return result\n}\n\n\ninternal fun <T> fillFromCollection(dst: dynamic,
startIndex: Int, collection: Collection<T>): dynamic {\n var index = startIndex\n for (element in collection)
dst[index++] = element\n return dst\n}\n\n\ninternal inline fun copyArrayType(from: dynamic, to: dynamic) {\n if
(from.`$type$` != undefined) {\n to.`$type$` = from.`$type$`\n } \n}\n\n\ninternal inline fun jsIsType(obj:
dynamic, jsClass: dynamic) = js("Kotlin").isType(obj, jsClass)", /*\n * Copyright 2010-2021 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by
the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n\npackage kotlin\n\n/**\n * Creates
a Char with the specified [code].\n *\n * @sample samples.text.Chars.charFromCode\n
*\n\n@SinceKotlin("1.5")\n\n@WasExperimental(ExperimentalStdlibApi::class)\n\n@kotlin.internal.InlineOnly\n\npublic
actual inline fun Char(code: UShort): Char {\n return code.toInt().toChar()\n}\n\n", /*\n * Copyright 2010-2018
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n\npackage kotlin.coroutines\n\nimport
kotlin.coroutines.intrinsics.COROUTINE_SUSPENDED\n\n@SinceKotlin("1.3")\n\n@JsName("CoroutineImpl")\n\ninternal
abstract class CoroutineImpl(private val resultContinuation: Continuation<Any?>) : Continuation<Any?>
{\n protected var state = 0\n protected var exceptionState = 0\n protected var result: Any? = null\n protected
var exception:
Throwable? = null\n protected var finallyPath: Array<Int>? = null\n\n public override val context:
CoroutineContext = resultContinuation.context\n\n private var intercepted_: Continuation<Any?>? = null\n\n
public fun intercepted(): Continuation<Any?> =\n intercepted_\n ?:\n
(context[ContinuationInterceptor]?.interceptContinuation(this) ?: this)\n .also { intercepted_ = it }\n\n
override fun resumeWith(result: Result<Any?>) {\n var current = this\n var currentResult: Any? =
result.getOrNull()\n var currentException: Throwable? = result.exceptionOrNull()\n // This loop unrolls
recursion in current.resumeWith(param) to make saner and shorter stack traces on resume\n while (true) {\n
with(current) {\n val completion = resultContinuation\n // Set result and exception fields in
the current continuation\n if (currentException == null) {\n
this.result = currentResult\n } else {\n state = exceptionState\n exception =
currentException\n }\n\n try {\n val outcome = doResume()\n if (outcome
=== COROUTINE_SUSPENDED) return\n currentResult = outcome\n currentException =
null\n } catch (exception: dynamic) { // Catch all exceptions\n currentResult = null\n
currentException = exception.unsafeCast<Throwable>()\n } \n\n releaseIntercepted() // this state
machine instance is terminating\n\n if (completion is CoroutineImpl) {\n // unrolling recursion
via loop\n current = completion\n } else {\n // top-level completion reached --

```

```

invoke and return\n
        currentException?.let {\n
            completion.resumeWithException(it)\n
        } ?: completion.resume(currentResult)\n
return\n
    }\n
    }\n
    }\n
    }\n\n
private fun releaseIntercepted() {\n
    val intercepted =
intercepted_\n
    if (intercepted != null && intercepted !== this) {\n
context[ContinuationInterceptor]!!.releaseInterceptedContinuation(intercepted)\n
    }\n
    this.intercepted_ =
CompletedContinuation // just in case\n
    }\n\n
protected abstract fun doResume(): Any?\n
}\n\n
internal object
CompletedContinuation : Continuation<Any?> {\n
    override val context: CoroutineContext\n
    get() =
error("\nThis continuation is already complete\n")\n
    override fun resumeWith(result: Result<Any?>) {\n
error("\nThis continuation is already complete\n")\n
    }\n\n
    override fun toString(): String = "\nThis continuation is
already complete\n"}\n\n
/*\n
 * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n
 * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
 */\n\n
@file:Suppress("\nUNCHECKED_CAST\n",
"\nRedundantVisibilityModifier\n")\n\n
package kotlin\n\n
import kotlin.contracts.*\n\n
import
kotlin.internal.InlineOnly\n\n
import kotlin.jvm.JvmField\n\n
import kotlin.jvm.JvmInline\n\n
import
kotlin.jvm.JvmName\n\n
/**\n
 * A discriminated union that encapsulates a successful outcome with a value of type
[T]\n
 * or a failure with an arbitrary [Throwable] exception.\n
 */\n\n
@SinceKotlin("1.3")\n\n
@JvmInline\n\n
public
value class Result<out T> @PublishedApi internal constructor(\n
    @PublishedApi\n
    internal val value: Any?\n
) :
Serializable {\n
    // discovery\n
    /**\n
     * Returns `true` if this instance represents a successful outcome.\n
     *
     * In this case [isFailure] returns `false`.\n
     */\n\n
    @ public val isSuccess: Boolean get() = value !is Failure\n
    /**\n
     * Returns `true` if this instance represents
a failed outcome.\n
     *
     * In this case [isSuccess] returns `false`.\n
     */\n\n
    public val isFailure: Boolean get() =
value is Failure\n
    // value & exception retrieval\n
    /**\n
     * Returns the encapsulated value if this instance
represents [success][Result.isSuccess] or `null`\n
     * if it is [failure][Result.isFailure].\n
     */\n\n
     * This function is
a shorthand for `getOrNull { null }` (see [getOrNull]) or\n
     * `fold(onSuccess = { it }, onFailure = { null })` (see
[fold]).\n
     */\n\n
    @InlineOnly\n
    public inline fun getOrNull(): T? =\n
        when {\n
            isFailure -> null\n
            else -> value as T\n
        }\n
    /**\n
     * Returns the encapsulated [Throwable] exception if this instance
represents [failure][isFailure] or `null`\n
     * if it is [success][isSuccess].\n
     */\n\n
     * This function is a shorthand
for `fold(onSuccess = { null }, onFailure = { it })` (see [fold]).\n
     */\n\n
    @ public fun exceptionOrNull(): Throwable?
=\n
        when (value) {\n
            is Failure -> value.exception\n
            else -> null\n
        }\n
    /**\n
     * Returns a string
`Success(v)` if this instance represents [success][Result.isSuccess]\n
     * where `v` is a string representation of the
value or a string `Failure(x)` if\n
     * it is [failure][isFailure] where `x` is a string representation of the exception.\n
     */\n\n
     */\n\n
    public override fun toString(): String =\n
        when (value) {\n
            is Failure -> value.toString() //
"\nFailure($exception)"
            else -> "\nSuccess($value)"
        }\n
    // companion with constructors\n
    /**\n
     * Companion object for [Result] class that contains its constructor functions\n
     * [success] and [failure].\n
     */\n\n
    @ public companion object {\n
    /**\n
     * Returns an instance that encapsulates the given [value] as successful
value.\n
     */\n\n
     */\n\n
    @Suppress("\nINAPPLICABLE_JVM_NAME\n")\n
    @InlineOnly\n
    @JvmName("\nsuccess\n")\n
    public inline fun <T> success(value: T): Result<T> =\n
        Result(value)\n
    /**\n
     * Returns an
instance that encapsulates the given [Throwable] [exception] as failure.\n
     */\n\n
     */\n\n
    @Suppress("\nINAPPLICABLE_JVM_NAME\n")\n
    @InlineOnly\n
    @JvmName("\nfailure\n")\n
    public
inline fun <T> failure(exception: Throwable): Result<T> =\n
        Result(createFailure(exception))\n
    }\n\n
internal class Failure(\n
    @JvmField\n
    val exception: Throwable\n
) : Serializable {\n
    override fun
equals(other: Any?): Boolean = other is Failure && exception == other.exception\n
    override fun hashCode():
Int = exception.hashCode()\n
    override fun toString(): String = "\nFailure($exception)"
}\n\n
/**\n
 *
Creates an instance of internal marker [Result.Failure] class to\n
 * make sure that this class is not exposed in ABI.\n
 */\n\n
@PublishedApi\n\n
@SinceKotlin("1.3")\n\n
internal fun createFailure(exception: Throwable):

```

Any = \n Result.Failure(exception)\n\n/**\n * Throws exception if the result is failure. This internal function minimizes\n * inlined bytecode for [getOrThrow] and makes sure that in the future we can\n * add some exception-augmenting logic here (if needed).\n */\n@PublishedApi\n@SinceKotlin("1.3")\ninternal fun Result<*>.throwOnFailure() {\n if (value is Result.Failure) throw value.exception\n}\n\n/**\n * Calls the specified function [block] and returns its encapsulated result if invocation was successful,\n * catching any [Throwable] exception that was thrown from the [block] function execution and encapsulating it as a failure.\n */\n@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <R> runCatching(block: () -> R): Result<R> {\n return try {\n Result.success(block())\n } catch (e: Throwable) {\n Result.failure(e)\n }\n}\n\n/**\n * Calls the specified function [block] with `this` value as its receiver and returns its encapsulated result if invocation was successful,\n * catching any [Throwable] exception that was thrown from the [block] function execution and encapsulating it as a failure.\n */\n@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <T, R> T.runCatching(block: T.() -> R): Result<R> {\n return try {\n Result.success(block())\n } catch (e: Throwable) {\n Result.failure(e)\n }\n}\n\n// -- extensions ---\n\n/**\n * Returns the encapsulated value if this instance represents [success][Result.isSuccess] or throws the encapsulated [Throwable] exception\n * if it is [failure][Result.isFailure].\n */\n * This function is a shorthand for `getOrNull { throw it }` (see [getOrNull]).\n */\n@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <T> Result<T>.getOrThrow(): T {\n throwOnFailure()\n return value as T\n}\n\n/**\n * Returns the encapsulated value if this instance represents [success][Result.isSuccess] or the\n * result of [onFailure] function for the encapsulated [Throwable] exception if it is [failure][Result.isFailure].\n * Note, that this function rethrows any [Throwable] exception thrown by [onFailure] function.\n */\n * This function is a shorthand for `fold(onSuccess = { it }, onFailure = onFailure)` (see [fold]).\n */\n@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <R, T : R> Result<T>.getOrNull(onFailure: (exception: Throwable) -> R): R {\n contract {\n callsInPlace(onFailure, InvocationKind.AT_MOST_ONCE)\n }\n return when (val exception = exceptionOrNull()) {\n null -> value as T\n else -> onFailure(exception)\n }\n}\n\n/**\n * Returns the encapsulated value if this instance represents [success][Result.isSuccess] or the\n * [defaultValue] if it is [failure][Result.isFailure].\n */\n * This function is a shorthand for `getOrNull { defaultValue }` (see [getOrNull]).\n */\n@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <R, T : R> Result<T>.getOrElse(defaultValue: R): R {\n if (isFailure) return defaultValue\n\n return value as T\n}\n\n/**\n * Returns the result of [onSuccess] for the encapsulated value if this instance represents [success][Result.isSuccess]\n * or the result of [onFailure] function for the encapsulated [Throwable] exception if it is [failure][Result.isFailure].\n * Note, that this function rethrows any [Throwable] exception thrown by [onSuccess] or by [onFailure] function.\n */\n@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <R, T> Result<T>.fold(\n onSuccess: (value: T) -> R,\n onFailure: (exception: Throwable) -> R\n): R {\n contract {\n callsInPlace(onSuccess, InvocationKind.AT_MOST_ONCE)\n callsInPlace(onFailure, InvocationKind.AT_MOST_ONCE)\n }\n return when (val exception = exceptionOrNull()) {\n null -> onSuccess(value as T)\n else -> onFailure(exception)\n }\n}\n\n// transformation\n\n/**\n * Returns the encapsulated result of the given [transform] function applied to the encapsulated value\n * if this instance represents [success][Result.isSuccess] or the\n * original encapsulated [Throwable] exception if it is [failure][Result.isFailure].\n * Note, that this function rethrows any [Throwable] exception thrown by [transform] function.\n * See [mapCatching] for an alternative that encapsulates exceptions.\n */\n@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <R, T> Result<T>.map(transform: (value: T) -> R): Result<R> {\n contract {\n callsInPlace(transform, InvocationKind.AT_MOST_ONCE)\n }\n return when {\n isSuccess -> Result.success(transform(value as T))\n else -> Result(value)\n }\n}\n\n/**\n * Returns the encapsulated result of the given [transform] function applied to the encapsulated value\n * if this instance represents [success][Result.isSuccess] or the\n * original encapsulated [Throwable] exception if it is [failure][Result.isFailure].\n * This function catches any [Throwable] exception thrown by [transform] function and encapsulates

it as a failure.
 * See [map] for an alternative that rethrows exceptions from `transform` function.

```

*  

@InlineOnly  

@SinceKotlin("1.3")  

public inline fun <R, T> Result<T>.mapCatching(transform: (value: T) -> R): Result<R> {  

    return when {  

        isSuccess -> runCatching { transform(value as T) }  

        else -> Result(value)  

    }  

}

```

* Returns the encapsulated result of the given [transform] function applied to the encapsulated [Throwable] exception
 * if this instance represents [failure][Result.isFailure] or the original encapsulated value if it is [success][Result.isSuccess].
 * Note, that this function rethrows any [Throwable] exception thrown by [transform] function.
 * See [recoverCatching] for an alternative that encapsulates exceptions.

```

*  

@InlineOnly  

@SinceKotlin("1.3")  

public inline fun <R, T : R> Result<T>.recover(transform: (exception: Throwable) -> R): Result<R> {  

    contract {  

        callsInPlace(transform, InvocationKind.AT_MOST_ONCE)  

    }  

    return when (val exception = exceptionOrNull()) {  

        null -> this  

        else -> Result.success(transform(exception))  

    }  

}

```

* Returns the encapsulated result of the given [transform] function applied to the encapsulated [Throwable] exception
 * if this instance represents [failure][Result.isFailure] or the original encapsulated value if it is [success][Result.isSuccess].
 * This function catches any [Throwable] exception thrown by [transform] function and encapsulates it as a failure.
 * See [recover] for an alternative that rethrows exceptions.

```

*  

@InlineOnly  

@SinceKotlin("1.3")  

public inline fun <R, T : R> Result<T>.recoverCatching(transform: (exception: Throwable) -> R): Result<R> {  

    return when (val exception = exceptionOrNull()) {  

        null -> this  

        else -> runCatching { transform(exception) }  

    }  

}

```

* Performs the given [action] on the encapsulated [Throwable] exception if this instance represents [failure][Result.isFailure].
 * Returns the original `Result` unchanged.

```

*  

@InlineOnly  

@SinceKotlin("1.3")  

public inline fun <T> Result<T>.onFailure(action: (exception: Throwable) -> Unit): Result<T> {  

    contract {  

        callsInPlace(action, InvocationKind.AT_MOST_ONCE)  

    }  

    exceptionOrNull()?.let { action(it) }  

    return this
}

```

* Performs the given [action] on the encapsulated value if this instance represents [success][Result.isSuccess].
 * Returns the original `Result` unchanged.

```

*  

@InlineOnly  

@SinceKotlin("1.3")  

public inline fun <T> Result<T>.onSuccess(action: (value: T) -> Unit): Result<T> {  

    contract {  

        callsInPlace(action, InvocationKind.AT_MOST_ONCE)  

    }  

    if (isSuccess) action(value as T)  

    return this
}

```

 --\n", /*
 * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.
 * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.

```

*  

@npackage kotlin.coroutines  

nimport kotlin.contracts.*  

nimport kotlin.coroutines.intrinsics.*  

nimport kotlin.internal.InlineOnly

```

* Interface representing a continuation after a suspension point that returns a value of type `T`.

```

*  

@SinceKotlin("1.3")  

public interface Continuation<in T> {  

    /**  

     * The context of the coroutine that corresponds to this continuation.  

     */  

    public val context: CoroutineContext  

    /**  

     * Resumes the execution of the corresponding coroutine passing a successful or failed [result] as the  

     * return value of the last suspension point.  

     */  

    public fun resumeWith(result: Result<T>)  

}

```

* Classes and interfaces marked with this annotation are restricted when used as receivers for extension `suspend` functions. These `suspend` extensions can only invoke other member or extension `suspend` functions on this particular
 * receiver and are restricted from calling arbitrary suspension functions.

```

*  

@SinceKotlin("1.3")  

@Target(AnnotationTarget.CLASS)  

@Retention(AnnotationRetention.BINARY)  

public annotation class RestrictsSuspension

```

* Resumes the execution of the corresponding coroutine passing [value] as the return value of the last suspension point.

```

*  

@SinceKotlin("1.3")  

@InlineOnly  

public inline fun <T> Continuation<T>.resume(value: T): Unit =  

    resumeWith(Result.success(value))

```

* Resumes the execution of the corresponding coroutine so that the [exception] is re-thrown right after the
 * last suspension point.

```

*  

@SinceKotlin("1.3")  

@InlineOnly  

public inline fun <T> Continuation<T>.resumeWithException(exception: Throwable): Unit =  

    resumeWith(Result.failure(exception))

```

* Creates a [Continuation] instance with the given [context] and implementation of [resumeWith] method.

```

*  

@SinceKotlin("1.3")  

@InlineOnly  

public inline fun <T>

```

```

Continuation(\n context: CoroutineContext,\n crossinline resumeWith: (Result<T>) -> Unit)\n:
Continuation<T> =\n object : Continuation<T> {\n override val context: CoroutineContext\n get() =
context\n\n override fun resumeWith(result: Result<T>) =\n resumeWith(result)\n }\n\n/**\n * Creates
a coroutine without a receiver and with result type [T].\n * This function creates a new, fresh instance of
suspendable computation every time it is invoked.\n * To start executing the created coroutine, invoke
`resume(Unit)` on the returned [Continuation] instance.\n * The [completion] continuation is invoked when the
coroutine completes with a result or an exception.\n * Subsequent invocation of any resume function on the
resulting continuation will produce an [IllegalStateException].\n
*\n@SinceKotlin("1.3")\n@Suppress("UNCHECKED_CAST")\npublic fun <T> (suspend () ->
T).createCoroutine(\n completion: Continuation<T>)\n): Continuation<Unit>
=\n SafeContinuation(createCoroutineUnintercepted(completion).intercepted(),
COROUTINE_SUSPENDED)\n\n/**\n * Creates a coroutine with receiver type [R] and result type [T].\n * This
function creates a new, fresh instance of suspendable computation every time it is invoked.\n * To start
executing the created coroutine, invoke `resume(Unit)` on the returned [Continuation] instance.\n * The
[completion] continuation is invoked when the coroutine completes with a result or an exception.\n * Subsequent
invocation of any resume function on the resulting continuation will produce an [IllegalStateException].\n
*\n@SinceKotlin("1.3")\n@Suppress("UNCHECKED_CAST")\npublic fun <R, T> (suspend R.() ->
T).createCoroutine(\n receiver: R,\n completion: Continuation<T>)\n): Continuation<Unit> =\n
SafeContinuation(createCoroutineUnintercepted(receiver, completion).intercepted(),
COROUTINE_SUSPENDED)\n\n/**\n * Starts a coroutine without a receiver and with result type [T].\n * This
function creates and starts a new, fresh instance of suspendable computation every time it is invoked.\n * The
[completion] continuation is invoked when the coroutine completes with a result or an exception.\n
*\n@SinceKotlin("1.3")\n@Suppress("UNCHECKED_CAST")\npublic fun <T> (suspend () ->
T).startCoroutine(\n completion: Continuation<T>)\n) {\n
createCoroutineUnintercepted(completion).intercepted().resume(Unit)\n}\n\n/**\n * Starts a coroutine with receiver
type [R] and result type [T].\n * This function creates and starts a new, fresh instance of suspendable computation
every time it is invoked.\n * The [completion] continuation is invoked when the coroutine completes with a result
or an exception.\n *@\n@SinceKotlin("1.3")\n@Suppress("UNCHECKED_CAST")\npublic fun <R, T> (suspend
R.() -> T).startCoroutine(\n receiver: R,\n completion: Continuation<T>)\n) {\n
createCoroutineUnintercepted(receiver, completion).intercepted().resume(Unit)\n}\n\n/**\n * Obtains
the current continuation instance inside suspend functions and suspends\n * the currently running coroutine.\n *
*\n * In this function both [Continuation.resume] and [Continuation.resumeWithException] can be used either
synchronously in\n * the same stack-frame where the suspension function is run or asynchronously later in the same
thread or\n * from a different thread of execution. Subsequent invocation of any resume function will produce an
[IllegalStateException].\n *@\n@SinceKotlin("1.3")\n@InlineOnly\npublic suspend inline fun <T>
suspendCoroutine(crossinline block: (Continuation<T>) -> Unit): T {\n contract { callsInPlace(block,
InvocationKind.EXACTLY_ONCE) }\n return suspendCoroutineUninterceptedOrReturn { c: Continuation<T> -
->\n val safe = SafeContinuation(c.intercepted())\n block(safe)\n safe.getOrThrow()\n }\n}\n\n/**\n *
Returns the context of the current coroutine.\n
*\n@SinceKotlin("1.3")\n@Suppress("WRONG_MODIFIER_TARGET")\n@InlineOnly\npublic
suspend inline val coroutineContext: CoroutineContext\n get() {\n throw
NotImplementedError("Implemented as intrinsic")\n }\n\n"/**\n * Copyright 2010-2018 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n *@\n\npackage kotlin.coroutines.intrinsics\n\nimport
kotlin.coroutines.*\nimport kotlin.internal.InlineOnly\n\n/**\n * Starts an unintercepted coroutine without a receiver
and with result type [T] and executes it until its first suspension.\n * Returns the result of the coroutine or
throws its exception if it does not suspend or [COROUTINE_SUSPENDED] if it suspends.\n * In the latter case, the
[completion] continuation is invoked when the coroutine completes with a result or an exception.\n *
*\n * The

```

coroutine is started directly in the invoker's thread without going through the [ContinuationInterceptor] that might be present in the completion's [CoroutineContext]. It is the invoker's responsibility to ensure that a proper invocation context is established. This function is designed to be used from inside of [suspendCoroutineUninterceptedOrReturn] to resume the execution of the suspended coroutine using a reference to the suspending function.

```

@SinceKotlin("1.3")@InlineOnly
public actual inline fun <T> (suspend () -> T).startCoroutineUninterceptedOrReturn(
    completion: Continuation<T>): Any? =
    this.asDynamic()(completion, false)

```

Starts an unintercepted coroutine with receiver type [R] and result type [T] and executes it until its first suspension. Returns the result of the coroutine or throws its exception if it does not suspend or [COROUTINE_SUSPENDED] if it suspends. In the latter case, the [completion] continuation is invoked when the coroutine completes with a result or an exception. The coroutine is started directly in the invoker's thread without going through the [ContinuationInterceptor] that might be present in the completion's [CoroutineContext]. It is the invoker's responsibility to ensure that a proper invocation context is established. This function is designed to be used from inside of [suspendCoroutineUninterceptedOrReturn] to resume the execution of the suspended coroutine using a reference to the suspending function.

```

@SinceKotlin("1.3")@InlineOnly
public actual inline fun <R, T> (suspend R.() -> T).startCoroutineUninterceptedOrReturn(
    receiver: R, completion: Continuation<T>): Any? =
    this.asDynamic()(receiver, completion, false)

```

internal actual inline fun <R, P, T> (suspend R.(P) -> T).startCoroutineUninterceptedOrReturn(
 receiver: R, param: P, completion: Continuation<T>): Any? = this.asDynamic()(receiver, param, completion, false)

Creates unintercepted coroutine without receiver and with result type [T]. This function creates a new, fresh instance of suspendable computation every time it is invoked. To start executing the created coroutine, invoke `resume(Unit)` on the returned [Continuation] instance. The [completion] continuation is invoked when coroutine completes with result or exception. This function returns unintercepted continuation. Invocation of `resume(Unit)` starts coroutine immediately in the invoker's call stack without going through the [ContinuationInterceptor] that might be present in the completion's [CoroutineContext]. It is the invoker's responsibility to ensure that a proper invocation context is established. Note that [completion] of this function may get invoked in an arbitrary context. [Continuation.intercepted] can be used to acquire the intercepted continuation. Invocation of `resume(Unit)` on intercepted continuation guarantees that execution of both the coroutine and [completion] happens in the invocation context established by [ContinuationInterceptor]. Repeated invocation of any resume function on the resulting continuation corrupts the state machine of the coroutine and may result in arbitrary behaviour or exception.

```

@SinceKotlin("1.3")
public actual fun <T> (suspend () -> T).createCoroutineUnintercepted(
    completion: Continuation<T>): Continuation<Unit> =
    // Kotlin/JS suspend lambdas have an extra parameter `suspended`
    if (this.asDynamic().length == 2) {
        // When `suspended` is true the continuation is created, but not
        // executed
        this.asDynamic()(completion, true)
    } else {
        createCoroutineFromSuspendFunction(completion) {
            this.asDynamic()(completion)
        }
    }

```

Creates unintercepted coroutine with receiver type [R] and result type [T]. This function creates a new, fresh instance of suspendable computation every time it is invoked. To start executing the created coroutine, invoke `resume(Unit)` on the returned [Continuation] instance. The [completion] continuation is invoked when coroutine completes with result or exception. This function returns unintercepted continuation. Invocation of `resume(Unit)` starts coroutine immediately in the invoker's call stack without going through the [ContinuationInterceptor] that might be present in the completion's [CoroutineContext]. It is the invoker's responsibility to ensure that a proper invocation context is established. Note that [completion] of this function may get invoked in an arbitrary context. [Continuation.intercepted] can be used to acquire the intercepted continuation. Invocation of `resume(Unit)` on intercepted continuation guarantees that execution of both the coroutine and [completion]

happens in the invocation context established by `[ContinuationInterceptor]`. Repeated invocation of any resume function on the resulting continuation corrupts the state machine of the coroutine and may result in arbitrary behaviour or exception.

```

@SinceKotlin("1.3")
public actual fun <R, T> (suspend R.() -> T).createCoroutineUnintercepted(
    receiver: R,
    completion: Continuation<T>): Continuation<Unit> =
    // Kotlin/JS suspend lambdas have an extra parameter `suspended`
    if (this.asDynamic().length == 3) {
        // When `suspended` is true the continuation is created, but not executed
        this.asDynamic()(receiver, completion, true)
    } else {
        createCoroutineFromSuspendFunction(completion)
    }
    this.asDynamic()(receiver, completion)
}

// Intercepts this continuation with [ContinuationInterceptor].
// This function shall be used on the immediate result of [createCoroutineUnintercepted] or [suspendCoroutineUninterceptedOrReturn],
// in which case it checks for [ContinuationInterceptor] in the continuation's [context][Continuation.context],
// invokes [ContinuationInterceptor.interceptContinuation],
// caches and returns the result.
// If this function is invoked on other [Continuation] instances it returns `this`
// continuation unchanged.
@SinceKotlin("1.3")
public actual fun <T> Continuation<T>.intercepted(): Continuation<T> =
    (this as? CoroutineImpl)?.intercepted() ?: this

private inline fun <T> createCoroutineFromSuspendFunction(
    completion: Continuation<T>,
    crossinline block: () -> Any?): Continuation<Unit> {
    @Suppress("UNCHECKED_CAST")
    return object : CoroutineImpl(completion as Continuation<Any?>) {
        override fun doResume(): Any? {
            exception?.let { throw it }
            return block()
        }
    }
}

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package kotlin.js

// Mirrors signature from JS IR BE
// Used for js.translator/testData/box/number/mulInt32.kt
@library
@JsName("imulEmulated")
@Suppress("UNUSED_PARAMETER")
internal fun imul(x: Int, y: Int): Int =
    definedExternally

@Suppress("NOTHING_TO_INLINE")
internal inline fun isArrayish(o: dynamic) =
    js("Kotlin").isArrayish(o)

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package kotlin

// NOTE: Do not author your exceptions as they are written in this file,
// instead use this template:
public open class MyException : Exception {
    constructor() : super()
    constructor(message: String?) : super(message)
    constructor(message: String?, cause: Throwable?) : super(message, cause)
    constructor(cause: Throwable?) : super(cause)
}

// TODO: remove primary constructors, make all secondary
@Suppress("USELESS_ELVIS_RIGHT_IS_NULL")
public actual open class Error actual constructor(message: String?, cause: Throwable?) : Throwable(message, cause?) {
    actual constructor() : this(null, null)
    actual constructor(message: String?) : this(message, null)
    actual constructor(cause: Throwable?) : this(undefiend, cause)
}

@Suppress("USELESS_ELVIS_RIGHT_IS_NULL")
public actual open class Exception actual constructor(message: String?, cause: Throwable?) : Throwable(message, cause?) {
    actual constructor() : this(null, null)
    actual constructor(message: String?) : this(message, null)
    actual constructor(cause: Throwable?) : this(undefiend, cause)
}

public actual open class RuntimeException actual constructor(message: String?, cause: Throwable?) : Exception(message, cause) {
    actual constructor() : this(null, null)
    actual constructor(message: String?) : this(message, null)
    actual constructor(cause: Throwable?) : this(undefiend, cause)
}

public actual open class IllegalArgumentException actual constructor(message: String?, cause: Throwable?) : RuntimeException(message, cause) {
    actual constructor() : this(null, null)
    actual constructor(message: String?) : this(message, null)
    actual constructor(cause: Throwable?) : this(undefiend, cause)
}

public actual open class IllegalStateException actual constructor(message: String?, cause: Throwable?) : RuntimeException(message, cause) {
    actual constructor() : this(null, null)
    actual constructor(message: String?) : this(message, null)
    actual constructor(cause: Throwable?) : this(undefiend, cause)
}

public actual open class IndexOutOfBoundsException actual constructor(message: String?) : RuntimeException(message) {

```

```

actual constructor() : this(null)\n}\n\npublic actual open class ConcurrentModificationException actual
constructor(message: String?, cause: Throwable?) : RuntimeException(message, cause) {\n  actual constructor() :
this(null, null)\n  actual
  constructor(message: String?) : this(message, null)\n  actual constructor(cause: Throwable?) : this(undefiend,
cause)\n}\n\npublic actual open class UnsupportedOperationException actual constructor(message: String?, cause:
Throwable?) : RuntimeException(message, cause) {\n  actual constructor() : this(null, null)\n  actual
constructor(message: String?) : this(message, null)\n  actual constructor(cause: Throwable?) : this(undefiend,
cause)\n}\n\npublic actual open class NumberFormatException actual constructor(message: String?) :
IllegalArgumentException(message) {\n  actual constructor() : this(null)\n}\n\npublic actual open class
NullPointerException actual constructor(message: String?) : RuntimeException(message) {\n  actual constructor() :
this(null)\n}\n\npublic actual open class ClassCastException actual constructor(message: String?) :
RuntimeException(message) {\n  actual constructor() : this(null)\n}\n\npublic actual open class
AssertionError\n@SinceKotlin("1.4")\nconstructor(message:
String?, cause: Throwable?) : Error(message, cause) {\n  actual constructor() : this(null)\n  constructor(message:
String?) : this(message, null)\n  actual constructor(message: Any?) : this(message.toString(), message as?
Throwable)\n}\n\npublic actual open class NoSuchElementException actual constructor(message: String?) :
RuntimeException(message) {\n  actual constructor() : this(null)\n}\n\n@SinceKotlin("1.3")\npublic actual open
class ArithmeticException actual constructor(message: String?) : RuntimeException(message) {\n  actual
constructor() : this(null)\n}\n\npublic actual open class NoWhenBranchMatchedException actual
constructor(message: String?, cause: Throwable?) : RuntimeException(message, cause) {\n  actual constructor() :
this(null, null)\n  actual constructor(message: String?) : this(message, null)\n  actual constructor(cause:
Throwable?) : this(undefiend, cause)\n}\n\npublic actual open class UninitializedPropertyAccessException
actual constructor(message: String?, cause: Throwable?) : RuntimeException(message, cause) {\n  actual
constructor() : this(null, null)\n  actual constructor(message: String?) : this(message, null)\n  actual
constructor(cause: Throwable?) : this(undefiend, cause)\n}\n\n", /*\n * Copyright 2010-2019 JetBrains s.r.o. Use of
this source code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n
*\n*\n@file:Suppress("UNUSED_PARAMETER")\n\npackage kotlin.js\n\n@kotlin.internal.InlineOnly\n\ninternal
inline fun jsDeleteProperty(obj: Any, property: Any) {\n  js("delete
obj[property]")\n}\n\n@kotlin.internal.InlineOnly\n\ninternal inline fun jsBitwiseOr(lhs: Any?, rhs: Any?): Int =\n
js("lhs | rhs").unsafeCast<Int>()", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\npackage
kotlin.math\n\n/**\n * Returns this value with the sign bit same as of the [sign] value.\n * \n * If [sign] is `NaN` the
sign of the result is undefined.\n *\n@SinceKotlin("1.2")\n\npublic actual fun Double.withSign(sign: Double):
Double {\n  val thisSignBit = js("Kotlin").doubleSignBit(this).unsafeCast<Int>()\n  val newSignBit =
js("Kotlin").doubleSignBit(sign).unsafeCast<Int>()\n  return if (thisSignBit == newSignBit) this else -
this\n}\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n*\npackage kotlin\n\n/**\n * Returns a bit representation of the specified floating-point value as [Long]\n *
according to the IEEE 754 floating-point "double format" bit layout.\n
*\n@SinceKotlin("1.2")\n\n@library("doubleToBits")\n\npublic actual fun Double.toBits(): Long =
definedExternally\n\n/**\n * Returns a bit representation
of the specified floating-point value as [Long]\n * according to the IEEE 754 floating-point "double format" bit
layout,\n * preserving `NaN` values exact layout.\n
*\n@SinceKotlin("1.2")\n\n@library("doubleToRawBits")\n\npublic actual fun Double.toRawBits(): Long =
definedExternally\n\n/**\n * Returns the [Double] value corresponding to a given bit representation.\n
*\n@SinceKotlin("1.2")\n\n@kotlin.internal.InlineOnly\n\npublic actual inline fun Double.Companion.fromBits(bits:
Long): Double = js("Kotlin").doubleFromBits(bits).unsafeCast<Double>()\n\n/**\n * Returns a bit representation

```



```

of the specified floating-point value as [Int]\n * according to the IEEE 754 floating-point \"single format\" bit
layout.\n * Note that in Kotlin/JS [Float] range is wider than \"single format\" bit layout can represent,\n * so
some [Float] values may overflow, underflow or loose their accuracy after conversion to bits and back.\n
*/\n@SinceKotlin(\"1.2\")\n@library(\"floatToBits\")\npublic
actual fun Float.toBits(): Int = definedExternally\n\n/*\n * Returns a bit representation of the specified floating-
point value as [Int]\n * according to the IEEE 754 floating-point \"single format\" bit layout,\n * preserving `NaN`
values exact layout.\n * Note that in Kotlin/JS [Float] range is wider than \"single format\" bit layout can
represent,\n * so some [Float] values may overflow, underflow or loose their accuracy after conversion to bits and
back.\n */\n@SinceKotlin(\"1.2\")\n@library(\"floatToRawBits\")\npublic actual fun Float.toRawBits(): Int =
definedExternally\n\n/*\n * Returns the [Float] value corresponding to a given bit representation.\n
*/\n@SinceKotlin(\"1.2\")\n@kotlin.internal.InlineOnly\npublic actual inline fun Float.Companion.fromBits(bits:
Int): Float =
js(\"Kotlin\").floatFromBits(bits).unsafeCast<Float>()\n\n@Suppress(\"NOTHING_TO_INLINE\")\ninternal
inline fun Long(low: Int, high: Int) = js(\"Kotlin\").Long.fromBits(low, high).unsafeCast<Long>()\ninternal
inline val Long.low: Int get() = this.asDynamic().getLowBits().unsafeCast<Int>()\ninternal inline val Long.high: Int
get() = this.asDynamic().getHighBits().unsafeCast<Int>()\n\", \"/*\n * Copyright 2010-2020 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\n\nimport kotlin.reflect.KClass\n\n@PublishedApi\ninternal fun
<T : Annotation> KClass<*>.findAssociatedObject(@Suppress(\"UNUSED_PARAMETER\") annotationClass:
KClass<T>): Any? {\n // This API is not supported in js-v1. Return `null` to be source-compatible with js-ir.\n
return null\n}\n\", \"/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n *
Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\npackage kotlin.text\n\n/*\n * Returns a string representation of this [Long] value
in the specified [radix].\n * @throws IllegalArgumentException when [radix] is not a valid radix for number to
string conversion.\n */\n@SinceKotlin(\"1.2\")\npublic actual fun Long.toString(radix: Int): String =
asDynamic().toString(checkRadix(radix)), \"/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the
GenerateUnicodeData.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n/\n/\n// 1343 ranges
totally\nprivate object Category {\n val decodedRangeStart: IntArray\n val decodedRangeCategory: IntArray\n
\n init {\n val toBase64 =
\"ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz0123456789+/\n val fromBase64 =
IntArray(128)\n for (i in toBase64.indices) {\n fromBase64[toBase64[i].code]
= i\n }\n \n // rangeStartDiff.length = 1482\n val rangeStartDiff =
\"gBCFEDCKCDCaDDaDBhBCEEDDDDDDEDXBHYBH5BRwBGDCHDCIDFHDCHEIRTEE7BGHDDJI
CBbSEMOfGERwDEDDDDDECEFCRBjBFDcYFFCCzBvBjBBFC3BohDBmBDGpBDDcTBjIbEECLGDFC
LDCgBBKVKEDiDDHCFECECKCEODBebC5CLBOKhBJDDDDWEBHFcfCPBZDEL1BVBSLPBgBB2BDB
DICFBHKCKCPDBHEDWBHEDDDDEDEDIBDGDCCKCGDDDCGECWBFMDDCEDDDCHDDHKDDBK
DBHFCWBFgFDBDDFEDBPDDKCHBGDCHEDWBFgFDCEDEDBHDDGDCKCGJEGDBFDDFDDDDDME
FDBFDCGBOKDFDFDCGFCXBQDDDDDBEGEDFDDKHBHDDGFCXBKBFCEFCFCHECCKDNCCHFC
oBEDECFDDDDHDCKJBGDCSDYBJEhBFDEBIGKDCMuBFHEBGBIBKckBFBFbXEiFJDFDGCKCEgB
BDPEDGKKGECIBkBEObDFLkBBIBEFFECIBrBCEBEGDBKGGDDDDDDCHDENDCFEKDDIBDDFrBCD
pKBECGEECPBBEChBBECGEECPB5BBECjCCDJUDQKG2CCGDsTCRBaCDrCDDIHNBEDLSDCJSCMLFC
CM0BDHGFLBFDDKKGKGEFDDBKgJBB1BHfChBDFmCKfDDDDDDCGDCFDKeCFLsBEaGKBdiBXDDD1
BDGDEIGJEKKGHGBGCMF/BEBvBCEDDFHEKHkJJDDeDDGDkSBFEDCIEkBIICDFKDDKeGCJHrBCDI
IDBNBHEBEFDBFsB/BNBiBIB6BBF1EiIdJIGCGCIIIIIGCGCIIIIIOCIIIIIDFEDDBFEDDDDEBDIFDDFEDBLF
GCEEICFBjCDEDCLDKBFBKCCGDDKDDNDgBQNEBDMPPFFDEDEBFFHECEBEEDFBEDDQjBCEDEFFC
CJHBeEEfsIIEUCHCxCBeZoBGICZLV8BuCW3FBjB2BIvDB4HOesBFcFkQgJjEW/BEgBCiIwBVCGnBCgBBp

```



```

result[index++] = int\n        int = 0\n        shift = 0\n    } else {\n        shift += 5\n    }\n }\n return
result}\n", "/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use
of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\npackage kotlin.collections\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the
GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport
kotlin.js.*\nimport kotlin.ranges.contains\nimport kotlin.ranges.reversed\n\n/**\n * Reverses elements in the list in-
place.\n */\npublic actual fun <T> MutableList<T>.reverse(): Unit {\n    val midPoint
= (size / 2) - 1\n    if (midPoint < 0) return\n    var reverseIndex = lastIndex\n    for (index in 0..midPoint) {\n
val tmp = this[index]\n    this[index] = this[reverseIndex]\n    this[reverseIndex] = tmp\n    reverseIndex--\n
}\n}\n", "/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\npackage kotlin.text\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateUnicodeData.kt\n//
See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n// 37 ranges totally\nprivate object Digit
{\n    internal val rangeStart = intArrayOf(\n        0x0030, 0x0066, 0x006f, 0x007c, 0x0096, 0x009e, 0x00a6,
0x00ae, 0x00b6, 0x00be, 0x00c6, 0x00ce, 0x00d6, 0x00de, 0x00e5, 0x00ed, 0x00f2, 0x0104, 0x0109, 0x017e, \n
        0x0181, 0x0194, 0x019d, 0x01a8, 0x01a9, 0x01b5, 0x01bb, 0x01c4, 0x01c5, 0xa620,
0xa8d0, 0xa900, 0xa9d0, 0xa9f0, 0xaa50, 0xabf0, 0xff10, \n    )\n}\n\n/**\n * Returns the index of the largest
element in [array] smaller or equal to the specified [needle],\n * or -1 if [needle] is smaller than the smallest element
in [array].\n */\ninternal fun binarySearchRange(array: IntArray, needle: Int): Int {\n    var bottom = 0\n    var top =
array.size - 1\n    var middle = -1\n    var value = 0\n    while (bottom <= top) {\n        middle = (bottom + top) / 2\n
        value = array[middle]\n        if (needle > value)\n            bottom = middle + 1\n        else if (needle == value)\n
            return middle\n        else\n            top = middle - 1\n    }\n    return middle - (if (needle < value) 1 else
0)\n}\n\n/**\n * Returns an integer from 0..9 indicating the digit this character represents,\n * or -1 if this character
is not a digit.\n */\ninternal fun Char.digitToIntImpl(): Int {\n    val ch = this.code\n    val index =
binarySearchRange(Digit.rangeStart, ch)\n
    val diff = ch - Digit.rangeStart[index]\n    return if (diff < 10) diff else -1\n}\n\n/**\n * Returns `true` if this
character is a digit.\n */\ninternal fun Char.isDigitImpl(): Boolean {\n    return digitToIntImpl() >= 0\n}\n", "/*\n *
Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is
governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.text\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateUnicodeData.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n// 222 ranges totally\nprivate object Letter {\n
val decodedRangeStart: IntArray\n    val decodedRangeLength: IntArray\n    val decodedRangeCategory: IntArray\n
\n    init {\n        val toBase64 =
"\n        val fromBase64 =
IntArray(128)\n        for (i in toBase64.indices) {\n            fromBase64[toBase64[i].code]
= i\n        }\n        // rangeStartDiff.length = 356\n        val rangeStartDiff =
"\n        val diff = decodeVarLenBase64(rangeStartDiff,
fromBase64, 222)\n        val start = IntArray(diff.size)\n        for (i in diff.indices) {\n            if (i == 0) start[i] =
diff[i]\n            else start[i] = start[i - 1] + diff[i]\n        }\n        decodedRangeStart = start\n        //
rangeLength.length = 328\n        val rangeLength =
"\n        val diff = decodeVarLenBase64(rangeStartDiff,
fromBase64, 222)\n        val start = IntArray(diff.size)\n        for (i in diff.indices) {\n            if (i == 0) start[i] =
diff[i]\n            else start[i] = start[i - 1] + diff[i]\n        }\n        decodedRangeStart = start\n        //
rangeLength.length = 328\n        val rangeLength =
"
```



```

license that can be found in the license/LICENSE.txt file.\n *\n\npackage kotlin.text\n\n/\n// NOTE: THIS FILE
IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n\nimport kotlin.js.*\n\n/**\n * Returns a
character at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this char
sequence.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n *\npublic actual fun
CharSequence.elementAt(index: Int): Char {\n    return elementAtOrElse(index) { throw
IndexOutOfBoundsException("index: $index, length: $length}") }\n}\n\n", "/*\n * Copyright 2010-2021 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n *\n\npackage kotlin.text\n\n/\n// NOTE: THIS FILE IS
AUTO-GENERATED by the GenerateUnicodeData.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n\n4 ranges totally\n\ninternal fun Char.titlecaseCharImpl(): Char {\n    val code = this.code\n    // Letters repeating <Lu,
Lt, Ll> sequence and code of the Lt is a multiple of 3, e.g. <\u01c4, \u01c5, \u01c6>\n    if (code in 0x01c4..0x01cc
|| code in 0x01f1..0x01f3) {\n        return (3 * ((code + 1) / 3)).toChar()\n    }\n    // Lower case letters whose title
case mapping equivalent is equal to the original letter\n    if (code in 0x10d0..0x10fa || code in 0x10fd..0x10ff) {\n
        return this\n    }\n    return uppercaseChar()\n}", "/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n *\n\npackage kotlin.collections\n\n/\n\n// NOTE: THIS FILE IS AUTO-
GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n\nimport
kotlin.js.*\nimport kotlin.ranges.contains\nimport kotlin.ranges.reversed\n\n/**\n * Returns an element at the given
[index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n
*\n\n@SinceKotlin("1.3")\n\n@ExperimentalUnsignedTypes\n\npublic actual fun UIntArray.elementAt(index: Int):
UInt {\n    return elementAtOrElse(index) { throw IndexOutOfBoundsException("index: $index, size: $size") }\n}
}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n
*\n\n@SinceKotlin("1.3")\n\n@ExperimentalUnsignedTypes\n\npublic actual fun ULongArray.elementAt(index: Int):
ULong {\n    return elementAtOrElse(index) { throw IndexOutOfBoundsException("index: $index, size: $size") }\n}
}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException]
if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n
*\n\n@SinceKotlin("1.3")\n\n@ExperimentalUnsignedTypes\n\npublic actual fun UByteArray.elementAt(index: Int):
UByte {\n    return elementAtOrElse(index) { throw IndexOutOfBoundsException("index: $index, size: $size") }\n}
}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n
*\n\n@SinceKotlin("1.3")\n\n@ExperimentalUnsignedTypes\n\npublic actual fun UShortArray.elementAt(index: Int):
UShort {\n    return elementAtOrElse(index) { throw IndexOutOfBoundsException("index: $index, size: $size") }\n}
}\n\n/**\n * Returns a [List] that wraps the original array.\n
*\n\n@SinceKotlin("1.3")\n\n@ExperimentalUnsignedTypes\n\npublic actual fun UIntArray.asList(): List<UInt> {\n
return object : AbstractList<UInt>(),
RandomAccess {\n    override val size: Int get() = this@asList.size\n    override fun isEmpty(): Boolean =
this@asList.isEmpty()\n    override fun contains(element: UInt): Boolean = this@asList.contains(element)\n
override fun get(index: Int): UInt {\n        AbstractList.checkElementIndex(index, size)\n        return
this@asList[index]\n    }\n    override fun indexOf(element: UInt): Int {\n
@Suppress("USELESS_CAST")\n        if ((element as Any?) !is UInt) return -1\n        return
this@asList.indexOf(element)\n    }\n    override fun lastIndexOf(element: UInt): Int {\n
@Suppress("USELESS_CAST")\n        if ((element as Any?) !is UInt) return -1\n        return

```


annotation class library(public val name: String = "")@Target(CLASS)internal

annotation class marker\n/**\n * Gives a declaration (a function, a property or a class) specific name in JavaScript.\n *\n * This may be useful in the following cases:\n *\n * * There are two functions for which the compiler gives same name in JavaScript, you can mark one with `@JsName(...)` to prevent the compiler from reporting error.\n *\n * * You are writing a JavaScript library in Kotlin. The compiler produces mangled names for functions with parameters, which is unnatural for usual JavaScript developer.\n *\n * You can put `@JsName(...)` on functions you want to be available from JavaScript.\n *\n * * For some reason you want to rename declaration, e.g. there's common term in JavaScript for a concept provided by the declaration, which is uncommon in Kotlin.\n *\n * Example:\n *\n * ``` kotlin\n * class Person(val name: String) {\n * fun hello() {\n * println("Hello \$name!")\n * }\n * @JsName("helloWithGreeting")\n * fun hello(greeting: String) {\n * println("\$greeting \$name!")\n * }\n * }\n * ```\n *\n * @property name the name which compiler uses both for declaration itself and for all references to the declaration. It's required to denote a valid JavaScript identifier.\n *\n */\n\n*/\n\n@Retention(AnnotationRetention.BINARY)\n@Target(CLASS, FUNCTION, PROPERTY, CONSTRUCTOR, PROPERTY_GETTER, PROPERTY_SETTER)\npublic actual annotation class JsName(actual val name: String)\n\n/**\n * Denotes an `external` declaration that must be imported from native JavaScript library.\n *\n * The compiler produces the code relevant for the target module system, for example, in case of CommonJS, it will import the declaration via the `require(...)` function.\n *\n * The annotation can be used on top-level external declarations (classes, properties, functions) and files.\n *\n * In case of file (which can't be `external`) the following rule applies: all the declarations in\n *\n * the file must be `external`. By applying `@JsModule(...)` on a file you tell the compiler to import a JavaScript object that contain all the declarations from the file.\n *\n * Example:\n *\n * ``` kotlin\n * @JsModule("jquery")\n * external abstract class JQuery() {\n * // some declarations here\n * }\n *\n * @JsModule("jquery")\n * external fun JQuery(element: Element): JQuery\n * ```\n *\n * @property import name of a module to import declaration from. It is not interpreted by the Kotlin compiler, it's passed as is directly to the target module system.\n *\n * @see JsNonModule\n\n*/\n\n@Retention(AnnotationRetention.BINARY)\n@Target(CLASS, PROPERTY, FUNCTION, FILE)\npublic annotation class JsModule(val import: String)\n\n/**\n * Denotes an `external` declaration that can be used without module system.\n *\n * By default, an `external` declaration is available regardless your target module system.\n *\n * However, by applying [JsModule] annotation you can make a declaration unavailable to *plain* module system.\n *\n * Some JavaScript libraries are distributed both as a standalone downloadable piece of JavaScript and as a module available as an npm package.\n *\n * To tell the Kotlin compiler to accept both cases, you can augment [JsModule] with the `@JsNonModule` annotation.\n *\n * For example:\n *\n * ``` kotlin\n * @JsModule("jquery")\n * @JsNonModule\n * @JsName("\$")\n * external abstract class JQuery()\n * {\n * // some declarations here\n * }\n *\n * @JsModule("jquery")\n * @JsNonModule\n * @JsName("\$")\n * external fun JQuery(element: Element): JQuery\n * ```\n *\n * @see JsModule\n\n*/\n\n@Retention(AnnotationRetention.BINARY)\n@Target(CLASS, PROPERTY, FUNCTION, FILE)\npublic annotation class JsNonModule\n\n/**\n * Adds prefix to `external` declarations in a source file.\n *\n * JavaScript does not have concept of packages (namespaces). They are usually emulated by nested objects.\n *\n * The compiler turns references to `external` declarations either to plain unprefix names (in case of *plain* modules) or to plain imports.\n *\n * However, if a JavaScript library provides its declarations in packages, you won't be satisfied with this.\n *\n * You can tell the compiler to generate additional prefix before references to `external` declarations using the `@JsQualifier(...)` annotation.\n *\n * Note that a file marked with the `@JsQualifier(...)` annotation can't contain non-`external` declarations.\n *\n * Example:\n *\n * ``` kotlin\n * @file:JsQualifier("my.jsPackageName")\n * package some.kotlinPackage\n * external fun foo(x: Int)\n * external fun bar(): String\n * ```\n *\n * @property value the qualifier to add to the declarations in the generated code. It must be a sequence of valid JavaScript identifiers separated by the `.` character.\n *\n * Examples of valid qualifiers are: `foo`, `bar.Baz`, `_.\$.f`. \n *\n * @see JsModule\n\n*/

```

*^@Retention(AnnotationRetention.BINARY)^@Target(AnnotationTarget.FILE)^npublic
annotation class JsQualifier(val value: String)^n/**^n * Exports top-level declaration on JS platform.^n *^n *
Compiled module exposes declarations that are marked with this annotation without name mangling.^n *^n * This
annotation can be applied to either files or top-level declarations.^n *^n * It is currently prohibited to export the
following kinds of declarations:^n *^n * * `expect` declarations^n * * inline functions with reified type
parameters^n * * suspend functions^n * * secondary constructors without `@JsName`^n * * extension
properties^n * * enum classes^n * * annotation classes^n * * Signatures of exported declarations must only
contain `exportable` types:^n *^n * * `dynamic`, `Any`, `String`, `Boolean`, `Byte`, `Short`, `Int`, `Float`,
`Double`^n * * `BooleanArray`, `ByteArray`, `ShortArray`, `IntArray`, `FloatArray`, `DoubleArray`^n * *
`Array<exportable-type>`^n * * Function types with exportable parameters and return types^n
* * `external` or `@JsExport` classes and interfaces^n * * Nullable counterparts of types above^n * * Unit return
type. Must not be nullable^n *^n * This annotation is experimental, meaning that restrictions mentioned above are
subject to change.^n *^@ExperimentalJsExport^@Retention(AnnotationRetention.BINARY)^@Target(CLASS,
PROPERTY, FUNCTION, FILE)^@SinceKotlin("1.3")^npublic actual annotation class JsExport^n/**^n *
Forces a top-level property to be initialized eagerly, opposed to lazily on the first access to file and/or property.^n
*^@ExperimentalStdlibApi^@Retention(AnnotationRetention.BINARY)^@Target(AnnotationTarget.PROPER
TY)^@SinceKotlin("1.6")^@Deprecated("This annotation is a temporal migration assistance and may be
removed in the future releases, please consider filing an issue about the case where it is needed")^npublic annotation
class EagerInitialization^n","/**^n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.^n
* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.^n
*^@npackage kotlin.jvm^@n// these are used in common generated code in stdlib^@n// TODO: find how to
deprecate these ones^@Target(AnnotationTarget.FIELD)^@Retention(AnnotationRetention.SOURCE)^npublic
actual annotation class Volatile^@Target(AnnotationTarget.FUNCTION,
AnnotationTarget.PROPERTY_GETTER,
AnnotationTarget.PROPERTY_SETTER)^@Retention(AnnotationRetention.SOURCE)^npublic actual annotation
class Synchronized^n","/**^n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language
contributors.^n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.^n *^@npackage kotlin.collections^@n/**^n * Provides a skeletal implementation of the
[MutableCollection] interface.^n *^n * @param E the type of elements contained in the collection. The collection is
invariant in its element type.^n
*^npublic actual abstract class AbstractMutableCollection<E> protected actual constructor() :
AbstractCollection<E>(), MutableCollection<E> {^n^n actual abstract override fun add(element: E): Boolean^@n^@n
actual override fun remove(element: E): Boolean {^n checkIsMutable()^@n val iterator = iterator()^@n
while (iterator.hasNext()) {^n if (iterator.next() == element) {^n iterator.remove()^@n return
true^@n }^@n }^@n return false^@n }^@n^@n actual override fun addAll(elements: Collection<E>): Boolean
{^n checkIsMutable()^@n var modified = false^@n for (element in elements) {^n if (add(element))
modified = true^@n }^@n return modified^@n }^@n^@n actual override fun removeAll(elements: Collection<E>):
Boolean {^n checkIsMutable()^@n return (this as MutableIterable<E>).removeAll { it in elements }^@n }^@n^@n
actual override fun retainAll(elements:
Collection<E>): Boolean {^n checkIsMutable()^@n return (this as MutableIterable<E>).removeAll { it !in
elements }^@n }^@n^@n actual override fun clear(): Unit {^n checkIsMutable()^@n val iterator = this.iterator()^@n
while (iterator.hasNext()) {^n iterator.next()^@n iterator.remove()^@n }^@n }^@n^@n
^@Deprecated("Provided so that subclasses inherit this function", level = DeprecationLevel.HIDDEN)^@n
^@JsName("toJSON")^@n protected fun toJSON(): Any = this.toArray()^@n^@n /**^n * This method is called
every time when a mutating method is called on this mutable collection.^n * Mutable collections that are built
(frozen) must throw `UnsupportedOperationException`.^n *^@n internal open fun checkIsMutable(): Unit {
}^@n}^@n","/**^n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.^n * Use of

```



```

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found in the license/LICENSE.txt file.
 * Based on GWT AbstractList
 * Copyright 2007 Google
Inc.
package kotlin.collections
 * Provides a skeletal implementation of the [MutableList]
interface.
 * @param E the type of elements contained in the list. The list is invariant in its element type.
 * public actual abstract class AbstractMutableList<E> protected actual constructor() :
AbstractMutableCollection<E>(), MutableList<E> {
    protected var modCount: Int = 0
    abstract override fun
add(index: Int, element: E): Unit
    abstract override fun removeAt(index: Int): E
    abstract override fun
set(index: Int, element: E): E
    /**
     * Adds the specified element to the end of this list.
     * @return
     `true` because the list is always modified as the result of this operation.
     */
    actual override fun add(element:
E): Boolean {
        checkIsMutable()
        add(size, element)
        return true
    }
    actual override fun addAll(index: Int, elements: Collection<E>): Boolean {
AbstractList.checkPositionIndex(index, size)
        checkIsMutable()
        var _index = index
        var changed
= false
        for (e in elements) {
            add(_index++, e)
            changed = true
        }
        return changed
    }
    actual override fun clear() {
        checkIsMutable()
        removeRange(0, size)
    }
    actual
override fun removeAll(elements: Collection<E>): Boolean {
        checkIsMutable()
        return removeAll { it in
elements }
    }
    actual override fun retainAll(elements: Collection<E>): Boolean {
        checkIsMutable()
        return removeAll { it !in
elements }
    }
    actual override fun iterator(): MutableIterator<E> =
IteratorImpl()
    actual override fun contains(element: E): Boolean = indexOf(element) >= 0
    actual
override fun indexOf(element: E): Int {
        for (index in 0..lastIndex) {
            if (get(index) == element) {
                return index
            }
        }
        return -1
    }
    actual
override fun lastIndexOf(element: E): Int {
        for (index in lastIndex downTo 0) {
            if (get(index) ==
element) {
                return index
            }
        }
        return -1
    }
    actual override fun listIterator():
MutableListIterator<E> = listIterator(0)
    actual override fun listIterator(index: Int): MutableListIterator<E> =
ListIteratorImpl(index)
    actual override fun subList(fromIndex: Int, toIndex: Int): MutableList<E> =
SubList(this, fromIndex, toIndex)
    /**
     * Removes the range of elements from this list starting from
[fromIndex] and ending with but not including [toIndex].
     */
    protected open fun removeRange(fromIndex:
Int, toIndex: Int) {
        val iterator = listIterator(fromIndex)
        repeat(toIndex - fromIndex) {
            iterator.next()
            iterator.remove()
        }
    }
    /**
     * Compares this list with another list instance with the ordered structural equality.
     * @return true, if [other] instance is a [List] of the same size, which contains the same elements in the same
order.
     */
    override fun equals(other: Any?): Boolean {
        if (other === this) return true
        if (other !is
List<*>) return false
        return AbstractList.orderedEquals(this, other)
    }
    /**
     * Returns the hash
code value for this list.
     */
    override fun hashCode(): Int = AbstractList.orderedHashCode(this)
    private open inner class IteratorImpl : MutableIterator<E> {
        /** the index of the item that will be returned on
the next call to [next]()
        */
        protected var index = 0
        /** the index of the item that was returned on the
previous call to [next]()
        * or [ListIterator.previous]() (for `ListIterator`),
        * -1 if no such item
exists
        */
        protected var last = -1
        override fun hasNext(): Boolean = index < size
        override fun
next(): E {
            if (!hasNext()) throw NoSuchElementException()
            last = index++
            return
get(last)
        }
        override fun remove() {
            check(last != -1) { "Call next() or previous() before
removing element from the iterator." }
            removeAt(last)
            index = last
            last = -1
        }
    }
    /**
     * Implementation of `MutableListIterator` for abstract lists.
     */
    private inner class
ListIteratorImpl(index: Int) : IteratorImpl(), MutableListIterator<E> {
        init {
AbstractList.checkPositionIndex(index, this@AbstractMutableList.size)
            this.index = index
        }
        override fun hasPrevious(): Boolean = index > 0
        override fun nextIndex(): Int = index
        override fun
previous(): E {
            if (!hasPrevious()) throw NoSuchElementException()
            last = --index
            return get(last)
        }
        override fun previousIndex(): Int = index - 1
        override fun add(element: E) {
            add(index,

```



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return true\n                }\n                return false\n                }\n\n                override val size: Int get() =
this@AbstractMutableMap.size\n                override fun checkIsMutable(): Unit =
this@AbstractMutableMap.checkIsMutable()\n                }\n                }\n                return _keys!!\n                }\n\n                actual
abstract override fun put(key: K, value: V): V?\n                actual override fun putAll(from:
Map<out K, V>) {\n                checkIsMutable()\n                for ((key, value) in from) {\n                put(key, value)\n                }\n
}\n\n                private var _values: MutableCollection<V>? = null\n                actual override val values: MutableCollection<V>\n
                get() {\n                if (_values == null) {\n                _values = object : AbstractMutableCollection<V>() {\n
                override fun add(element: V): Boolean = throw UnsupportedOperationException(\"Add is not supported on
values\")\n                override fun clear() = this@AbstractMutableMap.clear()\n                override operator
fun contains(element: V): Boolean = containsValue(element)\n                override operator fun iterator():
MutableIterator<V> {\n                val entryIterator = entries.iterator()\n                return object :
MutableIterator<V> {\n                override fun hasNext(): Boolean = entryIterator.hasNext()\n
                override fun
                next(): V = entryIterator.next().value\n                override fun remove() = entryIterator.remove()\n
                }\n                }\n                }\n                override val size: Int get() = this@AbstractMutableMap.size\n
                }\n\n                override fun checkIsMutable(): Unit = this@AbstractMutableMap.checkIsMutable()\n                }\n                }\n
return _values!!\n                }\n\n                actual override fun remove(key: K): V? {\n                checkIsMutable()\n                val iter =
entries.iterator()\n                while (iter.hasNext()) {\n                val entry = iter.next()\n                val k = entry.key\n                if
(key == k) {\n                val value = entry.value\n                iter.remove()\n                return value\n                }\n
}\n                return null\n                }\n\n                /**\n                * This method is called every time when a mutating method is called on
this mutable map.\n                * Mutable maps that are built (frozen) must throw `UnsupportedOperationException`.\n
                */\n                internal open fun checkIsMutable(): Unit {\n                }\n                }\n\n                /*\n                * Copyright 2010-2020 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n                * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n                */\n                package kotlin.collections\n\n                /**\n                * Provides a skeletal
implementation of the [MutableSet] interface.\n                */\n                @param E the type of elements contained in the set. The set is
invariant in its element type.\n                */\n                public actual abstract class AbstractMutableSet<E> protected actual constructor()
: AbstractMutableCollection<E>(), MutableSet<E> {\n                /**\n                * Compares this set with another set instance
with the unordered structural equality.\n                */\n                * @return `true`, if [other] instance is a [Set] of the same size, all
elements of which are contained in this set.\n                */\n                override fun equals(other: Any?): Boolean {\n                if (other
=== this) return true\n                if (other !is
                Set<*>) return false\n                return AbstractSet.setEquals(this, other)\n                }\n                /**\n                * Returns the hash code
value for this set.\n                */\n                override fun hashCode(): Int = AbstractSet.unorderedHashCode(this)\n                }\n                }\n\n                /*\n                * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n                * Use of this source code is
governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n                */\n                package
kotlin.collections\n\n                /**\n                * Provides a [MutableList] implementation, which uses a resizable array as its backing
storage.\n                */\n                * This implementation doesn't provide a way to manage capacity, as backing JS array is resizable
itself.\n                * There is no speed advantage to pre-allocating array sizes in JavaScript, so this implementation does not
include any of the\n                * capacity and \"growth increment\" concepts.\n                */\n                public actual open class ArrayList<E>
internal constructor(private var array: Array<Any?>): AbstractMutableList<E>(), MutableList<E>,
                RandomAccess {\n                private var isReadOnly: Boolean = false\n                /**\n                * Creates an empty [ArrayList].\n
                */\n                */\n                public actual constructor(): this(emptyArray()) {\n                /**\n                * Creates an empty [ArrayList].\n
                */\n                * @param initialCapacity initial capacity (ignored)\n                */\n                public actual constructor(initialCapacity: Int) :
this(emptyArray()) {\n                /**\n                * Creates an [ArrayList] filled from the [elements] collection.\n
                */\n                */\n                public actual constructor(elements: Collection<E>) : this(elements.toArray<Any?>()) {\n                @PublishedApi\n
                internal fun build(): List<E> {\n                checkIsMutable()\n                isReadOnly = true\n                return this\n                }\n                /**
                * Does nothing in this ArrayList implementation.\n                */\n                public actual fun trimToSize() {\n                /**\n                * Does nothing in
this ArrayList implementation.\n                */\n                public actual fun ensureCapacity(minCapacity: Int) {\n                }\n                }\n\n                actual override
val size: Int get() = array.size\n                @Suppress(\"UNCHECKED_CAST\")\n

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    actual override fun get(index: Int): E = array[rangeCheck(index)] as E\n    actual override fun set(index: Int,
element: E): E {\n    checkIsMutable()\n    rangeCheck(index)\n    @Suppress("UNCHECKED_CAST")\n    return array[index].apply { array[index] = element } as E\n    }\n\n    actual override fun add(element: E): Boolean
{\n    checkIsMutable()\n    array.asDynamic().push(element)\n    modCount++\n    return true\n    }\n\n    actual override fun add(index: Int, element: E): Unit {\n    checkIsMutable()\n
array.asDynamic().splice(insertionRangeCheck(index), 0, element)\n    modCount++\n    }\n\n    actual override
fun addAll(elements: Collection<E>): Boolean {\n    checkIsMutable()\n    if (elements.isEmpty()) return
false\n\n    array += elements.toArray<Any?>()\n    modCount++\n    return true\n    }\n\n    actual
override fun addAll(index: Int, elements: Collection<E>): Boolean {\n
    checkIsMutable()\n    insertionRangeCheck(index)\n\n    if (index == size) return addAll(elements)\n    if
(elements.isEmpty()) return false\n    when (index) {\n        size -> return addAll(elements)\n        0 -> array
= elements.toArray<Any?>() + array\n        else -> array = array.copyOfRange(0,
index).asDynamic().concat(elements.toArray<Any?>(), array.copyOfRange(index, size))\n    }\n\n    modCount++\n    return true\n    }\n\n    actual override fun removeAt(index: Int): E {\n    checkIsMutable()\n
rangeCheck(index)\n    modCount++\n    return if (index == lastIndex)\n        array.asDynamic().pop()\n    else\n        array.asDynamic().splice(index, 1)[0]\n    }\n\n    actual override fun remove(element: E): Boolean {\n
    checkIsMutable()\n    for (index in array.indices) {\n        if (array[index] == element) {\n
array.asDynamic().splice(index, 1)\n            modCount++\n
            return true\n        }\n    }\n    return false\n    }\n\n    override fun removeRange(fromIndex: Int,
toIndex: Int) {\n    checkIsMutable()\n    modCount++\n    array.asDynamic().splice(fromIndex, toIndex -
fromIndex)\n    }\n\n    actual override fun clear() {\n    checkIsMutable()\n    array = emptyArray()\n
modCount++\n    }\n\n    actual override fun indexOf(element: E): Int = array.indexOf(element)\n\n    actual
override fun lastIndexOf(element: E): Int = array.lastIndexOf(element)\n\n    override fun toString() =
arrayToString(array)\n\n    @Suppress("UNCHECKED_CAST")\n    override fun <T> toArray(array: Array<T>):
Array<T> {\n    if (array.size < size) {\n        return toArray() as Array<T>\n    }\n    (this.array as
Array<T>).copyInto(array)\n    if (array.size > size) {\n        array[size] = null as T // null-terminate\n
    }\n    return array\n    }\n\n    override fun
toArray(): Array<Any?> {\n    return js("[ ]").slice.call(array)\n    }\n\n    internal override fun
checkIsMutable() {\n    if (isReadOnly) throw UnsupportedOperationException()\n    }\n\n    private fun
rangeCheck(index: Int) = index.apply {\n    AbstractList.checkElementIndex(index, size)\n    }\n\n    private fun
insertionRangeCheck(index: Int) = index.apply {\n    AbstractList.checkPositionIndex(index, size)\n    }, "/*\n
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is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.collections\n\ninternal fun <T> sortArrayWith(array: Array<out T>, comparison: (T, T) -> Int) {\n    if
(getStableSortingIsSupported()) {\n        array.asDynamic().sort(comparison)\n    } else {\n
mergeSort(array.unsafeCast<Array<T>>(), 0, array.lastIndex, Comparator(comparison))\n    }\n}\n\ninternal fun
<T> sortArrayWith(array:
Array<out T>, comparator: Comparator<in T>) {\n    if (getStableSortingIsSupported()) {\n        val comparison = {
a: T, b: T -> comparator.compare(a, b) }\n        array.asDynamic().sort(comparison)\n    } else {\n
mergeSort(array.unsafeCast<Array<T>>(), 0, array.lastIndex, comparator)\n    }\n}\n\ninternal fun <T>
sortArrayWith(array: Array<out T>, fromIndex: Int, toIndex: Int, comparator: Comparator<in T>) {\n    if
(fromIndex < toIndex - 1) {\n        mergeSort(array.unsafeCast<Array<T>>(), fromIndex, toIndex - 1, comparator)\n
    }\n}\n\ninternal fun <T : Comparable<T>> sortArray(array: Array<out T>) {\n    if
(getStableSortingIsSupported()) {\n        val comparison = { a: T, b: T -> a.compareTo(b) }\n        array.asDynamic().sort(comparison)\n    } else {\n        mergeSort(array.unsafeCast<Array<T>>(), 0,
array.lastIndex, naturalOrder())\n    }\n}\n\nprivate var _stableSortingIsSupported: Boolean? = null\nprivate fun
getStableSortingIsSupported(): Boolean

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```

    {
        _stableSortingIsSupported?.let { return it }
        _stableSortingIsSupported = false
        val array =
            js("[]").unsafeCast<Array<Int>>()
        // known implementations may use stable sort for arrays of up to 512
        // elements
        // so we create slightly more elements to test stability
        for (index in 0 until 600)
            array.asDynamic().push(index)
        val comparison = { a: Int, b: Int -> (a and 3) - (b and 3) }
        array.asDynamic().sort(comparison)
        for (index in 1 until array.size) {
            val a = array[index - 1]
            val b = array[index]
            if ((a and 3) == (b and 3) && a >= b) return false
        }
        _stableSortingIsSupported = true
        return true
    }

    private fun <T> mergeSort(array: Array<T>, start: Int, endInclusive: Int, comparator:
    Comparator<in T>) {
        val buffer = arrayOfNulls<Any?>(array.size).unsafeCast<Array<T>>()
        val result =
            mergeSort(array, buffer, start, endInclusive, comparator)
        if (result !== array) {
            for (i
            in start..endInclusive) array[i] = result[i]
        }
    }

    // Both start and end are inclusive indices.
    private fun <T>
    mergeSort(array: Array<T>, buffer: Array<T>, start: Int, end: Int, comparator: Comparator<in T>): Array<T> {
        if (start == end) {
            return array
        }
        val median = (start + end) / 2
        val left = mergeSort(array, buffer, start, median, comparator)
        val right = mergeSort(array, buffer, median + 1, end, comparator)
        val target = if (left === buffer) array else buffer
        // Merge.
        var leftIndex = start
        var rightIndex = median + 1
        for (i in start..end) {
            when {
                leftIndex <= median && rightIndex <= end -> {
                    val leftValue = left[leftIndex]
                    val rightValue = right[rightIndex]
                    if (comparator.compare(leftValue, rightValue) <= 0) {
                        target[i] = leftValue
                        leftIndex++
                    } else {
                        target[i] = rightValue
                        rightIndex++
                    }
                }
                leftIndex <= median -> {
                    target[i] = left[leftIndex]
                    leftIndex++
                }
                else /* rightIndex <= end */ -> {
                    target[i] = right[rightIndex]
                    rightIndex++
                }
            }
        }
        // TODO: Fix KT-31506
    }
}

return target
}

/*
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 * license/LICENSE.txt file.
 */
package
kotlin.collections

@OptIn(ExperimentalUnsignedTypes::class)
@SinceKotlin("1.3")
@kotlin.js.JsName("contentDeepHashCodeImpl")
internal fun <T> Array<out T>?.contentDeepHashCodeImpl(): Int {
    if (this == null) return 0
    var result = 1
    for (element in this) {
        val elementHash = when {
            element == null -> 0
            isArrayish(element) -> (element.unsafeCast<Array<*>>()).contentDeepHashCodeImpl()
            element is UByteArray -> element.contentHashCode()
            element is UShortArray -> element.contentHashCode()
            element is UIntArray -> element.contentHashCode()
            element is ULongArray -> element.contentHashCode()
            else -> element.hashCode()
        }
        result = 31 * result + elementHash
    }
    return result
}

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 * can be found in the license/LICENSE.txt file.
 */
package kotlin.collections

internal interface
EqualityComparator {
    /**
     * Subclasses must override to return a value indicating
     * whether or not two
     * keys or values are equal.
     */
    abstract fun equals(value1: Any?, value2: Any?): Boolean

    /**
     * Subclasses must override to return the hash code of a given key.
     */
    abstract fun
    getHashCode(value: Any?): Int

    object HashCode : EqualityComparator {
        override fun equals(value1: Any?, value2: Any?): Boolean = value1 == value2
        override fun getHashCode(value: Any?): Int = value?.hashCode() ?: 0
    }
}

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 * license/LICENSE.txt file.
 */
package kotlin.collections

import kotlin.collections.MutableMap.MutableEntry

/**
 * Hash table based
 * implementation of the [MutableMap] interface.
 * This implementation makes no guarantees regarding the
 * order of enumeration of [keys], [values] and [entries] collections.
 * Classes that extend HashMap and
 * implement `build()`
 * (freezing) operation
 * have to make sure mutating methods check `checkIsMutable`.
 */
public actual open class
HashMap<K, V> : AbstractMutableMap<K, V>, MutableMap<K, V> {
    private inner class EntrySet :

```

```

AbstractEntrySet<MutableEntry<K, V>, K, V>() {\n\n    override fun add(element: MutableEntry<K, V>):
Boolean = throw UnsupportedOperationException("Add is not supported on entries")\n    override fun clear()
{\n        this@HashMap.clear()\n    }\n\n    override fun containsEntry(element: Map.Entry<K, V>): Boolean
= this@HashMap.containsEntry(element)\n\n    override operator fun iterator():
MutableIterator<MutableEntry<K, V>> = internalMap.iterator()\n\n    override fun removeEntry(element:
Map.Entry<K, V>): Boolean {\n        if (contains(element)) {\n            this@HashMap.remove(element.key)\n
        }\n        return true\n    }\n\n    return false\n    }\n\n    override val size: Int get() =
this@HashMap.size\n
}\n\n\n    /**\n     * Internal implementation of the map: either string-based or hashCode-based.\n     */\n    private
val internalMap: InternalMap<K, V>\n\n    private val equality: EqualityComparator\n\n    internal
constructor(internalMap: InternalMap<K, V>) : super() {\n        this.internalMap = internalMap\n        this.equality =
internalMap.equality\n    }\n\n\n    /**\n     * Constructs an empty [HashMap] instance.\n     */\n    actual constructor()
: this(InternalHashMap(EqualityComparator.HashCode))\n\n\n    /**\n     * Constructs an empty [HashMap]
instance.\n     */\n    * @param initialCapacity the initial capacity (ignored)\n     * @param loadFactor the load
factor (ignored)\n     */\n    * @throws IllegalArgumentException if the initial capacity or load factor are negative\n
*/\n    actual constructor(initialCapacity: Int, loadFactor: Float) : this() {\n        // This implementation of HashMap
has no need of load factors or capacities.\n        require(initialCapacity
>= 0) {\n            "Negative initial capacity: $initialCapacity"\n        }\n        require(loadFactor >= 0) {\n            "Non-positive load factor:
$loadFactor"\n        }\n    }\n\n\n    actual constructor(initialCapacity: Int) : this(initialCapacity, 0.0f)\n\n\n    /**\n     *
Constructs an instance of [HashMap] filled with the contents of the specified [original] map.\n     */\n    actual
constructor(original: Map<out K, V>) : this() {\n        this.putAll(original)\n    }\n\n\n    actual override fun clear() {\n
        internalMap.clear()\n    }\n\n\n    structureChanged(this)\n\n\n    actual override fun containsKey(key: K): Boolean
= internalMap.containsKey()\n\n\n    actual override fun containsValue(value: V): Boolean = internalMap.any {\n
        equality.equals(it.value, value)\n    }\n\n\n    private var _entries: MutableSet<MutableMap.MutableEntry<K, V>>? =
null\n\n    actual override val entries: MutableSet<MutableMap.MutableEntry<K, V>>\n        get() {\n            if
(_entries == null) {\n                _entries
= createEntrySet()\n            }\n            return _entries!!\n        }\n\n\n    internal open fun createEntrySet():
MutableSet<MutableMap.MutableEntry<K, V>> = EntrySet()\n\n\n    actual override operator fun get(key: K): V? =
internalMap.get(key)\n\n\n    actual override fun put(key: K, value: V): V? = internalMap.put(key, value)\n\n\n    actual
override fun remove(key: K): V? = internalMap.remove(key)\n\n\n    actual override val size: Int get() =
internalMap.size\n\n\n\n    /**\n     * Constructs the specialized implementation of [HashMap] with [String] keys, which
stores the keys as properties of\n     */\n    * JS object without hashing them.\n     */\n    public fun <V> stringMapOf(vararg pairs:
Pair<String, V>): HashMap<String, V> {\n        return HashMap<String,
V>(InternalStringMap(EqualityComparator.HashCode)).apply {\n            putAll(pairs)\n        }\n    }\n\n\n\n    /**\n     * Copyright 2010-2018
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Apache 2.0 license that can be found
in the license/LICENSE.txt file.\n     */\n    * Based on GWT HashSet\n     */\n    * Copyright 2008 Google Inc.\n
*/\n\n\n    /**\n     * The implementation of the [MutableSet] interface, backed by a
[HashMap] instance.\n     */\n    * // Classes that extend HashSet and implement `build()` (freezing) operation\n     */\n    * // have to
make sure mutating methods check `checkIsMutable`.\n     */\n    public actual open class HashSet<E> :
AbstractMutableSet<E>, MutableSet<E> {\n\n\n        internal val map: HashMap<E, Any>\n\n\n        /**\n         * Constructs a
new empty [HashSet].\n         */\n        actual constructor() {\n            map = HashMap<E, Any>()\n        }\n\n\n        /**\n         *
Constructs a new [HashSet] filled with the elements of the specified collection.\n         */\n        actual
constructor(elements: Collection<E>) {\n            map = HashMap<E, Any>(elements.size)\n            addAll(elements)\n
        }\n\n\n        /**\n         * Constructs a new empty [HashSet].\n         */\n        * @param initialCapacity the initial capacity
(ignored)\n         */\n        * @param
loadFactor the load factor (ignored)\n         */\n        * @throws IllegalArgumentException if the initial capacity or
load factor are negative\n         */\n        actual constructor(initialCapacity: Int, loadFactor: Float) {\n            map =

```

```

HashMap<E, Any>(initialCapacity, loadFactor)\n } \n\n actual constructor(initialCapacity: Int) :
this(initialCapacity, 0.0f)\n\n /**\n * Protected constructor to specify the underlying map. This is used by\n *
LinkedHashSet.\n\n * @param map underlying map to use.\n */\n internal constructor(map: HashMap<E,
Any>) {\n this.map = map\n }\n\n actual override fun add(element: E): Boolean {\n val old =
map.put(element, this)\n return old == null\n }\n\n actual override fun clear() {\n map.clear()\n }\n\n//
public override fun clone(): Any {\n// return HashSet<E>(this)\n// }\n\n actual override operator fun
contains(element: E): Boolean = map.containsKey(element)\n\n actual
override fun isEmpty(): Boolean = map.isEmpty()\n\n actual override fun iterator(): MutableIterator<E> =
map.keys.iterator()\n\n actual override fun remove(element: E): Boolean = map.remove(element) != null\n\n
actual override val size: Int get() = map.size\n}\n\n/**\n * Creates a new instance of the specialized
implementation of [HashSet] with the specified [String] elements,\n * which elements the keys as properties of JS
object without hashing them.\n */\n\npublic fun stringSetOf(vararg elements: String): HashSet<String> {\n return
HashSet(stringMapOf<Any>()).apply { addAll(elements) }\n}\n\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\n\n *\n * Based on GWT InternalHashMap\n * Copyright
2008 Google Inc.\n */\n\npackage kotlin.collections\n\nimport
kotlin.collections.MutableMap.MutableEntry\nimport kotlin.collections.AbstractMutableMap.SimpleEntry\n\n\n/**\n
* A simple wrapper around JavaScriptObject to provide [java.util.Map]-like semantics for any\n * key type.\n *\n
*\n * Implementation notes:\n *\n *\n * A key's hashCode is the index in backingMap which should contain that
key. Since several keys may\n * have the same hash, each value in hashCodeMap is actually an array containing all
entries whose\n * keys share the same hash.\n */\n\ninternal class InternalHashMap<K, V>(override val equality:
EqualityComparator) : InternalMap<K, V> {\n\n private var backingMap: dynamic = createJsMap()\n\n override
var size: Int = 0\n\n private set\n\n override fun put(key: K, value: V): V? {\n val hashCode =
equality.getHashCode(key)\n val chainOrEntry = getChainOrEntryOrNull(hashCode)\n if (chainOrEntry
== null) {\n // This is a new chain, put it to the map.\n backingMap[hashCode] = SimpleEntry(key,
value)\n } else {\n
if (chainOrEntry !is Array<*>) {\n // It is an entry\n val entry: SimpleEntry<K, V> =
chainOrEntry\n if (equality.equals(entry.key, key)) {\n return entry.setValue(value)\n } else {\n
backingMap[hashCode] = arrayOf(entry, SimpleEntry(key, value))\n size++\n return null\n }\n } else {\n // Chain already exists, perhaps key also exists.\n
val chain: Array<MutableEntry<K, V>> = chainOrEntry\n val entry = chain.findEntryInChain(key)\n if (entry != null) {\n return entry.setValue(value)\n }\n
chain.asDynamic().push(SimpleEntry(key, value))\n }\n }\n size++\n\n// structureChanged(host)\n
return null\n }\n\n override fun remove(key: K): V? {\n val hashCode = equality.getHashCode(key)\n
val chainOrEntry = getChainOrEntryOrNull(hashCode) ?: return null\n if (chainOrEntry !is Array<*>) {\n
val entry: MutableEntry<K, V> = chainOrEntry\n if (equality.equals(entry.key, key)) {\n
jsDeleteProperty(backingMap, hashCode)\n size--\n return entry.value\n } else {\n
return null\n }\n } else {\n val chain: Array<MutableEntry<K, V>> = chainOrEntry\n for
(index in chain.indices) {\n val entry = chain[index]\n if (equality.equals(key, entry.key)) {\n
if (chain.size == 1) {\n chain.asDynamic().length = 0\n // remove the whole
array\n jsDeleteProperty(backingMap, hashCode)\n } else {\n // splice out
the entry we're removing\n chain.asDynamic().splice(index,
1)\n }\n size--\n\n// structureChanged(host)\n return entry.value\n }\n }\n }\n return null\n }\n\n override fun clear() {\n backingMap = createJsMap()\n
size = 0\n }\n\n override fun contains(key: K): Boolean = getEntry(key) != null\n\n override fun get(key: K):
V? = getEntry(key)?.value\n\n private fun getEntry(key: K): MutableEntry<K, V>? {\n val chainOrEntry =
getChainOrEntryOrNull(equality.getHashCode(key)) ?: return null\n if (chainOrEntry !is Array<*>) {\n
val entry: MutableEntry<K, V> = chainOrEntry\n if (equality.equals(entry.key, key)) {\n return

```

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entry\n      } else {\n          return null\n      }\n      } else {\n          val chain: Array<MutableEntry<K,
V>> = chainOrEntry\n          return chain.findEntryInChain(key)\n      }\n      }\n      private fun
Array<MutableEntry<K, V>>.findEntryInChain(key: K): MutableEntry<K, V>? =\n      firstOrNull { entry ->
equality.equals(entry.key, key) }\n      override fun iterator(): MutableIterator<MutableEntry<K, V>> {\n
return object : MutableIterator<MutableEntry<K, V>> {\n          var state = -1 // -1 not ready, 0 - ready, 1 -
done\n          val keys: Array<String> = js("Object").keys(backingMap)\n          var keyIndex = -1\n
var chainOrEntry: dynamic = null\n          var isChain = false\n          var itemIndex = -1\n          var lastEntry:
MutableEntry<K, V>? = null\n          private fun computeNext(): Int {\n              if (chainOrEntry != null &&
isChain) {\n                  val chainSize: Int = chainOrEntry.unsafeCast<Array<MutableEntry<K, V>>>().size\n
if (++itemIndex < chainSize)\n                      return 0\n                  }\n                  if (++keyIndex < keys.size)
{\n                      chainOrEntry
= backingMap[keys[keyIndex]]\n                      isChain = chainOrEntry is Array<*>\n                      itemIndex = 0\n
return 0\n                  } else {\n                      chainOrEntry = null\n                      return 1\n                  }\n
}\n          override fun hasNext(): Boolean {\n              if (state == -1)\n                  state = computeNext()\n
return state == 0\n          }\n          override fun next(): MutableEntry<K, V> {\n              if (!hasNext())
throw NoSuchElementException()\n              val lastEntry = if (isChain) {\n                  chainOrEntry.unsafeCast<Array<MutableEntry<K, V>>>()[itemIndex]\n              } else {\n                  chainOrEntry.unsafeCast<MutableEntry<K, V>>()\n              }\n              this.lastEntry = lastEntry\n
state = -1\n              return lastEntry\n          }\n          override fun remove() {\n              checkNotNull(lastEntry)\n              this@InternalHashMap.remove(lastEntry!!.key)\n              lastEntry =
null\n              // the chain being iterated just got modified by InternalHashMap.remove\n              itemIndex-
-1\n          }\n          }\n          }\n      private fun getChainOrEntryOrNull(hashCode: Int): dynamic {\n          val
chainOrEntry = backingMap[hashCode]\n          return if (chainOrEntry === undefined) null else chainOrEntry\n
}\n      }\n      "\n", /*\n      * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n      * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n      *^/\n      *package kotlin.collections\n      */\n      *^/\n      * The common interface of [InternalStringMap] and
[InternalHashMap].\n      */\n      *internal interface InternalMap<K, V> :
MutableIterable<MutableMap.MutableEntry<K, V>> {\n          val equality: EqualityComparator\n          val size: Int\n
operator fun contains(key: K): Boolean\n
operator fun get(key: K): V?\n          fun put(key: K, value: V): V?\n          fun remove(key: K): V?\n          fun clear():
Unit\n          fun createJsMap(): dynamic {\n              val result = js("Object.create(null)")\n              // force to switch object
representation to dictionary mode\n              result["foo"] = 1\n              jsDeleteProperty(result, "foo")\n              return
result\n          }\n      }\n      "\n", /*\n      * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n      * Use of
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*/\n      *^/\n      *^/\n      * Based on GWT InternalStringMap\n      * Copyright 2008 Google Inc.\n      */\n      *^/\n      *package
kotlin.collections\n      */\n      *import kotlin.collections.MutableMap.MutableEntry\n      */\n      *^/\n      * A simple wrapper around
JavaScript Map for key type is string.\n      */\n      *^/\n      * Though this map is instantiated only with K=String, the K type is not
fixed to String statically,\n      */\n      * because we want to have it erased to Any? in order not to
generate type-safe override bridges for\n      */\n      * [get], [contains], [remove] etc, if they ever are generated.\n      */\n      *^/\n      *internal
class InternalStringMap<K, V>(override val equality: EqualityComparator) : InternalMap<K, V> {\n          private var
backingMap: dynamic = createJsMap()\n          override var size: Int = 0\n          private set\n          // /**\n          // * A mod
count to track 'value' replacements in map to ensure that the 'value' that we have in the\n          // * iterator entry is
guaranteed to be still correct.\n          // * This is to optimize for the common scenario where the values are not modified
during\n          // * iterations where the entries are never stale.\n          // */\n          //^/\n          private var valueMod: Int = 0\n          override
operator fun contains(key: K): Boolean {\n              if (key !is String) return false\n              return backingMap[key] !==
undefined\n          }\n          override operator fun get(key: K): V? {\n              if (key !is String) return null\n              val value =
backingMap[key]\n              return if (value

```



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!= undefined) value.unsafeCast<V>() else null\n    }\n\n    override fun put(key: K, value: V): V? {\n
require(key is String)\n    val oldValue = backingMap[key]\n    backingMap[key] = value\n\n    if (oldValue\n
=== undefined) {\n        size++\n//        structureChanged(host)\n        return null\n    } else {\n//\n
valueMod++\n        return oldValue.unsafeCast<V>()\n    }\n}\n\n    override fun remove(key: K): V? {\n
if (key !is String) return null\n    val value = backingMap[key]\n    if (value != undefined) {\n
jsDeleteProperty(backingMap, key)\n        size--\n//        structureChanged(host)\n        return\n
value.unsafeCast<V>()\n    } else {\n//        valueMod++\n        return null\n    }\n}\n}\n\n    override fun\n
clear() {\n    backingMap = createJsMap()\n    size = 0\n}\n}\n\n    override fun iterator():\n
MutableIterator<MutableEntry<K, V>> {\n
        return object : MutableIterator<MutableEntry<K, V>> {\n            private val keys: Array<String> =\n
js("Object").keys(backingMap)\n            private val iterator = keys.iterator()\n            private var lastKey: String? =\n
null\n\n            override fun hasNext(): Boolean = iterator.hasNext()\n\n            override fun next():\n
MutableEntry<K, V> {\n                val key = iterator.next()\n                lastKey = key\n
\n                @Suppress("UNCHECKED_CAST")\n                return newMapEntry(key as K)\n            }\n\n            override\n
fun remove() {\n                @Suppress("UNCHECKED_CAST")\n                this@InternalStringMap.remove(checkNotNull(lastKey) as K)\n            }\n        }\n\n        private fun\n
newMapEntry(key: K): MutableEntry<K, V> = object : MutableEntry<K, V> {\n            override val key: K get() =\n
key\n            override val value: V get() = this@InternalStringMap[key].unsafeCast<V>()\n\n            override fun\n
setValue(newValue:\n
V): V = this@InternalStringMap.put(key, newValue).unsafeCast<V>()\n\n            override fun hashCode(): Int =\n
AbstractMap.entryHashCode(this)\n\n            override fun toString(): String = AbstractMap.entryToString(this)\n\n
            override fun equals(other: Any?): Boolean = AbstractMap.entryEquals(this, other)\n        }\n}\n\n    /*\n
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by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n    /*\n
* Based on GWT\n
LinkedHashMap\n
* Copyright 2008 Google Inc.\n
*/\n\npackage kotlin.collections\n\nimport\n
kotlin.collections.MutableMap.MutableEntry\n\n/**\n
* Hash table based implementation of the [MutableMap]\n
interface, which additionally preserves the insertion order\n
* of entries during the iteration.\n
*/\n\n    /*\n
* The insertion\n
order is preserved by maintaining a doubly-linked list of all of its entries.\n
*/\n\npublic actual open class\n
LinkedHashMap<K, V> : HashMap<K,\n
V>, MutableMap<K, V> {\n\n    /**\n
* The entry we use includes next/prev pointers for a doubly-linked\n
circular\n
* list with a head node. This reduces the special cases we have to deal with\n
* in the list\n
operations.\n
\n
* Note that we duplicate the key from the underlying hash map so we can find\n
* the eldest\n
entry. The alternative would have been to modify HashMap so more\n
* of the code was directly usable here, but\n
this would have added some\n
* overhead to HashMap, or to reimplement most of the HashMap code here with\n
\n
* small modifications. Paying a small storage cost only if you use\n
* LinkedHashMap and minimizing code size\n
seemed like a better tradeoff\n
*/\n\n    private inner class ChainEntry<K, V>(key: K, value: V) :
AbstractMutableMap.SimpleEntry<K, V>(key, value) {\n        internal var next: ChainEntry<K, V>? = null\n
\n        internal var prev: ChainEntry<K, V>? = null\n\n        override fun setValue(newValue: V): V {\n
\n            this@LinkedHashMap.checkIsMutable()\n            return super.setValue(newValue)\n        }\n    }\n\n    private inner class EntrySet : AbstractEntrySet<MutableEntry<K, V>, K, V> {\n        private inner class\n
EntryIterator : MutableIterator<MutableEntry<K, V>> {\n            // The last entry that was returned from this\n
iterator.\n            private var last: ChainEntry<K, V>? = null\n            // The next entry to return from this\n
iterator.\n            private var next: ChainEntry<K, V>? = null\n            init {\n                next = head\n//\n
recordLastKnownStructure(map, this)\n            }\n\n            override fun hasNext(): Boolean {\n                return\n
next != null\n            }\n\n            override fun next(): MutableEntry<K, V> {\n//\n
checkStructuralChange(map, this)\n                if (!hasNext()) throw NoSuchElementException()\n\n                val\n
current = next!!\n                last = current\n

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        next = current.next.takeIf { it !== head } \n          return current \n          } \n          override fun remove()
{\n          check(last != null) \n          this@EntrySet.checkIsMutable() \n //
checkStructuralChange(map, this) \n          last!!.remove() \n          map.remove(last!!.key) \n //
recordLastKnownStructure(map, this) \n          last = null \n          } \n          } \n          override fun add(element:
MutableEntry<K, V>): Boolean = throw UnsupportedOperationException("Add is not supported on entries") \n
override fun clear() {\n          this@LinkedHashMap.clear() \n          } \n          override fun containsEntry(element:
Map.Entry<K, V>): Boolean = this@LinkedHashMap.containsEntry(element) \n          override operator fun
iterator(): MutableIterator<MutableEntry<K, V>> = EntryIterator() \n          override fun removeEntry(element:
Map.Entry<K, V>): Boolean {\n          checkIsMutable() \n
          if (contains(element)) {\n          this@LinkedHashMap.remove(element.key) \n          return true \n
          } \n          return false \n          } \n          override val size: Int get() = this@LinkedHashMap.size \n          override
fun checkIsMutable(): Unit = this@LinkedHashMap.checkIsMutable() \n          } \n          \n          /* \n          * The head of the insert
order chain, which is a doubly-linked circular \n          * list. \n          * \n          * The most recently inserted node is at the end of the
chain, ie. \n          * chain.prev. \n          * \n          * private var head: ChainEntry<K, V>? = null \n          * \n          * Add this node to
the end of the chain. \n          * \n          * private fun ChainEntry<K, V>.addToEnd() {\n          // This entry is not in the list. \n
          check(next == null && prev == null) \n          val _head = head \n          if (_head == null) {\n          head = this \n
          next = this \n          prev = this \n          } else {\n          // Chain is valid. \n          val _tail =
checkNotNull(_head.prev) \n
          // Update me. \n          prev = _tail \n          next = _head \n          // Update my new siblings: current head
and old tail \n          _head.prev = this \n          _tail.next = this \n          } \n          } \n          /* \n          * Remove this node from
the chain it is a part of. \n          * \n          * private fun ChainEntry<K, V>.remove() {\n          if (this.next === this) {\n
          // if this is single element, remove head \n          head = null \n          } else {\n          if (head === this) {\n          //
          if this is first element, move head to next \n          head = next \n          } \n          next!!.prev = prev \n
          prev!!.next = next \n          } \n          next = null \n          prev = null \n          } \n          } \n          /* \n          * The hashmap that keeps track of
our entries and the chain. Note that we \n          * duplicate the key here to eliminate changes to HashMap and minimize
the \n          * code here, at the expense of additional space. \n          * \n          * private
val map: HashMap<K, ChainEntry<K, V>> \n          private var isReadOnly: Boolean = false \n          \n          /* \n          *
Constructs an empty [LinkedHashMap] instance. \n          * \n          * actual constructor() : super() {\n          map =
HashMap<K, ChainEntry<K, V>>() \n          } \n          internal constructor(backingMap: HashMap<K, Any>) : super() {\n
          @Suppress("UNCHECKED_CAST") // expected to work due to erasure \n          map = backingMap as
HashMap<K, ChainEntry<K, V>> \n          } \n          /* \n          * Constructs an empty [LinkedHashMap] instance. \n          * \n
          * @param initialCapacity the initial capacity (ignored) \n          * @param loadFactor the load factor (ignored) \n
          * \n          * @throws IllegalArgumentException if the initial capacity or load factor are negative \n          * \n          * actual
constructor(initialCapacity: Int, loadFactor: Float) : super(initialCapacity, loadFactor) {\n          map = HashMap<K,
ChainEntry<K, V>>() \n          } \n          actual constructor(initialCapacity: Int) : this(initialCapacity, 0.0f) \n          \n
          /* \n          * Constructs an instance of [LinkedHashMap] filled with the contents of the specified [original] map. \n
          * \n          * actual constructor(original: Map<out K, V>) {\n          map = HashMap<K, ChainEntry<K, V>>() \n
          this.putAll(original) \n          } \n          @PublishedApi \n          internal fun build(): Map<K, V> {\n          checkIsMutable() \n
          isReadOnly = true \n          return this \n          } \n          actual override fun clear() {\n          checkIsMutable() \n
          map.clear() \n          head = null \n          } \n          \n          // override fun clone(): Any {\n          // return LinkedHashMap(this) \n
          } \n          \n          actual override fun containsKey(key: K): Boolean = map.containsKey(key) \n          actual override fun
containsValue(value: V): Boolean {\n          var node: ChainEntry<K, V> = head ?: return false \n          do {\n          if
          (node.value == value) {\n          return true \n          } \n          node = node.next!! \n          } while (node !==
          head) \n          return false \n          } \n          \n          internal override fun createEntrySet(): MutableSet<MutableMap.MutableEntry<K, V>> = EntrySet() \n          actual
          override operator fun get(key: K): V? = map.get(key)?.value \n          actual override fun put(key: K, value: V): V? {\n
          checkIsMutable() \n          val old = map.get(key) \n          if (old == null) {\n          val newEntry =
          ChainEntry(key, value) \n          map.put(key, newEntry) \n          newEntry.addToEnd() \n          return null \n
          }

```



```

*JsName("BufferedOutput")\ninternal open class BufferedOutput : BaseOutput() {\n    var buffer = ""\n\n    override fun print(message: Any?) {\n        buffer += String(message)\n    }\n\n    override fun flush() {\n        buffer = ""\n    }\n}\n\n** JsName used to make the declaration available outside of module to test it
*JsName("BufferedOutputToConsoleLog")\ninternal class BufferedOutputToConsoleLog :
    BufferedOutput() {\n    override fun print(message: Any?) {\n        var s = String(message)\n        val i =
s.nativeLastIndexOf("\n", 0)\n        if (i >= 0) {\n            buffer += s.substring(0, i)\n            flush()\n            s =
s.substring(i + 1)\n        }\n        buffer += s\n    }\n\n    override fun flush() {\n        console.log(buffer)\n        buffer = ""\n    }\n}\n\n** JsName used to make the declaration available outside of module to test it and use at
try.kotl.in *JsName("output")\ninternal var output = run {\n    val isNode: Boolean = js("typeof process !==
'undefined' && process.versions && !process.versions.node")\n    if (isNode) NodeJsOutput(js("process.stdout"))\n    else BufferedOutputToConsoleLog()\n}\n\n@kotlin.internal.InlineOnly\nprivate inline fun String(value: Any?):
String = js("String")(value)\n\n** Prints the line separator to the standard output stream.
\npublic actual fun
println() {\n    output.println()\n}\n\n** Prints the
    given [message] and the line separator to the standard output stream.
\npublic actual fun println(message: Any?)
{\n    output.println(message)\n}\n\n** Prints the given [message] to the standard output stream.
\npublic actual
fun print(message: Any?) {\n    output.print(message)\n}\n\n@SinceKotlin("1.6")\npublic actual fun readln():
String = throw UnsupportedOperationException("readln is not supported in
Kotlin/JS")\n\n@SinceKotlin("1.6")\npublic actual fun readlnOrNull(): String? = throw
UnsupportedOperationException("readlnOrNull is not supported in Kotlin/JS"), /*\n * Copyright 2010-2018
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n\npackage kotlin.coroutines\n\nimport
kotlin.coroutines.intrinsics.CoroutineSingletons.\n\nimport
kotlin.coroutines.intrinsics.COROUTINE_SUSPENDED\n\n@PublishedApi\n@SinceKotlin("1.3")\ninternal
actual
class SafeContinuation<in T>\ninternal actual constructor(\n    private val delegate: Continuation<T>,\n    initialResult: Any?)\n) : Continuation<T> {\n    @PublishedApi\n    internal actual constructor(delegate:
Continuation<T>) : this(delegate, UNDECIDED)\n\n    public actual override val context: CoroutineContext\n    get() = delegate.context\n\n    private var result: Any? = initialResult\n\n    public actual override fun
resumeWith(result: Result<T>) {\n        val cur = this.result\n        when {\n            cur === UNDECIDED -> {\n
                this.result = result.value\n            }\n            cur === COROUTINE_SUSPENDED -> {\n
                this.result =
RESUMED\n                delegate.resumeWith(result)\n            }\n            else -> throw
IllegalStateException("Already resumed")\n        }\n    }\n\n    @PublishedApi\n    internal actual fun
getOrThrow(): Any? {\n        if (result === UNDECIDED) {\n            result = COROUTINE_SUSPENDED\n
            return COROUTINE_SUSPENDED\n        }\n        val result = this.result\n        return when {\n            result ===
RESUMED -> COROUTINE_SUSPENDED // already called continuation, indicate COROUTINE_SUSPENDED
upstream\n            result is Result.Failure -> throw result.exception\n            else -> result // either
COROUTINE_SUSPENDED or data\n        }\n    }\n}\n\n** Copyright 2010-2020 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n *\n\npackage
kotlin.coroutines.cancellation\n\n@SinceKotlin("1.4")\npublic actual open class CancellationException :
IllegalStateException {\n    actual constructor() : super()\n    actual constructor(message: String?) : super(message)\n
    constructor(message: String?, cause: Throwable?) : super(message, cause)\n    constructor(cause: Throwable?) :
super(cause)\n}\n\n** Copyright 2010-2018 JetBrains s.r.o.
and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.\n *\n\npackage kotlin.coroutines.js.internal\n\nimport
kotlin.coroutines.Continuation\n\nimport
kotlin.coroutines.EmptyCoroutineContext\n\n@PublishedApi\n@SinceKotlin("1.3")\ninternal val
EmptyContinuation = Continuation<Any?>(EmptyCoroutineContext) { result ->\n    result.getOrThrow()\n}\n\n**\n

```

```

* Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code
is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.js\n\n/**\n * Exposes the [Date API](https://developer.mozilla.org/en-
US/docs/Web/JavaScript/Reference/Global_Objects/Date) to Kotlin.\n
*\n\n@Suppress("NOT_DOCUMENTED")\npublic external class Date() {\n    public constructor(milliseconds:
Number)\n    public constructor(dateString: String)\n    public constructor(year:
Int, month: Int)\n    public constructor(year: Int, month: Int, day: Int)\n    public constructor(year: Int, month:
Int, day: Int, hour: Int)\n    public constructor(year: Int, month: Int, day: Int, hour: Int, minute: Int)\n    public
constructor(year: Int, month: Int, day: Int, hour: Int, minute: Int, second: Int)\n    public constructor(year: Int,
month: Int, day: Int, hour: Int, minute: Int, second: Int, millisecond: Number)\n    public fun getDate(): Int\n    public
fun getDay(): Int\n    public fun getFullYear(): Int\n    public fun getHours(): Int\n    public fun
getMilliseconds(): Int\n    public fun getMinutes(): Int\n    public fun getMonth(): Int\n    public fun
getSeconds(): Int\n    public fun getTime(): Double\n    public fun getTimezoneOffset(): Int\n    public fun
getUTCDate(): Int\n    public fun getUTCDay(): Int\n    public fun getUTCFullYear(): Int\n    public fun
getUTCHours(): Int\n    public fun getUTCMilliseconds():
Int\n    public fun getUTCMinutes(): Int\n    public fun getUTCMonth(): Int\n    public fun getUTCSeconds():
Int\n    public fun toDateString(): String\n    public fun toISOString(): String\n    public fun toJSON(): Json\n    public
fun toLocaleDateString(locales: Array<String> = definedExternally, options: LocaleOptions =
definedExternally): String\n    public fun toLocaleDateString(locales: String, options: LocaleOptions =
definedExternally): String\n    public fun toLocaleString(locales: Array<String> = definedExternally, options:
LocaleOptions = definedExternally): String\n    public fun toLocaleString(locales: String, options: LocaleOptions
= definedExternally): String\n    public fun toLocaleTimeString(locales: Array<String> = definedExternally,
options: LocaleOptions = definedExternally): String\n    public fun toLocaleTimeString(locales: String, options:
LocaleOptions = definedExternally): String\n    public fun toTimeString(): String\n    public
fun toUTCString(): String\n    public companion object {\n        public fun now(): Double\n        public fun
parse(dateString: String): Double\n        public fun UTC(year: Int, month: Int): Double\n        public fun
UTC(year: Int, month: Int, day: Int): Double\n        public fun UTC(year: Int, month: Int, day: Int, hour: Int):
Double\n        public fun UTC(year: Int, month: Int, day: Int, hour: Int, minute: Int): Double\n        public fun
UTC(year: Int, month: Int, day: Int, hour: Int, minute: Int, second: Int): Double\n        public fun UTC(year: Int,
month: Int, day: Int, hour: Int, minute: Int, second: Int, millisecond: Number): Double\n    }\n    public interface
LocaleOptions {\n        public var localeMatcher: String?\n        public var timeZone: String?\n        public var
hour12: Boolean?\n        public var formatMatcher: String?\n        public var weekday: String?\n        public var
era: String?\n        public var year: String?\n        public var month: String?\n        public var day: String?\n        public var hour: String?\n        public var
minute: String?\n        public var second: String?\n        public var timeZoneName: String?\n    }\n\n    public inline fun dateLocaleOptions(init: Date.LocaleOptions.() -> Unit): Date.LocaleOptions {\n        val result = js("new
Object()\").unsafeCast<Date.LocaleOptions>()\n        init(result)\n        return result\n    }\n\n    /**\n * Copyright 2010-2020
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.dom\n\nimport
org.w3c.dom.Document\nimport org.w3c.dom.Element\nimport
kotlin.internal.LowPriorityInOverloadResolution\nimport kotlinx.dom.appendElement as
newAppendElement\nimport kotlinx.dom.createElement as newCreateElement\n\n/**\n * Creates a new element
with the specified [name].\n * The element is initialized
with the specified [init] function.\n */\n\n@LowPriorityInOverloadResolution\n@Deprecated(\n    message = "This
API is moved to another package, use 'kotlinx.dom.createElement' instead.",\n    replaceWith =
ReplaceWith("this.createElement(name, init)"),\n    kotlinx.dom.createElement()\n)\n\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.6")\npublic
inline fun Document.createElement(name: String, noinline init: Element.() -> Unit): Element =

```

```

this.newCreateElement(name, init)\n\n/**\n * Appends a newly created element with the specified [name] to this
element.\n *\n * The element is initialized with the specified [init] function.\n
*\n\n@LowPriorityInOverloadResolution\n@Deprecated(\n    message = `This API is moved to another package,
use 'kotlinx.dom.appendElement' instead.`,\n    replaceWith = ReplaceWith(`this.appendElement(name, init)`),
`kotlinx.dom.appendElement`)\n)\n\n@DeprecatedSinceKotlin(warningSince = `1.4`, errorSince = `1.6`)\n\npublic
inline fun Element.appendElement(name:
String, noinline init: Element.() -> Unit): Element = this.newAppendElement(name, init)\n\n"/*\n * Copyright
2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.dom\n\nimport
org.w3c.dom.Element\n\nimport kotlin.internal.LowPriorityInOverloadResolution\n\nimport kotlinx.dom.addClass as
newAddClass\n\nimport kotlinx.dom.hasClass as newHasClass\n\nimport kotlinx.dom.removeClass as
newRemoveClass\n\n/**\n * Returns true if the element has the given CSS class style in its 'class' attribute
*\n\n@LowPriorityInOverloadResolution\n@Deprecated(\n    message = `This API is moved to another package,
use 'kotlinx.dom.hasClass' instead.`,\n    replaceWith = ReplaceWith(`this.hasClass(cssClass)`),
`kotlinx.dom.hasClass`)\n)\n\n@DeprecatedSinceKotlin(warningSince = `1.4`, errorSince = `1.6`)\n\ninline fun
Element.hasClass(cssClass:
String): Boolean = this.newHasClass(cssClass)\n\n/**\n * Adds CSS class to element. Has no effect if all specified
classes are already in class attribute of the element\n *\n * @return true if at least one class has been added\n
*\n\n@LowPriorityInOverloadResolution\n@Deprecated(\n    message = `This API is moved to another package,
use 'kotlinx.dom.addClass' instead.`,\n    replaceWith = ReplaceWith(`this.addClass(cssClasses)`),
`kotlinx.dom.addClass`)\n)\n\n@DeprecatedSinceKotlin(warningSince = `1.4`, errorSince = `1.6`)\n\ninline fun
Element.addClass(vararg cssClasses: String): Boolean = this.newAddClass(*cssClasses)\n\n/**\n * Removes all
[cssClasses] from element. Has no effect if all specified classes are missing in class attribute of the element\n *\n
* @return true if at least one class has been removed\n *\n\n@LowPriorityInOverloadResolution\n@Deprecated(\n
    message = `This API is moved to another package, use 'kotlinx.dom.removeClass' instead.`,\n    replaceWith
= ReplaceWith(`this.removeClass(cssClasses)`),
`kotlinx.dom.removeClass`)\n)\n\n@DeprecatedSinceKotlin(warningSince = `1.4`, errorSince = `1.6`)\n\ninline
fun Element.removeClass(vararg cssClasses: String): Boolean = this.newRemoveClass(*cssClasses)\n\n"/*\n *
Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is
governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.dom\n\nimport org.w3c.dom.Element\n\nimport org.w3c.dom.Node\n\nimport
kotlin.internal.LowPriorityInOverloadResolution\n\nimport kotlinx.dom.isElement as newIsElement\n\nimport
kotlin.dom.isText as newIsText\n\n/**\n * Gets a value indicating whether this node is a TEXT_NODE or a
CDATA_SECTION_NODE.\n *\n\n@LowPriorityInOverloadResolution\n@Deprecated(\n    message = `This API
is moved to another package, use 'kotlinx.dom.isText' instead.`,\n    replaceWith = ReplaceWith(`this.isText`,
`kotlinx.dom.isText`)\n)\n\n@DeprecatedSinceKotlin(warningSince
= `1.4`, errorSince = `1.6`)\n\npublic val Node.isText: Boolean\n    inline get() = this.newIsText\n\n/**\n * Gets a
value indicating whether this node is an [Element].\n *\n\n@LowPriorityInOverloadResolution\n@Deprecated(\n
    message = `This API is moved to another package, use 'kotlinx.dom.isElement' instead.`,\n    replaceWith =
ReplaceWith(`this.isElement`, `kotlinx.dom.isElement`)\n)\n\n@DeprecatedSinceKotlin(warningSince = `1.4`,
errorSince = `1.6`)\n\npublic val Node.isElement: Boolean\n    inline get() = this.newIsElement\n\n"/*\n *
Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is
governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage
org.w3c.dom.events\n\npublic fun EventListener(handler: (Event) -> Unit): EventListener =
EventListenerHandler(handler)\n\nprivate class EventListenerHandler(private val handler: (Event) ->
Unit) : EventListener {\n    public override fun handleEvent(event: Event) {\n        handler(event)\n    }\n\n    public
override fun toString(): String = `EventListenerHandler($handler)`\n\n"/*\n * Copyright 2010-2018 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0

```

```

license that can be found in the license/LICENSE.txt file.\n */\n\npackage org.w3c.dom\n\npublic external interface
ItemArrayLike<out T> {\n    val length: Int\n    fun item(index: Int): T?\n}\n\n/**\n * Returns the view of this
`ItemArrayLike<T>` collection as `List<T>`\n */\n\npublic fun <T> ItemArrayLike<T>.asList(): List<T> = object :
AbstractList<T>() {\n    override val size: Int get() = this@asList.length\n\n    override fun get(index: Int): T = when
(index) {\n        in 0..lastIndex -> this@asList.item(index).unsafeCast<T>()\n        else -> throw
IndexOutOfBoundsException("index $index is not in range [0..$lastIndex]")\n    }\n}\n\n/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code
is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.dom\n\nimport org.w3c.dom.Element\nimport org.w3c.dom.Node\nimport
kotlin.internal.LowPriorityInOverloadResolution\nimport kotlinx.dom.appendText as newAppendText\nimport
kotlinx.dom.clear as newClear\n\n/**\n * Removes all the children from this node.\n */\n\n@LowPriorityInOverloadResolution\n@Deprecated(\n    message = "This API is moved to another package,
use 'kotlinx.dom.clear' instead.",\n    replaceWith = ReplaceWith("this.clear()"),\n    "kotlinx.dom.clear")\n)\n\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.6")\n\npublic inline fun
Node.clear() = this.newClear()\n\n/**\n * Creates text node and append it to the element.\n */\n\n * @return this
element\n */\n\n@LowPriorityInOverloadResolution\n@Deprecated(\n    message = "This API is moved to another
package,\n    use 'kotlinx.dom.appendText' instead.",\n    replaceWith = ReplaceWith("this.appendText(text)"),\n    "kotlinx.dom.appendText")\n)\n\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.6")\n\ninline fun
Element.appendText(text: String): Element = this.newAppendText(text)\n\n\n/*\n * Copyright 2010-2018 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.js\n\n/**\n * Reinterprets this value
as a value of the [dynamic type](/docs/reference/dynamic-type.html).\n */\n\n@kotlin.internal.InlineOnly\n\npublic
inline fun Any?.asDynamic(): dynamic = this\n\n/**\n * Reinterprets this value as a value of the specified type [T]
without any actual type checking.\n */\n\n@kotlin.internal.InlineOnly\n\npublic inline fun <T> Any?.unsafeCast():
@kotlin.internal.NoInfer T = this.asDynamic()\n\n/**\n * Reinterprets this `dynamic` value as a value of
the specified type [T] without any actual type checking.\n */\n\n@kotlin.internal.DynamicExtension\n\n@JsName("unsafeCastDynamic")\n\n@kotlin.internal.InlineOnly\n\npublic
inline fun <T> dynamic.unsafeCast(): @kotlin.internal.NoInfer T = this\n\n/**\n * Allows to iterate this `dynamic`
object in the following cases:\n * - when it has an `iterator` function,\n * - when it is an array\n * - when it is an
instance of [kotlin.collections.Iterable]\n */\n\n@kotlin.internal.DynamicExtension\n\npublic operator fun
dynamic.iterator(): Iterator<dynamic> {\n    val r: Any? = this\n\n    return when {\n        this["iterator"] != null -
->\n            this["iterator"]()\n        isArrayish(r) ->\n            r.unsafeCast<Array<*>>().iterator()\n        else ->\n            (r as Iterable<*>).iterator()\n    }\n}\n\n\n/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt
file.\n */\n\n// a package is omitted to get declarations directly under the
module\n\n@JsName("throwNPE")\n\ninternal fun throwNPE(message: String) {\n    throw
NullPointerException(message)\n}\n\n@JsName("throwCCE")\n\ninternal fun throwCCE() {\n    throw
ClassCastException("Illegal cast")\n}\n\n@JsName("throwISE")\n\ninternal fun throwISE(message: String) {\n    throw
IllegalStateException(message)\n}\n\n@JsName("throwUPAE")\n\ninternal fun throwUPAE(propertyName:
String) {\n    throw UninitializedPropertyAccessException("lateinit property ${propertyName} has not been
initialized")\n}\n\n\n/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n
* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\npackage kotlin.collections\n\n/**\n * Groups elements from the [Grouping] source by key and counts elements
in each group.\n */\n\n * @return a [Map] associating the key of
each group with the count of elements in the group.\n */\n\n * @sample
samples.collections.Grouping.groupingByEachCount\n */\n\n@SinceKotlin("1.1")\n\npublic actual fun <T, K>

```


and stores the results in a new map.

- An initial value of accumulator is provided by [initialValueSelector] function.
- @param initialValueSelector a function that provides an initial value of accumulator for each group.
- It's invoked with parameters:
 - `key`: the key of the group;
 - `element`: the first element being encountered in that group.
- @param operation a function that is invoked on each element with the following parameters:
 - `key`: the key of the group this element belongs to;
 - `accumulator`: the current value of the accumulator of the group;
 - `element`: the element from the source being accumulated.
- @return a [Map] associating the key of each group with the result of accumulating the group elements.
- @sample

```

samples.collections.Grouping.foldByEvenLengthWithComputedInitialValue
*/
@SinceKotlin("1.1")
public inline fun <T, K, R> Grouping<T, K>.fold(
    initialValueSelector: (key: K, element: T) -> R,
    operation: (key: K, accumulator: R, element: T) -> R): Map<K, R> =
    @Suppress("UNCHECKED_CAST")
    aggregate { key, acc, e, first -> operation(key, if (first)
initialValueSelector(key, e) else acc as R, e) }

```

Groups elements from the [Grouping] source by key and applies [operation] to the elements of each group sequentially, passing the previously accumulated value and the current element as arguments, and stores the results in the given [destination] map. An initial value of accumulator is provided by [initialValueSelector] function.

- @param initialValueSelector a function that provides an initial value of accumulator for each group.
- It's invoked with parameters:
 - `key`: the key of the group;
 - `element`: the first element being encountered in that group.
- If the [destination] map already has a value corresponding to some key, that value is used as an initial value of the accumulator for that group and the [initialValueSelector] function is not called for that group.
- @param operation a function that is invoked on each element with the following parameters:
 - `key`: the key of the group this element belongs to;
 - `accumulator`: the current value of the accumulator of the group;
 - `element`: the element from the source being accumulated.
- @return the [destination] map associating the key of each group with the result of accumulating the group elements.
- @sample

```

samples.collections.Grouping.foldByEvenLengthWithComputedInitialValueTo
*/
@SinceKotlin("1.1")
public inline fun <T, K, R, M : MutableMap<in K, R>> Grouping<T, K>.foldTo(
    destination: M,
    initialValueSelector: (key: K, element: T) -> R,
    operation: (key: K, accumulator: R, element: T) -> R): M =
    @Suppress("UNCHECKED_CAST")
    aggregateTo(destination) { key, acc, e, first ->
operation(key, if (first) initialValueSelector(key, e) else acc as R, e) }

```

Groups elements from the [Grouping] source by key and applies [operation] to the elements of each group sequentially, passing the previously accumulated value and the current element as arguments, and stores the results in a new map. An initial value of accumulator is the same [initialValue] for each group.

- @param operation a function that is invoked on each element with the following parameters:
 - `accumulator`: the current value of the accumulator of the group;
 - `element`: the element from the source being accumulated.
- @return a [Map] associating the key of each group with the result of accumulating the group elements.
- @sample

```

samples.collections.Grouping.foldByEvenLengthWithConstantInitialValue
*/
@SinceKotlin("1.1")
public inline fun <T, K, R> Grouping<T, K>.fold(
    initialValue: R,
    operation: (accumulator: R, element: T) -> R): Map<K, R> =
    @Suppress("UNCHECKED_CAST")
    aggregate { _, acc, e, first -> operation(if (first)
initialValue else
acc as R, e) }

```

Groups elements from the [Grouping] source by key and applies [operation] to the elements of each group sequentially, passing the previously accumulated value and the current element as arguments, and stores the results in the given [destination] map. An initial value of accumulator is the same [initialValue] for each group.

- If the [destination] map already has a value corresponding to the key of some group, that value is used as an initial value of the accumulator for that group.
- @param operation a function that is invoked on each element with the following parameters:
 - `accumulator`: the current value of the accumulator of the group;
 - `element`: the element from the source being accumulated.
- @return the [destination] map associating the key of each group with the result of accumulating the group elements.
- @sample

```

samples.collections.Grouping.foldByEvenLengthWithConstantInitialValueTo
*/
@SinceKotlin("1.1")
public

```



```

Map<K, Double> =\n    fold(0.0) { acc, e -> acc + valueSelector(e)}\n*/\n * Copyright 2010-2021
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.js\n\n@Retention(AnnotationRetention.BINARY)\n@Target(AnnotationTarget.FUNCTION,
AnnotationTarget.PROPERTY)\ninternal annotation class JsNativeImplementation(val implementation:
String)\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\npackage kotlin.js\n\n/**\n * An interface for indexing access to a collection of key-value pairs, where type of
key is [String] and type of value is [Any?][Any].\n */\n\npublic external interface Json {\n    /**\n     * Calls to the
function will be translated to indexing operation (square
brackets) on the receiver with [propertyName] as the argument.\n     *\n     * E.g. for next code:\n     * ```kotlin\n
* fun test(j: Json, p: String) = j["prop"] + j.get(p)\n     * ```\n     *\n     * will be generated:\n     * ```js\n
* function test(j, p) {\n     *     return j["prop"] + j[p];\n     * }\n     * ```\n     *\n     */\n     operator fun get(propertyName:
String): Any?\n\n    /**\n     * Calls of the function will be translated to an assignment of [value] to the receiver
indexed (with square brackets/index operation) with [propertyName].\n     *\n     * E.g. for the following code:\n     *
```kotlin\n     * fun test(j: Json, p: String, newValue: Any) {\n     *     j["prop"] = 1\n     *     j.set(p, newValue)\n
* }\n * ```\n *\n * will be generated:\n * ```js\n * function test(j, p, newValue) {\n * j["prop"] =
1;\n * j[p] = newValue;\n * }\n * }\n * ```\n *\n */\n operator fun set(propertyName: String, value:
Any?): Unit\n}\n\n/**\n * Returns a simple JavaScript object (as [Json]) using provided key-value pairs as names
and values of its properties.\n */\n\npublic fun json(vararg pairs: Pair<String, Any?>): Json {\n val res: dynamic =
js("{}")\n for ((name, value) in pairs) {\n res[name] = value\n }\n return res\n}\n\n/**\n * Adds key-
value pairs from [other] to [this].\n */\n\npublic fun Json.add(other: Json): Json {\n val keys: Array<String> = js("Object").keys(other)\n for (key in keys) {\n if
(other.asDynamic().hasOwnProperty(key)) {\n this[key] = other[key];\n }\n }\n return
this\n}\n\n/**\n * Exposes the JavaScript [JSON object](https://developer.mozilla.org/en-
US/docs/Web/JavaScript/Reference/Global_Objects/JSON) to Kotlin.\n
*/\n\n@Suppress("NOT_DOCUMENTED")\npublic external object JSON {\n public fun stringify(o: Any?):
String\n public fun stringify(o: Any?, replacer: ((key: String,
value: Any?) -> Any?): String)\n public fun stringify(o: Any?, replacer: ((key: String, value: Any?) -> Any?)? =
definedExternally, space: Int): String\n public fun stringify(o: Any?, replacer: ((key: String, value: Any?) ->
Any?)? = definedExternally, space: String): String\n public fun stringify(o: Any?, replacer: Array<String>):
String\n public fun stringify(o: Any?, replacer: Array<String>, space: Int): String\n public fun stringify(o: Any?,
replacer: Array<String>, space: String): String\n\n public fun <T> parse(text: String): T\n public fun <T>
parse(text: String, reviver: ((key: String, value: Any?) -> Any?): T)\n}\n","/*\n * Copyright 2010-2021 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.math\n\nimport
kotlin.internal.InlineOnly\nimport kotlin.js.JsMath as nativeMath\n\n// region =====
Double Math =====\n\n/**\n * Computes the sine of the angle [x]
given in radians.\n */\n\n * Special cases:\n * - `sin(NaN|+Inf|-Inf)` is `NaN`\n
*/\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun sin(x: Double): Double =
nativeMath.sin(x)\n\n/**\n * Computes the cosine of the angle [x] given in radians.\n */\n\n * Special cases:\n * -
`cos(NaN|+Inf|-Inf)` is `NaN`\n */\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun cos(x: Double):
Double = nativeMath.cos(x)\n\n/**\n * Computes the tangent of the angle [x] given in radians.\n */\n\n * Special cases:\n
* - `tan(NaN|+Inf|-Inf)` is `NaN`\n */\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun tan(x:
Double): Double = nativeMath.tan(x)\n\n/**\n * Computes the arc sine of the value [x];\n */\n\n * the returned value is an
angle in the range from `-PI/2` to `PI/2` radians.\n */\n\n * Special cases:\n * - `asin(x)` is `NaN`, when `abs(x) > 1`
or x is `NaN`\n */\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic

```

actual inline fun asin(x: Double): Double = nativeMath.asin(x)\n\n/\*\*\n \* Computes the arc cosine of the value [x].\n \* the returned value is an angle in the range from `0.0` to `PI` radians.\n \* Special cases:\n \* - `acos(x)` is `NaN`, when `abs(x) > 1` or x is `NaN`\n \*/\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun acos(x: Double): Double = nativeMath.acos(x)\n\n/\*\*\n \* Computes the arc tangent of the value [x].\n \* the returned value is an angle in the range from `-PI/2` to `PI/2` radians.\n \* Special cases:\n \* - `atan(NaN)` is `NaN`\n \*/\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun atan(x: Double): Double = nativeMath.atan(x)\n\n/\*\*\n \* Returns the angle `theta` of the polar coordinates `(r, theta)` that correspond\n \* to the rectangular coordinates `(x, y)` by computing the arc tangent of the value [y] / [x].\n \* the returned value is an angle in the range from `-PI` to `PI` radians.\n \* Special cases:\n \* - `atan2(0.0, 0.0)` is `0.0`\n \* - `atan2(0.0, x)` is `0.0` for `x > 0` and `PI` for `x < 0`\n \* - `atan2(-0.0, x)` is `-0.0` for `x > 0` and `-PI` for `x < 0`\n \* - `atan2(y, +Inf)` is `0.0` for `0 < y < +Inf` and `-0.0` for `-Inf < y < 0`\n \* - `atan2(y, -Inf)` is `PI` for `0 < y < +Inf` and `-PI` for `-Inf < y < 0`\n \* - `atan2(y, 0.0)` is `PI/2` for `y > 0` and `-PI/2` for `y < 0`\n \* - `atan2(+Inf, x)` is `PI/2` for finite `x`\n \* - `atan2(-Inf, x)` is `-PI/2` for finite `x`\n \* - `atan2(NaN, x)` and `atan2(y, NaN)` is `NaN`\n \*/\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun atan2(y: Double, x: Double): Double = nativeMath.atan2(y, x)\n\n/\*\*\n \* Computes the hyperbolic sine of the value [x].\n \* Special cases:\n \* - `sinh(NaN)` is `NaN`\n \* - `sinh(+Inf)` is `+Inf`\n \* - `sinh(-Inf)` is `-Inf`\n \*/\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun sinh(x: Double): Double = nativeMath.sinh(x)\n\n/\*\*\n \* Computes the hyperbolic cosine of the value [x].\n \* Special cases:\n \* - `cosh(NaN)` is `NaN`\n \* - `cosh(+Inf|-Inf)` is `+Inf`\n \*/\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun cosh(x: Double): Double = nativeMath.cosh(x)\n\n/\*\*\n \* Computes the hyperbolic tangent of the value [x].\n \* Special cases:\n \* - `tanh(NaN)` is `NaN`\n \* - `tanh(+Inf)` is `1.0`\n \* - `tanh(-Inf)` is `-1.0`\n \*/\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun tanh(x: Double): Double = nativeMath.tanh(x)\n\n/\*\*\n \* Computes the inverse hyperbolic sine of the value [x].\n \* The returned value is `y` such that `sinh(y) == x`.\n \* Special cases:\n \* - `asinh(NaN)` is `NaN`\n \* - `asinh(+Inf)` is `+Inf`\n \* - `asinh(-Inf)` is `-Inf`\n \*/\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun asinh(x: Double): Double = nativeMath.asinh(x)\n\n/\*\*\n \* Computes the inverse hyperbolic cosine of the value [x].\n \* The returned value is positive `y` such that `cosh(y) == x`.\n \* Special cases:\n \* - `acosh(NaN)` is `NaN`\n \* - `acosh(x)` is `NaN` when `x < 1`\n \* - `acosh(+Inf)` is `+Inf`\n \*/\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun acosh(x: Double): Double = nativeMath.acosh(x)\n\n/\*\*\n \* Computes the inverse hyperbolic tangent of the value [x].\n \* The returned value is `y` such that `tanh(y) == x`.\n \* Special cases:\n \* - `tanh(NaN)` is `NaN`\n \* - `tanh(x)` is `NaN` when `x > 1` or `x < -1`\n \* - `tanh(1.0)` is `+Inf`\n \* - `tanh(-1.0)` is `-Inf`\n \*/\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun atanh(x: Double): Double = nativeMath.atanh(x)\n\n/\*\*\n \* Computes `sqrt(x^2 + y^2)` without intermediate overflow or underflow.\n \* Special cases:\n \* - returns `+Inf` if any of arguments is infinite\n \* - returns `NaN` if any of arguments is `NaN` and the other is not infinite\n \*/\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun hypot(x: Double, y: Double): Double = nativeMath.hypot(x, y)\n\n/\*\*\n \* Computes the positive square root of the value [x].\n \* Special cases:\n \* - `sqrt(x)` is `NaN` when `x < 0` or `x` is `NaN`\n \*/\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun sqrt(x: Double): Double = nativeMath.sqrt(x)\n\n/\*\*\n \* Computes Euler's number `e` raised to the power of the value [x].\n \* Special cases:\n \* - `exp(NaN)` is `NaN`\n \* - `exp(+Inf)` is `+Inf`\n \* - `exp(-Inf)` is `0.0`\n \*/\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun exp(x: Double): Double = nativeMath.exp(x)\n\n/\*\*\n \* Computes `exp(x) - 1`.\n \* This function can be implemented to produce more precise result for [x] near zero.\n \* Special cases:\n \* - `expm1(NaN)` is `NaN`\n \* - `expm1(+Inf)` is `+Inf`\n \* - `expm1(-Inf)` is `-1.0`\n \* @see [exp] function.\n \*/\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun expm1(x: Double): Double = nativeMath.expm1(x)\n\n/\*\*\n \* Computes the logarithm of the

value [x] to the given [base].  
Special cases:  
 $\log(x, b)$  is NaN if either  $x$  or  $b$  are NaN  
 $\log(x, b)$  is NaN when  $x < 0$  or  $b \leq 0$  or  $b == 1.0$   
 $\log(+Inf, +Inf)$  is NaN  
 $\log(+Inf, b)$  is  $+Inf$  for  $b > 1$  and  $-Inf$  for  $b < 1$   
 $\log(0.0, b)$  is  $-Inf$  for  $b > 1$  and  $+Inf$  for  $b < 1$   
See also logarithm functions for common fixed bases: [ln], [log10] and [log2].

```

public actual fun log(x: Double, base: Double): Double {
 if (base <= 0.0 || base == 1.0) return Double.NaN
 return nativeMath.log(x) / nativeMath.log(base)
}

```

Computes the natural logarithm (base  $E$ ) of the value [x].  
Special cases:  
 $\ln(NaN)$  is NaN  
 $\ln(x)$  is NaN when  $x < 0.0$   
 $\ln(+Inf)$  is  $+Inf$   
 $\ln(0.0)$  is  $-Inf$

```

public actual inline fun ln(x: Double): Double =
 nativeMath.log(x)

```

Computes the common logarithm (base 10) of the value [x].  
@see [ln] function for special cases.

```

public actual inline fun log10(x: Double): Double =
 nativeMath.log10(x)

```

Computes the binary logarithm (base 2) of the value [x].  
@see [ln] function for special cases.

```

public actual inline fun log2(x: Double): Double =
 nativeMath.log2(x)

```

Computes  $\ln(x + 1)$ .  
This function can be implemented to produce more precise result for [x] near zero.  
Special cases:  
 $\ln1p(NaN)$  is NaN  
 $\ln1p(x)$  is NaN where  $x < -1.0$   
 $\ln1p(-1.0)$  is  $-Inf$   
 $\ln1p(+Inf)$  is  $+Inf$   
@see [ln] function  
@see [expm1] function

```

public actual inline fun ln1p(x: Double): Double =
 nativeMath.log1p(x)

```

Rounds the given value [x] to an integer towards positive infinity.  
@return the smallest double value that is greater than or equal to the given value [x] and is a mathematical integer.

Special cases:  
 $\text{ceil}(x)$  is  $x$  where  $x$  is NaN or  $+Inf$  or  $-Inf$  or already a mathematical integer.

```

public actual inline fun ceil(x: Double): Double =
 nativeMath.ceil(x)

```

Rounds the given value [x] to an integer towards negative infinity.  
@return the largest double value that is smaller than or equal to the given value [x] and is a mathematical integer.

Special cases:  
 $\text{floor}(x)$  is  $x$  where  $x$  is NaN or  $+Inf$  or  $-Inf$  or already a mathematical integer.

```

public actual inline fun floor(x: Double): Double =
 nativeMath.floor(x)

```

Rounds the given value [x] to an integer towards zero.  
@return the value [x] having its fractional part truncated.

Special cases:  
 $\text{truncate}(x)$  is  $x$  where  $x$  is NaN or  $+Inf$  or  $-Inf$  or already a mathematical integer.

```

public actual inline fun truncate(x: Double): Double =
 nativeMath.trunc(x)

```

Rounds the given value [x] towards the closest integer with ties rounded towards even integer.

Special cases:  
 $\text{round}(x)$  is  $x$  where  $x$  is NaN or  $+Inf$  or  $-Inf$  or already a mathematical integer.

```

public actual fun round(x: Double): Double {
 if (x % 0.5 != 0.0) {
 return nativeMath.round(x)
 }
 val floor = floor(x)
 return if (floor % 2 == 0.0) floor else
 ceil(x)
}

```

Returns the absolute value of the given value [x].  
Special cases:  
 $\text{abs}(NaN)$  is NaN  
@see absoluteValue extension property for [Double]

```

public actual inline fun abs(x: Double): Double =
 nativeMath.abs(x)

```

Returns the sign of the given value [x]:  
 $-1.0$  if the value is negative,  
zero if the value is zero,  
 $1.0$  if the value is positive

Special case:  
 $\text{sign}(NaN)$  is NaN

```

public actual inline fun sign(x: Double): Double =
 nativeMath.sign(x)

```

Returns the smaller of two values.  
If either value is NaN, then the result is NaN.

```

public actual inline fun min(a: Double, b: Double): Double =
 nativeMath.min(a, b)

```

Returns the greater of two values.  
If either value is NaN, then the result is NaN.

```

public actual inline fun max(a: Double, b: Double): Double =
 nativeMath.max(a, b)

```

extensions  
Raises this value to the power [x].  
Special cases:  
 $b.\text{pow}(0.0)$  is  $1.0$   
 $b.\text{pow}(1.0) == b$   
 $b.\text{pow}(NaN)$  is NaN  
 $\text{NaN}.\text{pow}(x)$  is NaN for  $x != 0.0$   
 $b.\text{pow}(Inf)$  is NaN for  $\text{abs}(b) == 1.0$   
 $b.\text{pow}(x)$  is NaN for  $b < 0$  and  $x$  is finite and not

```

an integer\n *\n@SinceKotlin("1.2")\n@InlineOnly\npublic
 actual inline fun Double.pow(x: Double): Double = nativeMath.pow(this, x)\n\n/**\n * Raises this value to the
integer power [n].\n *\n * See the other overload of [pow] for details.\n
*\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun Double.pow(n: Int): Double =
 nativeMath.pow(this, n.toDouble())\n\n/**\n * Returns the absolute value of this value.\n *\n * Special cases:\n * -
`NaN.absoluteValue` is `NaN`\n *\n * @see abs function\n *\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual
inline val Double.absoluteValue: Double get() = nativeMath.abs(this)\n\n/**\n * Returns the sign of this value:\n *
- `-1.0` if the value is negative,\n * - zero if the value is zero,\n * - `1.0` if the value is positive\n *\n * Special
case:\n * - `NaN.sign` is `NaN`\n *\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline val Double.sign:
Double get() = nativeMath.sign(this)\n\n/**\n * Returns this value with the sign bit same as
of the [sign] value.\n *\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun Double.withSign(sign: Int):
Double = this.withSign(sign.toDouble())\n\n/**\n * Returns the ulp (unit in the last place) of this value.\n *\n * An
ulp is a positive distance between this value and the next nearest [Double] value larger in magnitude.\n *\n * Special
Cases:\n * - `NaN.ulp` is `NaN`\n * - `x.ulp` is `+Inf` when `x` is `+Inf` or `-Inf`\n * - `0.0.ulp` is
`Double.MIN_VALUE`\n *\n@SinceKotlin("1.2")\npublic actual val Double.ulp: Double get() = when {\n this
< 0 -> (-this).ulp\n this.isNaN() || this == Double.POSITIVE_INFINITY -> this\n this ==
Double.MAX_VALUE -> this - this.nextDown()\n else -> this.nextUp() - this\n}\n\n/**\n * Returns the [Double]
value nearest to this value in direction of positive infinity.\n *\n@SinceKotlin("1.2")\npublic actual fun
Double.nextUp(): Double = when {\n this.isNaN() || this == Double.POSITIVE_INFINITY -> this\n this == 0.0
-> Double.MIN_VALUE\n else -> Double.fromBits(this.toRawBits() + if (this > 0) 1 else -1)\n}\n\n/**\n *
Returns the [Double] value nearest to this value in direction of negative infinity.\n
*\n@SinceKotlin("1.2")\npublic actual fun Double.nextDown(): Double = when {\n this.isNaN() || this ==
Double.NEGATIVE_INFINITY -> this\n this == 0.0 -> -Double.MIN_VALUE\n else ->
Double.fromBits(this.toRawBits() + if (this > 0) -1 else 1)\n}\n\n/**\n * Returns the [Double] value nearest to this
value in direction from this value towards the value [to].\n *\n * Special cases:\n * - `x.nextTowards(y)` is `NaN` if
either `x` or `y` are `NaN`\n * - `x.nextTowards(x) == x`\n *\n@SinceKotlin("1.2")\npublic actual fun
Double.nextTowards(to: Double): Double = when {\n this.isNaN() || to.isNaN() -> Double.NaN\n to == this ->
to\n to > this -> this.nextUp()\n else /* to < this */ -> this.nextDown()\n}\n\n/**\n * Rounds this [Double]
value to the nearest integer and
converts the result to [Int].\n *\n * Ties are rounded towards positive infinity.\n *\n * Special cases:\n * -
`x.roundToInt() == Int.MAX_VALUE` when `x > Int.MAX_VALUE`\n * - `x.roundToInt() == Int.MIN_VALUE`
when `x < Int.MIN_VALUE`\n *\n * @throws IllegalArgumentException when this value is `NaN`\n
*\n@SinceKotlin("1.2")\npublic actual fun Double.roundToInt(): Int = when {\n this.isNaN() -> throw
IllegalArgumentException("Cannot round NaN value.")\n this > Int.MAX_VALUE -> Int.MAX_VALUE\n this <
Int.MIN_VALUE -> Int.MIN_VALUE\n else -> nativeMath.round(this).toInt()\n}\n\n/**\n * Rounds this
[Double] value to the nearest integer and converts the result to [Long].\n *\n * Ties are rounded towards positive
infinity.\n *\n * Special cases:\n * - `x.roundToLong() == Long.MAX_VALUE` when `x >
Long.MAX_VALUE`\n * - `x.roundToLong() == Long.MIN_VALUE` when `x < Long.MIN_VALUE`\n *\n *
@throws IllegalArgumentException when this value is `NaN`\n *\n@SinceKotlin("1.2")\npublic
actual fun Double.roundToLong(): Long = when {\n this.isNaN() -> throw IllegalArgumentException("Cannot round
NaN value.")\n this > Long.MAX_VALUE -> Long.MAX_VALUE\n this < Long.MIN_VALUE ->
Long.MIN_VALUE\n else -> nativeMath.round(this).toLong()\n}\n\n// endregion\n\n// region
===== Float Math =====\n\n/**\n * Computes the
sine of the angle [x] given in radians.\n *\n * Special cases:\n * - `sin(NaN|+Inf|-Inf)` is `NaN`\n
*\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun sin(x: Float): Float =
 nativeMath.sin(x.toDouble()).toFloat()\n\n/**\n * Computes the cosine of the angle [x] given in radians.\n *\n * Special
cases:\n * - `cos(NaN|+Inf|-Inf)` is `NaN`\n *\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun
cos(x: Float): Float = nativeMath.cos(x.toDouble()).toFloat()\n\n/**\n * Computes the tangent of the angle [x] given in

```

radians.  
`* Special cases:  $\tan(\text{NaN}|\pm\text{Inf}-\text{Inf})$  is  $\text{NaN}$`   
`*  
@SinceKotlin("1.2")  
InlineOnly  
public  
actual inline fun tan(x: Float): Float = nativeMath.tan(x.toDouble()).toFloat()  
* Computes the arc sine of the value [x]; the returned value is an angle in the range from  $-\text{PI}/2$  to  $\text{PI}/2$  radians.  
* Special cases:  
-  $\text{asin}(x)$  is  $\text{NaN}$ , when  $\text{abs}(x) > 1$  or  $x$  is  $\text{NaN}$   
*  
@SinceKotlin("1.2")  
InlineOnly  
public  
actual inline fun asin(x: Float): Float = nativeMath.asin(x.toDouble()).toFloat()  
* Computes the arc cosine of the value [x]; the returned value is an angle in the range from  $0.0$  to  $\text{PI}$  radians.  
* Special cases:  
-  $\text{acos}(x)$  is  $\text{NaN}$ , when  $\text{abs}(x) > 1$  or  $x$  is  $\text{NaN}$   
*  
@SinceKotlin("1.2")  
InlineOnly  
public  
actual inline fun acos(x: Float): Float = nativeMath.acos(x.toDouble()).toFloat()  
* Computes the arc tangent of the value [x]; the returned value is an angle in the range from  $-\text{PI}/2$  to  $\text{PI}/2$  radians.  
* Special cases:  
-  $\text{atan}(\text{NaN})$  is  $\text{NaN}$   
*  
@SinceKotlin("1.2")  
InlineOnly  
public  
actual inline fun atan(x: Float): Float = nativeMath.atan(x.toDouble()).toFloat()  
* Returns the angle  $\theta$  of the polar coordinates  $(r, \theta)$  that correspond to the rectangular coordinates  $(x, y)$  by computing the arc tangent of the value  $[y] / [x]$ ; the returned value is an angle in the range from  $-\text{PI}$  to  $\text{PI}$  radians.  
* Special cases:  
-  $\text{atan2}(0.0, 0.0)$  is  $0.0$   
-  $\text{atan2}(0.0, x)$  is  $0.0$  for  $x > 0$  and  $\text{PI}$  for  $x < 0$   
-  $\text{atan2}(-0.0, x)$  is  $-0.0$  for  $x > 0$  and  $-\text{PI}$  for  $x < 0$   
-  $\text{atan2}(y, +\text{Inf})$  is  $0.0$  for  $0 < y < +\text{Inf}$  and  $-0.0$  for  $-\text{Inf} < y < 0$   
-  $\text{atan2}(y, -\text{Inf})$  is  $\text{PI}$  for  $0 < y < +\text{Inf}$  and  $-\text{PI}$  for  $-\text{Inf} < y < 0$   
-  $\text{atan2}(y, 0.0)$  is  $\text{PI}/2$  for  $y > 0$  and  $-\text{PI}/2$  for  $y < 0$   
-  $\text{atan2}(+\text{Inf}, x)$  is  $\text{PI}/2$  for finite  $x$   
-  $\text{atan2}(-\text{Inf}, x)$  is  $-\text{PI}/2$  for finite  $x$   
-  $\text{atan2}(\text{NaN}, x)$  and  $\text{atan2}(y, \text{NaN})$  is  $\text{NaN}$   
*  
@SinceKotlin("1.2")  
InlineOnly  
public  
actual inline fun atan2(y: Float, x: Float): Float = nativeMath.atan2(y.toDouble(), x.toDouble()).toFloat()  
* Computes the hyperbolic sine of the value [x].  
* Special cases:  
-  $\sinh(\text{NaN})$  is  $\text{NaN}$   
-  $\sinh(+\text{Inf})$  is  $+\text{Inf}$   
-  $\sinh(-\text{Inf})$  is  $-\text{Inf}$   
*  
@SinceKotlin("1.2")  
InlineOnly  
public  
actual inline fun sinh(x: Float): Float = nativeMath.sinh(x.toDouble()).toFloat()  
* Computes the hyperbolic cosine of the value [x].  
* Special cases:  
-  $\cosh(\text{NaN})$  is  $\text{NaN}$   
-  $\cosh(+\text{Inf}-\text{Inf})$  is  $+\text{Inf}$   
*  
@SinceKotlin("1.2")  
InlineOnly  
public  
actual inline fun cosh(x: Float): Float = nativeMath.cosh(x.toDouble()).toFloat()  
* Computes the hyperbolic tangent of the value [x].  
* Special cases:  
-  $\tanh(\text{NaN})$  is  $\text{NaN}$   
-  $\tanh(+\text{Inf})$  is  $1.0$   
-  $\tanh(-\text{Inf})$  is  $-1.0$   
*  
@SinceKotlin("1.2")  
InlineOnly  
public  
actual inline fun tanh(x: Float): Float = nativeMath.tanh(x.toDouble()).toFloat()  
* Computes the inverse hyperbolic sine of the value [x].  
* The returned value is  $y$  such that  $\sinh(y) == x$ .  
* Special cases:  
-  $\text{asinh}(\text{NaN})$  is  $\text{NaN}$   
-  $\text{asinh}(+\text{Inf})$  is  $+\text{Inf}$   
-  $\text{asinh}(-\text{Inf})$  is  $-\text{Inf}$   
*  
@SinceKotlin("1.2")  
InlineOnly  
public  
actual inline fun asinh(x: Float): Float = nativeMath.asinh(x.toDouble()).toFloat()  
* Computes the inverse hyperbolic cosine of the value [x].  
* The returned value is positive  $y$  such that  $\cosh(y) == x$ .  
* Special cases:  
-  $\text{acosh}(\text{NaN})$  is  $\text{NaN}$   
-  $\text{acosh}(x)$  is  $\text{NaN}$  when  $x < 1$   
-  $\text{acosh}(+\text{Inf})$  is  $+\text{Inf}$   
*  
@SinceKotlin("1.2")  
InlineOnly  
public  
actual inline fun acosh(x: Float): Float = nativeMath.acosh(x.toDouble()).toFloat()  
* Computes the inverse hyperbolic tangent of the value [x].  
* The returned value is  $y$  such that  $\tanh(y) == x$ .  
* Special cases:  
-  $\text{atanh}(\text{NaN})$  is  $\text{NaN}$   
-  $\text{atanh}(x)$  is  $\text{NaN}$  when  $x > 1$  or  $x < -1$   
-  $\text{atanh}(1.0)$  is  $+\text{Inf}$   
-  $\text{atanh}(-1.0)$  is  $-\text{Inf}$   
*  
@SinceKotlin("1.2")  
InlineOnly  
public  
actual inline fun atanh(x: Float): Float = nativeMath.atanh(x.toDouble()).toFloat()  
* Computes  $\sqrt{x^2 + y^2}$  without intermediate overflow or underflow.  
* Special cases:  
- returns  $+\text{Inf}$  if any of arguments is infinite  
- returns  $\text{NaN}$  if any of arguments is  $\text{NaN}$  and the other is not infinite  
*  
@SinceKotlin("1.2")  
InlineOnly  
public  
actual inline fun hypot(x: Float, y: Float): Float = nativeMath.hypot(x.toDouble(), y.toDouble()).toFloat()  
* Computes the positive square root of the value [x].  
* Special cases:  
-  $\sqrt{x}$  is  $\text{NaN}$  when  $x < 0$  or  $x$  is  $\text{NaN}$   
*  
@SinceKotlin("1.2")  
InlineOnly  
public  
actual inline fun sqrt(x: Float): Float = nativeMath.sqrt(x.toDouble()).toFloat()  
* Computes Euler's number  $e$  raised to the power of the value`

[x].  
 \* Special cases:  
 -  $\exp(\text{NaN})$  is  $\text{NaN}$   
 -  $\exp(+\infty)$  is  $+\infty$   
 -  $\exp(-\infty)$  is  $0.0$   
 @SinceKotlin("1.2")@InlineOnly\npublic actual inline fun exp(x: Float): Float = nativeMath.exp(x.toDouble()).toFloat()  
 \* Computes  $\exp(x) - 1$ .  
 \* This function can be implemented to produce more precise result for [x] near zero.  
 \* Special cases:  
 -  $\expm1(\text{NaN})$  is  $\text{NaN}$   
 -  $\expm1(+\infty)$  is  $+\infty$   
 -  $\expm1(-\infty)$  is  $-1.0$   
 @see [exp] function.  
 @SinceKotlin("1.2")@InlineOnly\npublic actual inline fun expm1(x: Float): Float = nativeMath.expm1(x.toDouble()).toFloat()  
 \* Computes the logarithm of the value [x] to the given [base].  
 \* Special cases:  
 -  $\log(x, b)$  is  $\text{NaN}$  if either  $x$  or  $b$  are  $\text{NaN}$   
 -  $\log(x, b)$  is  $\text{NaN}$  when  $x < 0$  or  $b \leq 0$  or  $b == 1.0$   
 -  $\log(+\infty, +\infty)$  is  $\text{NaN}$   
 -  $\log(+\infty, b)$  is  $+\infty$  for  $b > 1$  and  $-\infty$  for  $b < 1$   
 -  $\log(0.0, b)$  is  $-\infty$  for  $b > 1$  and  $+\infty$  for  $b > 1$   
 \* See also logarithm functions for common fixed bases: [ln], [log10] and [log2].  
 @SinceKotlin("1.2")@InlineOnly\npublic actual inline fun log(x: Float, base: Float): Float = log(x.toDouble(), base.toDouble()).toFloat()  
 \* Computes the natural logarithm (base  $E$ ) of the value [x].  
 \* Special cases:  
 -  $\ln(\text{NaN})$  is  $\text{NaN}$   
 -  $\ln(x)$  is  $\text{NaN}$  when  $x < 0.0$   
 -  $\ln(+\infty)$  is  $+\infty$   
 -  $\ln(0.0)$  is  $-\infty$   
 @SinceKotlin("1.2")@InlineOnly\npublic actual inline fun ln(x: Float): Float = nativeMath.log(x.toDouble()).toFloat()  
 \* Computes the common logarithm (base 10) of the value [x].  
 \* @see [ln] function for special cases.  
 @SinceKotlin("1.2")@InlineOnly\npublic actual inline fun log10(x: Float): Float = nativeMath.log10(x.toDouble()).toFloat()  
 \* Computes the binary logarithm (base 2) of the value [x].  
 \* @see [ln] function for special cases.  
 @SinceKotlin("1.2")@InlineOnly\npublic actual inline fun log2(x: Float): Float = nativeMath.log2(x.toDouble()).toFloat()  
 \* Computes  $\ln(a + 1)$ .  
 \* This function can be implemented to produce more precise result for [x] near zero.  
 \* Special cases:  
 -  $\ln1p(\text{NaN})$  is  $\text{NaN}$   
 -  $\ln1p(x)$  is  $\text{NaN}$  where  $x < -1.0$   
 -  $\ln1p(-1.0)$  is  $-\infty$   
 -  $\ln1p(+\infty)$  is  $+\infty$   
 @see [ln] function  
 @see [expm1] function  
 @SinceKotlin("1.2")@InlineOnly\npublic actual inline fun ln1p(x: Float): Float = nativeMath.log1p(x.toDouble()).toFloat()  
 \* Rounds the given value [x] to an integer towards positive infinity.  
 \* @return the smallest Float value that is greater than or equal to the given value [x] and is a mathematical integer.  
 \* Special cases:  
 -  $\text{ceil}(x)$  is  $x$  where  $x$  is  $\text{NaN}$  or  $+\infty$  or  $-\infty$  or already a mathematical integer.  
 @SinceKotlin("1.2")@InlineOnly\npublic actual inline fun ceil(x: Float): Float = nativeMath.ceil(x.toDouble()).toFloat()  
 \* Rounds the given value [x] to an integer towards negative infinity.  
 \* @return the largest Float value that is smaller than or equal to the given value [x] and is a mathematical integer.  
 \* Special cases:  
 -  $\text{floor}(x)$  is  $x$  where  $x$  is  $\text{NaN}$  or  $+\infty$  or  $-\infty$  or already a mathematical integer.  
 @SinceKotlin("1.2")@InlineOnly\npublic actual inline fun floor(x: Float): Float = nativeMath.floor(x.toDouble()).toFloat()  
 \* Rounds the given value [x] to an integer towards zero.  
 \* @return the value [x] having its fractional part truncated.  
 \* Special cases:  
 -  $\text{truncate}(x)$  is  $x$  where  $x$  is  $\text{NaN}$  or  $+\infty$  or  $-\infty$  or already a mathematical integer.  
 @SinceKotlin("1.2")@InlineOnly\npublic actual inline fun truncate(x: Float): Float = truncate(x.toDouble()).toFloat()  
 \* Rounds the given value [x] towards the closest integer with ties rounded towards even integer.  
 \* Special cases:  
 -  $\text{round}(x)$  is  $x$  where  $x$  is  $\text{NaN}$  or  $+\infty$  or  $-\infty$  or already a mathematical integer.  
 @SinceKotlin("1.2")@InlineOnly\npublic actual inline fun round(x: Float): Float = round(x.toDouble()).toFloat()  
 \* Returns the absolute value of the given value [x].  
 \* Special cases:  
 -  $\text{abs}(\text{NaN})$  is  $\text{NaN}$   
 @see absoluteValue extension property for [Float]  
 @SinceKotlin("1.2")@InlineOnly\npublic actual inline fun abs(x: Float): Float = nativeMath.abs(x.toDouble()).toFloat()  
 \* Returns the sign of the given value [x]:  
 -  $-1.0$  if the value is negative,  
 - zero if the value is zero,  
 -  $1.0$  if the value is positive  
 \* Special case:  
 -  $\text{sign}(\text{NaN})$  is  $\text{NaN}$   
 @SinceKotlin("1.2")@InlineOnly\npublic actual inline fun sign(x: Float): Float = nativeMath.sign(x.toDouble()).toFloat()  
 \* Returns the smaller of two values.  
 \* If either value is  $\text{NaN}$ , then the result is  $\text{NaN}$ .  
 @SinceKotlin("1.2")@InlineOnly\npublic



actual inline fun min(a: Float, b: Float): Float = nativeMath.min(a, b)\n\n/\*\*\n \* Returns the greater of two values.\n \*/\n \* If either value is NaN, then the result is NaN.\n \*/\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun max(a: Float, b: Float): Float = nativeMath.max(a, b)\n\n// extensions\n\n/\*\*\n \* Raises this value to the power [x].\n \*/\n \* Special cases:\n \* - `b.pow(0.0)` is `1.0`\n \* - `b.pow(1.0) == b`\n \* - `b.pow(NaN)` is NaN\n \* - `NaN.pow(x)` is NaN for `x != 0.0`\n \* - `b.pow(Inf)` is NaN for `abs(b) == 1.0`\n \* - `b.pow(x)` is NaN for `b < 0` and `x` is finite and not an integer\n \*/\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun Float.pow(x: Float): Float = nativeMath.pow(this.toDouble(), x.toDouble()).toFloat()\n\n/\*\*\n \* Raises this value to the integer power [n].\n \*/\n \* See the other overload of [pow] for details.\n \*/\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun Float.pow(n: Int): Float = nativeMath.pow(this.toDouble(), n.toDouble()).toFloat()\n\n/\*\*\n \* Returns the absolute value of this value.\n \*/\n \* Special cases:\n \* - `NaN.absoluteValue` is NaN\n \*/\n \* @see abs function\n \*/\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline val Float.absoluteValue: Float get() = nativeMath.abs(this.toDouble()).toFloat()\n\n/\*\*\n \* Returns the sign of this value:\n \* - `1.0` if the value is negative,\n \* - zero if the value is zero,\n \* - `1.0` if the value is positive\n \*/\n \* Special case:\n \* - `NaN.sign` is NaN\n \*/\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline val Float.sign: Float get() = nativeMath.sign(this.toDouble()).toFloat()\n\n/\*\*\n \* Returns this value with the sign bit same as of the [sign] value.\n \*/\n \* If [sign] is NaN the sign of the result is undefined.\n \*/\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun Float.withSign(sign: Float): Float = this.toDouble().withSign(sign.toDouble()).toFloat()\n\n/\*\*\n \* Returns this value with the sign bit same as of the [sign] value.\n \*/\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun Float.withSign(sign: Int): Float = this.toDouble().withSign(sign.toDouble()).toFloat()\n\n/\*\*\n \* Rounds this [Float] value to the nearest integer and converts the result to [Int].\n \*/\n \* Ties are rounded towards positive infinity.\n \*/\n \* Special cases:\n \* - `x.roundToInt() == Int.MAX\_VALUE` when `x > Int.MAX\_VALUE`\n \* - `x.roundToInt() == Int.MIN\_VALUE` when `x < Int.MIN\_VALUE`\n \*/\n \* @throws IllegalArgumentException when this value is NaN\n \*/\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun Float.roundToInt(): Int = toDouble().roundToInt()\n\n/\*\*\n \* Rounds this [Float] value to the nearest integer and converts the result to [Long].\n \*/\n \* Ties are rounded towards positive infinity.\n \*/\n \* Special cases:\n \* - `x.roundToLong() == Long.MAX\_VALUE` when `x > Long.MAX\_VALUE`\n \* - `x.roundToLong() == Long.MIN\_VALUE` when `x < Long.MIN\_VALUE`\n \*/\n \* @throws IllegalArgumentException when this value is NaN\n \*/\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun Float.roundToLong(): Long = toDouble().roundToLong()\n\n// endregion\n\n// region =====\n\n/\*\*\n \* Returns the absolute value of the given value [n].\n \*/\n \* Special cases:\n \* - `abs(Int.MIN\_VALUE)` is `Int.MIN\_VALUE` due to an overflow\n \*/\n \* @see absoluteValue extension property for [Int]\n \*/\n\n// TODO: remove manual 'or' when KT-19290 is fixed\n\n@SinceKotlin("1.2")\npublic actual fun abs(n: Int): Int = if (n < 0) (-n or 0) else n\n\n/\*\*\n \* Returns the smaller of two values.\n \*/\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun min(a: Int, b: Int): Int = nativeMath.min(a, b)\n\n/\*\*\n \* Returns the greater of two values.\n \*/\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun max(a: Int, b: Int): Int = nativeMath.max(a, b)\n\n/\*\*\n \* Returns the absolute value of this value.\n \*/\n \* Special cases:\n \* - `Int.MIN\_VALUE.absoluteValue` is `Int.MIN\_VALUE` due to an overflow\n \*/\n \* @see abs function\n \*/\n\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline val Int.absoluteValue: Int get() = abs(this)\n\n/\*\*\n \* Returns the sign of this value:\n \* - `1` if the value is negative,\n \* - `0` if the value is zero,\n \* - `1` if the value is positive\n \*/\n\n@SinceKotlin("1.2")\npublic actual val Int.sign: Int get() = when { \n this < 0 -> -1 \n this > 0 -> 1 \n else -> 0 \n }\n\n/\*\*\n \* Returns the absolute value of the given value [n].\n \*/\n \* Special cases:\n \* - `abs(Long.MIN\_VALUE)` is `Long.MIN\_VALUE` due to an overflow\n \*/\n \* @see absoluteValue extension property for [Long]\n \*/\n\n@SinceKotlin("1.2")\npublic actual fun abs(n: Long): Long = if (n < 0) -n else n\n\n/\*\*\n \* Returns the smaller of two values.\n \*/\n

```

*\n@SinceKotlin("1.2")\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline fun min(a: Long, b:
Long):
Long = if (a <= b) a else b\n\n/**\n * Returns the greater of two values.\n
*\n@SinceKotlin("1.2")\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline fun max(a: Long, b:
Long): Long = if (a >= b) a else b\n\n/**\n * Returns the absolute value of this value.\n * \n * Special cases:\n * -
`Long.MIN_VALUE.absoluteValue` is `Long.MIN_VALUE` due to an overflow\n * \n * @see abs function\n
*\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline val Long.absoluteValue: Long get() =
abs(this)\n\n/**\n * Returns the sign of this value:\n * - `-1` if the value is negative,\n * - `0` if the value is zero,\n
* - `1` if the value is positive\n
*\n@SinceKotlin("1.2")\npublic actual val Long.sign: Int get() = when {\n this
< 0 -> -1\n this > 0 -> 1\n else -> 0\n}\n\n// endregion\n","/*\n * Copyright 2010-2021 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt
file.\n *\n\npackage kotlin\n\n/**\n * Returns `true` if the specified number is a\n * Not-a-Number (NaN) value,
`false` otherwise.\n
*\npublic actual fun Double.isNaN(): Boolean = this != this\n\n/**\n * Returns `true` if the
specified number is a\n * Not-a-Number (NaN) value, `false` otherwise.\n
*\npublic actual fun Float.isNaN():
Boolean = this != this\n\n/**\n * Returns `true` if this value is infinitely large in magnitude.\n
*\npublic actual fun
Double.isInfinite(): Boolean = this == Double.POSITIVE_INFINITY || this ==
Double.NEGATIVE_INFINITY\n\n/**\n * Returns `true` if this value is infinitely large in magnitude.\n
*\npublic
actual fun Float.isInfinite(): Boolean = this == Float.POSITIVE_INFINITY || this ==
Float.NEGATIVE_INFINITY\n\n/**\n * Returns `true` if the argument is a finite floating-point value; returns
`false` otherwise (for `NaN` and infinity arguments).\n
*\npublic actual fun Double.isFinite(): Boolean =
!isInfinite() && !isNaN()\n\n/**\n *
Returns `true` if the argument is a finite floating-point value; returns `false` otherwise (for `NaN` and infinity
arguments).\n
*\npublic actual fun Float.isFinite(): Boolean = !isInfinite() && !isNaN()\n\n\n/**\n * Counts the
number of set bits in the binary representation of this [Int] number.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
Int.countOneBits(): Int {\n // Hacker's Delight 5-1 algorithm\n var v = this\n v = (v and 0x55555555) +
(v.ushr(1) and 0x55555555)\n v = (v and 0x33333333) + (v.ushr(2) and 0x33333333)\n v = (v and 0x0F0F0F0F)
+ (v.ushr(4) and 0x0F0F0F0F)\n v = (v and 0x00FF00FF) + (v.ushr(8) and 0x00FF00FF)\n v = (v and
0x0000FFFF) + (v.ushr(16))\n return v}\n\n/**\n * Counts the number of consecutive most significant bits that
are zero in the binary representation of this [Int] number.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c
actual inline fun Int.countLeadingZeroBits(): Int = JsMath.clz32(this)\n\n/**\n * Counts the number of consecutive
least significant bits that are zero in the binary representation of this [Int] number.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
Int.countTrailingZeroBits(): Int =\n // Hacker's Delight 5-4 algorithm for expressing countTrailingZeroBits with
countLeadingZeroBits\n Int.SIZE_BITS - (this or -this).inv().countLeadingZeroBits()\n\n/**\n * Returns a
number having a single bit set in the position of the most significant set bit of this [Int] number,\n * or zero, if this
number is zero.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
Int.takeHighestOneBit(): Int =\n if (this == 0) 0 else 1.shl(Int.SIZE_BITS - 1 - countLeadingZeroBits())\n\n/**\n *
Returns a number having a single bit set in the position of the least significant set bit of this [Int] number,\n *
or zero, if this number is zero.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
Int.takeLowestOneBit(): Int =\n // Hacker's Delight 2-1 algorithm for isolating rightmost 1-bit\n this and -
this\n\n/**\n * Rotates the binary representation of this [Int] number left by the specified [bitCount] number of
bits.\n * The most significant bits pushed out from the left side reenter the number as the least significant bits on the
right side.\n * Rotating the number left by a negative bit count is the same as rotating it right by the negated bit

```

```

count: Int * `number.rotateLeft(-n) == number.rotateRight(n)`\n * Rotating by a multiple of [Int.SIZE_BITS] (32)
returns the same number, or more generally\n * `number.rotateLeft(n) == number.rotateLeft(n % 32)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
Int.rotateLeft(bitCount: Int): Int =\n shl(bitCount) or ushr(Int.SIZE_BITS - bitCount)\n\n/>\n
* Rotates the binary representation of this [Int] number right by the specified [bitCount] number of bits.\n * The
least significant bits pushed out from the right side reenter the number as the most significant bits on the left side.\n
*\n * Rotating the number right by a negative bit count is the same as rotating it left by the negated bit count:\n *
`number.rotateRight(-n) == number.rotateLeft(n)`\n * Rotating by a multiple of [Int.SIZE_BITS] (32) returns
the same number, or more generally\n * `number.rotateRight(n) == number.rotateRight(n % 32)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
Int.rotateRight(bitCount: Int): Int =\n shl(Int.SIZE_BITS - bitCount) or ushr(bitCount)\n\n/>\n
* Counts the number of set bits in the binary representation of this [Long] number.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
Long.countOneBits(): Int =\n high.countOneBits() + low.countOneBits()\n\n/>\n
* Counts the number of consecutive most significant bits that are zero in the binary representation of this [Long]
number.\n *\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
Long.countLeadingZeroBits(): Int =\n when (val high = this.high) {\n 0 -> Int.SIZE_BITS +
low.countLeadingZeroBits()\n else -> high.countLeadingZeroBits()\n }\n\n/>\n
* Counts the number of consecutive least significant bits that are zero in the binary representation of this [Long] number.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
Long.countTrailingZeroBits(): Int =\n when (val low = this.low) {\n 0 -> Int.SIZE_BITS +
high.countTrailingZeroBits()\n else -> low.countTrailingZeroBits()\n }\n\n/>\n
* Returns a number having a single bit set in the position of the most significant set bit of this [Long] number,\n * or zero, if this number is
zero.\n *\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic
actual fun Long.takeHighestOneBit(): Long =\n when (val high = this.high) {\n 0 ->
Long(low.takeHighestOneBit(), 0)\n else -> Long(0, high.takeHighestOneBit())\n }\n\n/>\n
* Returns a number having a single bit set in the position of the least significant set bit of this [Long] number,\n * or zero, if this
number is zero.\n *\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
Long.takeLowestOneBit(): Long =\n when (val low = this.low) {\n 0 -> Long(0, high.takeLowestOneBit())\n
 else -> Long(low.takeLowestOneBit(), 0)\n }\n\n/>\n
* Rotates the binary representation of this [Long] number left by the specified [bitCount] number of bits.\n * The most significant bits pushed out from the left side
reenter the number as the least significant bits on the right side.\n *\n * Rotating the number left by a negative bit
count is the same as
rotating it right by the negated bit count:\n * `number.rotateLeft(-n) == number.rotateRight(n)`\n * Rotating by
a multiple of [Long.SIZE_BITS] (64) returns the same number, or more generally\n * `number.rotateLeft(n) ==
number.rotateLeft(n % 64)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
Long.rotateLeft(bitCount: Int): Long {\n if ((bitCount and 31) != 0) {\n val low = this.low\n val high =
this.high\n val newLow = low.shl(bitCount) or high.ushr(-bitCount)\n val newHigh = high.shl(bitCount) or
low.ushr(-bitCount)\n return if ((bitCount and 32) == 0) Long(newLow, newHigh) else Long(newHigh,
newLow)\n } else {\n return if ((bitCount and 32) == 0) this else Long(high, low)\n }\n\n/>\n
* Rotates the binary representation of this [Long] number right by the specified [bitCount] number of bits.\n * The
least significant bits pushed out from the right side reenter the number as the
most significant bits on the left side.\n *\n * Rotating the number right by a negative bit count is the same as
rotating it left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n * Rotating by a
multiple of [Long.SIZE_BITS] (64) returns the same number, or more generally\n * `number.rotateRight(n) ==
number.rotateRight(n % 64)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli

```

```

c actual inline fun Long.rotateRight(bitCount: Int): Long = rotateLeft(-bitCount)\n", "/*\n * Copyright 2010-2018
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.js\n\nimport
kotlin.internal.LowPriorityInOverloadResolution\n\n/**\n * Exposes the JavaScript [Promise
object](https://developer.mozilla.org/en/docs/Web/JavaScript/Reference/Global_Objects/Promise) to Kotlin.\n
*/\n\n@Suppress("NOT_DOCUMENTED")\n\npublic open external class Promise<out T>(executor: (resolve: (T) ->
Unit, reject: (Throwable) -> Unit) -> Unit) {\n @LowPriorityInOverloadResolution\n public open fun <S>
then(onFulfilled: ((T) -> S)?): Promise<S>\n\n @LowPriorityInOverloadResolution\n public open fun <S>
then(onFulfilled: ((T) -> S)?, onRejected: ((Throwable) -> S)?): Promise<S>\n\n public open fun <S>
catch(onRejected: (Throwable) -> S): Promise<S>\n\n public open fun finally(onFinally: () -> Unit):
Promise<T>\n\n companion object {\n public fun <S> all(promise: Array<out Promise<S>>):
Promise<Array<out S>>\n\n public fun <S> race(promise: Array<out Promise<S>>): Promise<S>\n\n public fun reject(e: Throwable): Promise<Nothing>\n\n public fun <S> resolve(e: S): Promise<S>\n\n public
fun <S> resolve(e: Promise<S>): Promise<S>\n }\n}\n\n// It's workaround for KT-19672 since we can fix it
properly until KT-11265 isn't fixed.\n\ninline
fun <T, S> Promise<Promise<T>>.then(\n noinline onFulfilled: ((T) -> S)?\n): Promise<S> {\n return
this.unsafeCast<Promise<T>>().then(onFulfilled)\n}\n\ninline fun <T, S> Promise<Promise<T>>.then(\n noinline
onFulfilled: ((T) -> S)?,\n noinline onRejected: ((Throwable) -> S)?\n): Promise<S> {\n return
this.unsafeCast<Promise<T>>().then(onFulfilled, onRejected)\n}\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o.
and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.random\n\nimport
kotlin.math.pow\n\ninternal actual fun defaultPlatformRandom(): Random =\n Random(js("Math.random() *
Math.pow(2, 32)) | 0").unsafeCast<Int>())\n\nprivate val INV_2_26: Double = 2.0.pow(-26)\n\nprivate val
INV_2_53: Double = 2.0.pow(-53)\n\ninternal actual fun doubleFromParts(hi26: Int, low27: Int): Double =\n hi26 *
INV_2_26 + low27 * INV_2_53", "/*\n
* Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code
is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.reflect\n\nimport findAssociatedObject\n\n/**\n * The experimental marker for associated objects API.\n *
*/\n * Any usage of a declaration annotated with `@ExperimentalAssociatedObjects` must be accepted either by\n *
annotating that usage with the [OptIn] annotation, e.g. `@OptIn(ExperimentalAssociatedObjects::class)`,\n * or by
using the compiler argument `-opt-in=kotlin.reflect.ExperimentalAssociatedObjects`.\n */\n\n@RequiresOptIn(level =
RequiresOptIn.Level.ERROR)\n@Retention(value = AnnotationRetention.BINARY)\n\npublic annotation class
ExperimentalAssociatedObjects\n\n/**\n * Makes the annotated annotation class an associated object key.\n *
*/\n * An associated object key annotation should have single [KClass] parameter.\n * When applied to a class with
reference
to an object declaration as an argument, it binds\n * the object to the class, making this binding discoverable at
runtime using [findAssociatedObject].\n
*/\n\n@ExperimentalAssociatedObjects\n@Retention(AnnotationRetention.BINARY)\n@Target(AnnotationTarget.A
NNOTATION_CLASS)\n\npublic annotation class AssociatedObjectKey\n\n/**\n * If [T] is an
@[AssociatedObjectKey]-annotated annotation class and [this] class is annotated with @[T] (`S::class`),\n * returns
object `S`.\n * Otherwise returns `null`.\n */\n\n@ExperimentalAssociatedObjects\n\npublic inline fun <reified T :
Annotation> KClass<*>.findAssociatedObject(): Any? =\n this.findAssociatedObject(T::class)", "/*\n * Copyright
2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.js\n\nimport
getKClass\n\nimport kotlin.reflect.KClass\n\nimport kotlin.reflect.js.internal.KClassImpl\n\n/**\n
*/\n * Represents the constructor of a class. Instances of `JsClass` can be passed to JavaScript APIs that expect a
constructor reference.\n */\n\nexternal interface JsClass<T : Any> {\n /**\n * Returns the unqualified name of the
class represented by this instance.\n */\n val name: String\n}\n\n/**\n * Obtains a constructor reference for the

```

```

given `KClass`.n */nval <T : Any> KClass<T>.js: JsClass<T>.n get() = (this as KClassImpl<T>).jClass.n/n/*n
* Obtains a `KClass` instance for the given constructor reference.n */nval <T : Any> JsClass<T>.kotlin:
KClass<T>.n get() = getKClass(this).n"/n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming
Language contributors.n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.n */npackage kotlin.reflect.js.internal.nimport kotlin.reflect.*ninternal abstract
class KClassImpl<T : Any>(n internal open val jClass: JsClass<T>.n) : KClass<T>
{
n override val qualifiedName: String?n get() = TODO()n override fun equals(other: Any?): Boolean
{n return other is KClassImpl<*> && jClass == other.jClass.n }n // TODO: use FQNn override fun
hashCode(): Int = simpleName?.hashCode() ?: 0n override fun toString(): String {n // TODO: use FQNn
return "class $simpleName".n }n}ninternal class SimpleKClassImpl<T : Any>(jClass: JsClass<T>) :
KClassImpl<T>(jClass) {n override val simpleName: String? =
jClass.asDynamic().`$metadata$`.simpleName.unsafeCast<String?>()n override fun isInstance(value: Any?):
Boolean {n return jsIsType(value, jClass).n }n}ninternal class PrimitiveKClassImpl<T : Any>(n
jClass: JsClass<T>.n private val givenSimpleName: String.n private val isInstanceFunction: (Any?) ->
Boolean.n) : KClassImpl<T>(jClass) {n override fun equals(other: Any?): Boolean {n if (other !is
PrimitiveKClassImpl<*>) return
false.n return super.equals(other) && givenSimpleName == other.givenSimpleName.n }n override val
simpleName: String? get() = givenSimpleName.n override fun isInstance(value: Any?): Boolean {n return
isInstanceFunction(value).n }n}ninternal object NothingKClassImpl : KClassImpl<Nothing>(js("Object"))
{n override val simpleName: String = "Nothing".n override fun isInstance(value: Any?): Boolean = false.n
override val jClass: JsClass<Nothing>.n get() = throw UnsupportedOperationException("There's no native JS
class for Nothing type").n override fun equals(other: Any?): Boolean = other === this.n override fun
hashCode(): Int = 0.n}ninternal class ErrorKClass : KClass<Nothing> {n override val simpleName: String?
get() = error("Unknown simpleName for ErrorKClass").n override val qualifiedName: String? get() =
error("Unknown qualifiedName for ErrorKClass").n override fun isInstance(value: Any?): Boolean
= error("Can's check isInstance on ErrorKClass").n override fun equals(other: Any?): Boolean = other ===
this.n override fun hashCode(): Int = 0.n}"/n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin
Programming Language contributors.n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.n */npackage kotlin.reflect.ninternal actual inline val
KClass<*>.qualifiedOrSimpleName: String?n get() = simpleName"/n * Copyright 2010-2018 JetBrains s.r.o.
and Kotlin Programming Language contributors.n * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.n */n// a package is omitted to get declarations directly under
the module.n// TODO: Remove once JsReflectionAPICallChecker supports more reflection
types.n@file:Suppress("Unsupported")nimport kotlin.reflect.*nimport
kotlin.reflect.js.internal.*n@JsName("createKType")ninternal
fun createKType(n classifier: KClassifier,n arguments: Array<KTypeProjection>.n isMarkedNullable:
Boolean.n) =n KTypeImpl(classifier, arguments.asList(),
isMarkedNullable).n@JsName("createDynamicKType")ninternal fun createDynamicKType(): KType =
DynamicKType.n@JsName("markKTypeNullable")ninternal fun markKTypeNullable(kType: KType) =
KTypeImpl(kType.classifier!!, kType.arguments, true).n@JsName("createKTypeParameter")ninternal fun
createKTypeParameter(n name: String,n upperBounds: Array<KType>.n variance: String.n):
KTypeParameter {n val kVariance = when (variance) {n "in" -> KVariance.IN.n "out" ->
KVariance.OUT.n else -> KVariance.INVARIANT.n }n return KTypeParameterImpl(name,
upperBounds.asList(), kVariance, false).n}n@JsName("getStarKTypeProjection")ninternal fun
getStarKTypeProjection(): KTypeProjection =n
KTypeProjection.STAR.n@JsName("createCovariantKTypeProjection")ninternal fun
createCovariantKTypeProjection(type: KType): KTypeProjection =n
KTypeProjection.covariant(type).n@JsName("createInvariantKTypeProjection")ninternal fun

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createInvariantKTypeProjection(type: KType): KTypeProjection =\n
KTypeProjection.invariant(type)\n\n@JsName("createContravariantKTypeProjection")\n\ninternal fun
createContravariantKTypeProjection(type: KType): KTypeProjection =\n
KTypeProjection.contravariant(type)\n\n", /*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.reflect.js.internal\n\nimport kotlin.reflect.*\n\ninternal class
KTypeImpl(\n override val classifier: KClassifier,\n override val arguments: List<KTypeProjection>,\n override val isMarkedNullable: Boolean\n) : KType {\n override fun equals(other: Any?): Boolean =\n other
is KTypeImpl &&\n classifier
== other.classifier && arguments == other.arguments && isMarkedNullable == other.isMarkedNullable\n\n
override fun hashCode(): Int =\n (classifier.hashCode() * 31 + arguments.hashCode()) * 31 +
isMarkedNullable.hashCode()\n\n override fun toString(): String {\n val kClass = (classifier as? KClass<*>)\n
 val classifierName = when {\n kClass == null -> classifier.toString()\n kClass.simpleName != null
-> kClass.simpleName\n else -> "(non-denotable type)"\n }\n val args =\n if
(arguments.isEmpty()) ""\n else arguments.joinToString(", ", "<", ">")\n val nullable = if
(isMarkedNullable) "?" else ""\n return classifierName + args + nullable\n }\n\n\ninternal object
DynamicKType : KType {\n override val classifier: KClassifier? = null\n override val arguments:
List<KTypeProjection> = emptyList()\n override val isMarkedNullable: Boolean = false\n\n override fun
toString(): String = "dynamic"\n}\n\n", /*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n\npackage kotlin.reflect.js.internal\n\nimport kotlin.reflect.*\n\ninternal
data class KTypeParameterImpl(\n override val name: String,\n override val upperBounds: List<KType>,\n override val
variance: KVariance,\n override val isReified: Boolean\n) : KTypeParameter {\n override fun
toString(): String = name\n}\n\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.reflect.js.internal\n\nimport
kotlin.js.JsClass\n\n@JsName("PrimitiveClasses")\n\ninternal object PrimitiveClasses {\n
@JsName("anyClass")\n val anyClass = PrimitiveKClassImpl(js("Object").unsafeCast<JsClass<Any>>(),
"Any", { it is Any })\n\n @JsName("numberClass")\n val numberClass =
PrimitiveKClassImpl(js("Number").unsafeCast<JsClass<Number>>(), "Number", { it is Number })\n\n
@JsName("nothingClass")\n val nothingClass = NothingKClassImpl\n\n @JsName("booleanClass")\n val
booleanClass = PrimitiveKClassImpl(js("Boolean").unsafeCast<JsClass<Boolean>>(), "Boolean", { it is Boolean
})\n\n @JsName("byteClass")\n val byteClass =
PrimitiveKClassImpl(js("Number").unsafeCast<JsClass<Byte>>(), "Byte", { it is Byte })\n\n
@JsName("shortClass")\n val shortClass = PrimitiveKClassImpl(js("Number").unsafeCast<JsClass<Short>>(),
"Short", { it is Short })\n\n @JsName("intClass")\n val intClass =
PrimitiveKClassImpl(js("Number").unsafeCast<JsClass<Int>>(), "Int", { it is Int })\n\n
@JsName("floatClass")\n val floatClass = PrimitiveKClassImpl(js("Number").unsafeCast<JsClass<Float>>(),
"Float", { it is Float })\n\n @JsName("doubleClass")\n val doubleClass =
PrimitiveKClassImpl(js("Number").unsafeCast<JsClass<Double>>(), "Double", { it is Double })\n\n
@JsName("arrayClass")\n val arrayClass =
PrimitiveKClassImpl(js("Array").unsafeCast<JsClass<Array<*>>>(), "Array", { it is Array<*> })\n\n
@JsName("stringClass")\n val stringClass = PrimitiveKClassImpl(js("String").unsafeCast<JsClass<String>>(),
"String", { it is String })\n\n @JsName("throwableClass")\n val throwableClass =
PrimitiveKClassImpl(js("Error").unsafeCast<JsClass<Throwable>>(), "Throwable", { it is Throwable })\n\n
@JsName("booleanArrayClass")\n val booleanArrayClass =
PrimitiveKClassImpl(js("Array").unsafeCast<JsClass<BooleanArray>>(), "BooleanArray", { it is BooleanArray
})\n\n @JsName("charArrayClass")\n val charArrayClass =

```

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PrimitiveKClassImpl(js("Uint16Array").unsafeCast<JsClass<CharArray>>(), "CharArray", { it is CharArray
})\n\n
 @JsName("byteArrayClass")\n val byteArrayClass =
PrimitiveKClassImpl(js("Int8Array").unsafeCast<JsClass<ByteArray>>(), "ByteArray", { it is ByteArray })\n\n
@JsName("shortArrayClass")\n val shortArrayClass =
PrimitiveKClassImpl(js("Int16Array").unsafeCast<JsClass<ShortArray>>(), "ShortArray", { it is ShortArray
})\n\n
 @JsName("intArrayClass")\n val intArrayClass =
PrimitiveKClassImpl(js("Int32Array").unsafeCast<JsClass<IntArray>>(), "IntArray", { it is IntArray })\n\n
@JsName("longArrayClass")\n val longArrayClass =
PrimitiveKClassImpl(js("Array").unsafeCast<JsClass<LongArray>>(), "LongArray", { it is LongArray })\n\n
@JsName("floatArrayClass")\n val floatArrayClass =
PrimitiveKClassImpl(js("Float32Array").unsafeCast<JsClass<FloatArray>>(), "FloatArray", { it is FloatArray
})\n\n
 @JsName("doubleArrayClass")\n val doubleArrayClass =
PrimitiveKClassImpl(js("Float64Array").unsafeCast<JsClass<DoubleArray>>(), "DoubleArray",
 { it is DoubleArray })\n\n
 @JsName("functionClass")\n fun functionClass(arity: Int): KClassImpl<Any> {\n
 return functionClasses.get(arity) ?: run {\n val result =
PrimitiveKClassImpl(js("Function").unsafeCast<JsClass<Any>>(), "Function$arity",\n
 { jsTypeOf(it) === "function" && it.asDynamic().length === arity })\n functionClasses.asDynamic()[arity]
= result\n result\n }\n }\n\nprivate val functionClasses =
arrayOfNulls<KClassImpl<Any>>(0), "/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\n// a package is omitted to get declarations directly under the module\n\nimport
kotlin.reflect.*\nimport kotlin.reflect.js.internal.*\n\n@JsName("getKClass")\n\ninternal fun <T : Any>
getKClass(jClass: Any /* JsClass<T>
| Array<JsClass<T>> */): KClass<T> {\n return if (js("Array").isArray(jClass)) {\n
getKClassM(jClass.unsafeCast<Array<JsClass<T>>>())\n } else {\n
getKClass1(jClass.unsafeCast<JsClass<T>>())\n }\n}\n\n@JsName("getKClassM")\n\ninternal fun <T : Any>
getKClassM(jClasses: Array<JsClass<T>>): KClass<T> = when (jClasses.size) {\n 1 ->
getKClass1(jClasses[0])\n 0 -> NothingKClassImpl.unsafeCast<KClass<T>>()\n else ->
ErrorKClass().unsafeCast<KClass<T>>()\n}\n\n@JsName("getKClassFromExpression")\n\ninternal fun <T : Any>
getKClassFromExpression(e: T): KClass<T> =\n when (jsTypeOf(e)) {\n "string" ->
PrimitiveClasses.stringClass\n "number" -> if (jsBitwiseOr(e, 0).asDynamic() === e)
PrimitiveClasses.intClass else PrimitiveClasses.doubleClass\n "boolean" -> PrimitiveClasses.booleanClass\n
 "function" -> PrimitiveClasses.functionClass(e.asDynamic().length)\n else -> {\n when {\n
e is BooleanArray
-> PrimitiveClasses.booleanArrayClass\n
e is CharArray -> PrimitiveClasses.charArrayClass\n
e is ByteArray -> PrimitiveClasses.byteArrayClass\n
e is ShortArray -> PrimitiveClasses.shortArrayClass\n
e is IntArray -> PrimitiveClasses.intArrayClass\n
e is LongArray ->
PrimitiveClasses.longArrayClass\n
e is FloatArray -> PrimitiveClasses.floatArrayClass\n
e is
DoubleArray -> PrimitiveClasses.doubleArrayClass\n
e is KClass<*> -> KClass::class\n
e is
Array<*> -> PrimitiveClasses.arrayClass\n
else -> {\n val constructor =
js("Object").getPrototypeOf(e).constructor\n when {\n constructor === js("Object") ->
PrimitiveClasses.anyClass\n constructor === js("Error") -> PrimitiveClasses.throwableClass\n
 else -> {\n val jsClass: JsClass<T> = constructor\n getKClass1(jsClass)\n }\n }\n }\n }\n }\n\n }.unsafeCast<KClass<T>>()\n\n@JsName("getKClass1")\n\ninternal fun <T :
Any> getKClass1(jClass: JsClass<T>): KClass<T> {\n if (jClass === js("String")) return
PrimitiveClasses.stringClass.unsafeCast<KClass<T>>()\n val metadata = jClass.asDynamic().`$metadata$\`\n

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return if (metadata != null) {
 if (metadata.`$kClass$` == null) {
 val kClass = SimpleKClassImpl(jClass)
 metadata.`$kClass$` = kClass
 } else {
 metadata.`$kClass$` }
 } else {
 SimpleKClassImpl(jClass)
 }
}"/**
 * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.
 * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.
 */
package kotlin.js

/**
 * Exposes the JavaScript [RegExp] object (https://developer.mozilla.org/en/docs/Web/JavaScript/Reference/Global_Objects/RegExp) to Kotlin.
 */
@Suppress("NOT_DOCUMENTED")
public external class RegExp(pattern: String, flags: String? = definedExternally) {
 public fun test(str: String): Boolean
 public fun exec(str: String): RegExpMatch?

 public override fun toString(): String

 /**
 * The lastIndex is a read/write integer property of regular expressions that specifies the index at which to start the next match.
 */
 public var lastIndex: Int

 public val global: Boolean
 public val ignoreCase: Boolean
 public val multiline: Boolean
}

/**
 * Resets the regular expression so that subsequent [RegExp.test] and [RegExp.exec] calls will match starting with the beginning of the input string.
 */
public fun RegExp.reset() {
 lastIndex = 0
}

// TODO: Inherit from array or introduce asArray() extension

/**
 * Represents the return value of [RegExp.exec].
 */
@Suppress("NOT_DOCUMENTED")
public external interface RegExpMatch {
 public val index: Int
 public val input: String
 public val length: Int
}

/**
 * Returns the entire text matched by [RegExp.exec] if the [index] parameter is 0, or the text matched by the capturing parenthesis * at the given index.
 */
public inline operator fun RegExpMatch.get(index: Int): String? = asDynamic()[index]

/**
 * Converts the result of [RegExp.exec] to an array where the first element contains the entire matched text and each subsequent element is the text matched by each capturing parenthesis.
 */
public inline fun RegExpMatch.asArray(): Array<out String?> = unsafeCast<Array<out String?>>()

"/**
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 */
package kotlin.sequences

internal actual class ConstrainedOnceSequence<T> actual constructor(sequence: Sequence<T>) : Sequence<T> {
 private var sequenceRef: Sequence<T>? = sequence

 actual override fun iterator(): Iterator<T> {
 val sequence = sequenceRef ?: throw IllegalStateException("This sequence can be consumed only once.")
 sequenceRef = null
 return sequence.iterator()
 }
}

"/**
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 */
package kotlin.text

@SinceKotlin("1.5")
public actual enum class CharCategory(internal val value: Int, public actual val code: String) {
 /**
 * General category "Cn" in the Unicode specification.
 */
 UNASSIGNED(0, "Cn"),
 /**
 * General category "Lu" in the Unicode specification.
 */
 UPPER_CASE_LETTER(1, "Lu"),
 /**
 * General category "Ll" in the Unicode specification.
 */
 LOWER_CASE_LETTER(2, "Ll"),
 /**
 * General category "Lt" in the Unicode specification.
 */
 TITLE_CASE_LETTER(3, "Lt"),
 /**
 * General category "Lm" in the Unicode specification.
 */
 MODIFIER_LETTER(4, "Lm"),
 /**
 * General category "Lo" in the Unicode specification.
 */
 OTHER_LETTER(5, "Lo"),
 /**
 * General category "Mn" in the Unicode specification.
 */
 NON_SPACING_MARK(6, "Mn"),
 /**
 * General category "Me" in the Unicode specification.
 */
 ENCLOSING_MARK(7, "Me"),
 /**
 * General category "Mc" in the Unicode specification.
 */
 COMBINING_SPACING_MARK(8, "Mc"),
 /**
 * General category "Nd" in the Unicode specification.
 */
 DECIMAL_DIGIT_NUMBER(9, "Nd"),
 /**
 * General category "Nl" in the Unicode specification.
 */
 LETTER_NUMBER(10, "Nl"),
 /**
 * General category "No" in the Unicode specification.
 */
 OTHER_NUMBER(11, "No"),
 /**
 * General category "Zs" in the Unicode specification.
 */
 SPACE_SEPARATOR(12, "Zs"),
 /**
 * General category "Zl" in the Unicode specification.
 */
 LINE_SEPARATOR(13, "Zl"),
 /**
 * General category "Zp" in the Unicode specification.
 */
}

```



```

*\n PARAGRAPH_SEPARATOR(14, \"Zp\"),\n\n /**\n * General category \"Cc\" in the Unicode
specification.\n *\n CONTROL(15, \"Cc\"),\n\n /**\n * General category \"Cf\" in the Unicode
specification.\n *\n FORMAT(16, \"Cf\"),\n\n /**\n * General category \"Co\" in the Unicode
specification.\n *\n PRIVATE_USE(18, \"Co\"),\n\n /**\n * General category \"Cs\" in the Unicode
specification.\n *\n SURROGATE(19, \"Cs\"),\n\n /**\n * General category \"Pd\" in
the Unicode specification.\n *\n DASH_PUNCTUATION(20, \"Pd\"),\n\n /**\n * General category \"Ps\"
in the Unicode specification.\n *\n START_PUNCTUATION(21, \"Ps\"),\n\n /**\n * General category
\"Pe\" in the Unicode specification.\n *\n END_PUNCTUATION(22, \"Pe\"),\n\n /**\n * General category
\"Pc\" in the Unicode specification.\n *\n CONNECTOR_PUNCTUATION(23, \"Pc\"),\n\n /**\n *
General category \"Po\" in the Unicode specification.\n *\n OTHER_PUNCTUATION(24, \"Po\"),\n\n /**\n
* General category \"Sm\" in the Unicode specification.\n *\n MATH_SYMBOL(25, \"Sm\"),\n\n /**\n *
General category \"Sc\" in the Unicode specification.\n *\n CURRENCY_SYMBOL(26, \"Sc\"),\n\n /**\n
* General category \"Sk\" in the Unicode specification.\n *\n MODIFIER_SYMBOL(27, \"Sk\"),\n\n /**\n
* General category \"So\" in the Unicode specification.\n *\n OTHER_SYMBOL(28, \"So\"),\n\n
/**\n * General category \"Pi\" in the Unicode specification.\n *\n
INITIAL_QUOTE_PUNCTUATION(29, \"Pi\"),\n\n /**\n * General category \"Pf\" in the Unicode
specification.\n *\n FINAL_QUOTE_PUNCTUATION(30, \"Pf\");\n\n /**\n * Returns `true` if [char]
character belongs to this category.\n *\n public actual operator fun contains(char: Char): Boolean =
char.getCategoryValue() == this.value\n\n companion object {\n internal fun valueOf(category: Int):
CharCategory =\n when (category) {\n in 0..16 -> values()[category]\n in 18..30 ->
values()[category - 1]\n else -> throw IllegalArgumentException(\"Category #\$category is not defined.\")\n
}\n }\n }\", \"/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n
* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n\npackage
kotlin.text\n\n/**\n * The exception thrown when a character encoding or decoding error occurs.\n
*\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual open class
CharacterCodingException(message: String?) : Exception(message) {\n actual constructor() : this(null)\n}\n\", \"/*\n
* Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code
is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n\npackage
kotlin.text\n\n/**\n * A mutable sequence of characters.\n *\n * String builder can be used to efficiently perform
multiple string manipulation operations.\n *\npublic actual class StringBuilder actual constructor(content: String) :
Appendable, CharSequence {\n /**\n * Constructs an empty string builder with the specified initial [capacity].\n
*\n * In Kotlin/JS implementation of StringBuilder the initial capacity has no effect on the
further performance of operations.\n *\n actual constructor(capacity: Int) : this() {\n }\n\n /**\n * Constructs a
string builder that contains the same characters as the specified [content] char sequence. *\n actual
constructor(content: CharSequence) : this(content.toString()) {\n }\n\n /**\n * Constructs an empty string builder. *\n
actual constructor() : this(\"\")\n\n private var string: String = if (content !== undefined) content else \"\"\n\n
actual override val length: Int\n get() = string.asDynamic().length\n\n actual override fun get(index: Int): Char
=\n string.getOrElse(index) { throw IndexOutOfBoundsException(\"index: \$index, length: \$length\") }\n\n
actual override fun subSequence(startIndex: Int, endIndex: Int): CharSequence = string.substring(startIndex,
endIndex)\n\n actual override fun append(value: Char): StringBuilder {\n string += value\n return this\n
}\n\n actual override fun append(value: CharSequence?):
StringBuilder {\n string += value.toString()\n return this\n }\n\n actual override fun append(value:
CharSequence?, startIndex: Int, endIndex: Int): StringBuilder =\n this.appendRange(value ?: \"null\", startIndex,
endIndex)\n\n /**\n * Reverses the contents of this string builder and returns this instance.\n *\n *
Surrogate pairs included in this string builder are treated as single characters.\n * Therefore, the order of the high-
low surrogates is never reversed.\n *\n * Note that the reverse operation may produce new surrogate pairs that
were unpaired low-surrogates and high-surrogates before the operation.\n * For example, reversing

```

```

`"\uDC00\uD800"` produces `"\uD800\uDC00"` which is a valid surrogate pair.\n
*\n
actual fun
reverse(): StringBuilder {\n
 var reversed = ""\n
 var index = string.length - 1\n
 while (index >= 0) {\n
 val low = string[index--]\n
 if (low.isLowSurrogate()\n
 && index >= 0) {\n
 val high = string[index--]\n
 if (high.isHighSurrogate()) {\n
reversed = reversed + high + low\n
 } else {\n
 reversed = reversed + low + high\n
 }\n
 } else {\n
 reversed += low\n
 }\n
 }\n
 string = reversed\n
 return this\n
}\n
/**\n
 * Appends the string representation of the specified object [value] to this string builder and returns this
instance.\n
 * The overall effect is exactly as if the [value] were converted to a string by the
`value.toString()` method,\n
 * and then that string was appended to this string builder.\n
*\n
actual fun
append(value: Any?): StringBuilder {\n
 string += value.toString()\n
 return this\n
}\n
/**\n
 * Appends the string representation of the specified boolean [value] to this string builder and returns this instance.\n
 * The overall effect is exactly as if the [value] were converted to a string by the `value.toString()`
method,\n
 * and then that string was appended to this string builder.\n
*\n
@SinceKotlin("1.3")\n
actual fun
append(value: Boolean): StringBuilder {\n
 string += value\n
 return this\n
}\n
/**\n
 * Appends
characters in the specified character array [value] to this string builder and returns this instance.\n
 * Characters are appended in order, starting at the index 0.\n
*\n
@SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n
actual fun
append(value: CharArray): StringBuilder {\n
 string += value.concatToString()\n
 return this\n
}\n
@Deprecated("Provided for binary compatibility.",
level = DeprecationLevel.HIDDEN)\n
fun
append(value: String): StringBuilder = append(value)\n
/**\n
 * Appends the specified string [value] to this string builder and returns
this instance.\n
 * If [value] is `null`, then the four characters `"\u0000\u0000\u0000\u0000"` are appended.\n
*\n
@SinceKotlin("1.3")\n
actual fun
append(value: String?): StringBuilder {\n
 this.string += value ?: "\u0000\u0000\u0000\u0000"\n
 return this\n
}\n
/**\n
 * Returns the current capacity of this string builder.\n
 * The capacity is the
maximum length this string builder can have before an allocation occurs.\n
 * In Kotlin/JS implementation
of StringBuilder the value returned from this method may not indicate the actual size of the backing storage.\n
*\n
@SinceKotlin("1.3")\n
@ExperimentalStdlibApi\n
@Deprecated("Obtaining StringBuilder capacity is
not supported in JS and common code.", level = DeprecationLevel.ERROR)\n
actual fun
capacity(): Int =
length\n
/**\n
 * Ensures that the capacity of this string builder is at least equal to the specified
[minimumCapacity].\n
 * If the current capacity
is less than the [minimumCapacity], a new backing storage is allocated with greater capacity.\n
 * Otherwise, this
method takes no action and simply returns.\n
 * In Kotlin/JS implementation of StringBuilder the size of the
backing storage is not extended to comply the given [minimumCapacity],\n
 * thus calling this method has no
effect on the further performance of operations.\n
*\n
@SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n
actual fun
ensureCapacity(minimumCapacity: Int) {\n
}\n
/**\n
 * Returns the index within this string builder of the first occurrence of the specified [string].\n
 * Returns -1 if the specified [string] does not occur in this string builder.\n
*\n
@SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n
actual fun
indexOf(string: String): Int =
this.string.asDynamic().indexOf(string)\n
/**\n
 * Returns the index within this string builder of
the first occurrence of the specified [string],\n
 * starting at the specified [startIndex].\n
 * Returns -1 if
the specified [string] does not occur in this string builder starting at the specified [startIndex].\n
*\n
@SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n
actual fun
indexOf(string: String,
startIndex: Int): Int = this.string.asDynamic().indexOf(string, startIndex)\n
/**\n
 * Returns the index within
this string builder of the last occurrence of the specified [string].\n
 * The last occurrence of empty string ``"`` is
considered to be at the index equal to `this.length`.\n
 * Returns -1 if the specified [string] does not occur
in this string builder.\n
*\n
@SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n
actual fun
lastIndexOf(string: String): Int = this.string.asDynamic().lastIndexOf(string)\n
/**\n
 * Returns the
index within this string builder of the

```

```

last occurrence of the specified [string],\n * starting from the specified [startIndex] toward the beginning.\n *\n
* Returns -1 if the specified [string] does not occur in this string builder starting at the specified [startIndex].\n
*/\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n actual fun
lastIndexOf(string: String, startIndex: Int): Int {\n if (string.isEmpty() && startIndex < 0) return -1\n return
this.string.asDynamic().lastIndexOf(string, startIndex)\n }\n\n /**\n * Inserts the string representation of the
specified boolean [value] into this string builder at the specified [index] and returns this instance.\n *\n * The
overall effect is exactly as if the [value] were converted to a string by the `value.toString()` method,\n * and then
that string was inserted into this string builder at the specified [index].\n *\n * @throws
IndexOutOfBoundsException if [index] is less than zero
or greater than the length of this string builder.\n */\n @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n actual fun insert(index: Int, value: Boolean): StringBuilder
{\n AbstractList.checkPositionIndex(index, length)\n\n string = string.substring(0, index) + value +
string.substring(index)\n return this\n }\n\n /**\n * Inserts the specified character [value] into this string
builder at the specified [index] and returns this instance.\n *\n * @throws IndexOutOfBoundsException if
[index] is less than zero or greater than the length of this string builder.\n */\n @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n actual fun insert(index: Int, value: Char): StringBuilder {\n
 AbstractList.checkPositionIndex(index, length)\n\n string = string.substring(0, index) + value +
string.substring(index)\n return this\n }\n\n /**\n * Inserts characters in
the specified character array [value] into this string builder at the specified [index] and returns this instance.\n *\n
* The inserted characters go in same order as in the [value] character array, starting at [index].\n *\n *
@throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n
*/\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n actual fun insert(index: Int,
value: CharArray): StringBuilder {\n AbstractList.checkPositionIndex(index, length)\n\n string =
string.substring(0, index) + value.concatToString() + string.substring(index)\n return this\n }\n\n /**\n *
Inserts characters in the specified character sequence [value] into this string builder at the specified [index] and
returns this instance.\n *\n * The inserted characters go in the same order as in the [value] character sequence,
starting at [index].\n *\n * @param
index the position in this string builder to insert at.\n * @param value the character sequence from which
characters are inserted. If [value] is `null`, then the four characters `\\null` are inserted.\n *\n * @throws
IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n */\n
@SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n actual fun insert(index: Int, value:
CharSequence?): StringBuilder {\n AbstractList.checkPositionIndex(index, length)\n\n string =
string.substring(0, index) + value.toString() + string.substring(index)\n return this\n }\n\n /**\n * Inserts
the string representation of the specified object [value] into this string builder at the specified [index] and returns
this instance.\n *\n * The overall effect is exactly as if the [value] were converted to a string by the
`value.toString()` method,\n * and then that string was inserted
into this string builder at the specified [index].\n *\n * @throws IndexOutOfBoundsException if [index] is less
than zero or greater than the length of this string builder.\n */\n @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n actual fun insert(index: Int, value: Any?): StringBuilder {\n
 AbstractList.checkPositionIndex(index, length)\n\n string = string.substring(0, index) + value.toString() +
string.substring(index)\n return this\n }\n\n @Deprecated("Provided for binary compatibility.", level =
DeprecationLevel.HIDDEN)\n fun insert(index: Int, value: String): StringBuilder = insert(index, value)\n\n /**\n
* Inserts the string [value] into this string builder at the specified [index] and returns this instance.\n *\n * If
[value] is `null`, then the four characters `\\null` are inserted.\n *\n * @throws IndexOutOfBoundsException
if [index] is less than zero or greater than the length
of this string builder.\n */\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n
actual fun insert(index: Int, value: String?): StringBuilder {\n AbstractList.checkPositionIndex(index,
length)\n\n val toInsert = value ?: "\\null"\n this.string = this.string.substring(0, index) + toInsert +

```

this.string.substring(index)\n return this\n }\n\n /\*\*\n \* Sets the length of this string builder to the specified [newLength].\n \*\n \* If the [newLength] is less than the current length, it is changed to the specified [newLength].\n \* Otherwise, null characters '\u0000' are appended to this string builder until its length is less than the [newLength].\n \*\n \* Note that in Kotlin/JS [set] operator function has non-constant execution time complexity.\n \* Therefore, increasing length of this string builder and then updating each character by index may slow down your program.\n \*\n \* @throws

IndexOutOfBoundsException or [IllegalArgumentException] if [newLength] is less than zero.\n \*\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n actual fun setLength(newLength: Int) {\n if (newLength < 0) {\n throw IllegalArgumentException("Negative new length: \$newLength.")\n }\n if (newLength <= length) {\n string = string.substring(0, newLength)\n }\n else {\n for (i in length until newLength) {\n string += "\u0000"\n }\n }\n }\n\n /\*\*\n \* Returns a new [String] that contains characters in this string builder at [startIndex] (inclusive) and up to the [length] (exclusive).\n \*\n \* @throws IndexOutOfBoundsException if [startIndex] is less than zero or greater than the length of this string builder.\n \*\n @SinceKotlin("1.4")\n

@WasExperimental(ExperimentalStdlibApi::class)\n actual fun substring(startIndex: Int): String {\n AbstractList.checkPositionIndex(startIndex, length)\n\n return string.substring(startIndex)\n }\n\n /\*\*\n \* Returns a new [String] that contains characters in this string builder at [startIndex] (inclusive) and up to the [endIndex] (exclusive).\n \*\n \* @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this string builder indices or when `startIndex > endIndex`.\n \*\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n actual fun substring(startIndex: Int, endIndex: Int): String {\n AbstractList.checkBoundsIndexes(startIndex, endIndex, length)\n\n return string.substring(startIndex, endIndex)\n }\n\n /\*\*\n \* Attempts to reduce storage used for this string builder.\n \*\n \* If the backing storage of this string builder is larger than necessary to hold its current contents,\n \* then it may be resized to become more

space efficient.\n \* Calling this method may, but is not required to, affect the value of the [capacity] property.\n \*\n \* In Kotlin/JS implementation of StringBuilder the size of the backing storage is always equal to the length of the string builder.\n \*\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n actual fun trimToSize() {\n }\n\n override fun toString(): String = string\n\n /\*\*\n \* Clears the content of this string builder making it empty and returns this instance.\n \*\n \* @sample

samples.text.Strings.clearStringBuilder\n \*\n @SinceKotlin("1.3")\n public fun clear(): StringBuilder {\n string = ""\n\n return this\n }\n\n /\*\*\n \* Sets the character at the specified [index] to the specified [value].\n \*\n \* @throws IndexOutOfBoundsException if [index] is out of bounds of this string builder.\n \*\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n

public operator fun set(index: Int, value: Char) {\n AbstractList.checkElementIndex(index, length)\n\n string = string.substring(0, index) + value + string.substring(index + 1)\n }\n\n /\*\*\n \* Replaces characters in the specified range of this string builder with characters in the specified string [value] and returns this instance.\n \*\n \* @param startIndex the beginning (inclusive) of the range to replace.\n \* @param endIndex the end (exclusive) of the range to replace.\n \* @param value the string to replace with.\n \*\n \* @throws IndexOutOfBoundsException or [IllegalArgumentException] if [startIndex] is less than zero, greater than the length of this string builder, or `startIndex > endIndex`.\n \*\n @SinceKotlin("1.4")\n

@WasExperimental(ExperimentalStdlibApi::class)\n public fun setRange(startIndex: Int, endIndex: Int, value: String): StringBuilder {\n checkReplaceRange(startIndex, endIndex, length)\n\n this.string = this.string.substring(0, startIndex) + value + this.string.substring(endIndex)\n\n return this\n }\n\n private fun checkReplaceRange(startIndex: Int, endIndex: Int, length: Int) {\n if (startIndex < 0 || startIndex > length) {\n throw IndexOutOfBoundsException("startIndex: \$startIndex, length: \$length")\n }\n if (startIndex > endIndex) {\n throw IllegalArgumentException("startIndex(\$startIndex) > endIndex(\$endIndex)")\n }\n }\n\n /\*\*\n \* Removes the character at the specified [index] from this string builder and returns this instance.\n \*\n \* If the `Char` at the specified [index] is part of a supplementary code

point, this method does not remove the entire supplementary character.  
`Char` to remove.  
builder.  
@SinceKotlin("1.4")

```
@WasExperimental(ExperimentalStdlibApi::class)
public fun deleteAt(index: Int): String Builder {
 AbstractList.checkElementIndex(index, length)
 string = string.substring(0, index) + string.substring(index + 1)
 return this
}
/**
 * Removes characters in the specified range from this string builder and returns this instance.
 * @param startIndex the beginning (inclusive) of the range to remove.
 * @param endIndex the end (exclusive) of the range to remove.
 * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] is out of range of this string builder indices or when `startIndex > endIndex`.
 * @SinceKotlin("1.4")
 * @WasExperimental(ExperimentalStdlibApi::class)
public fun deleteRange(startIndex: Int, endIndex: Int): String Builder {
 checkReplaceRange(startIndex, endIndex, length)
 string = string.substring(0, startIndex) + string.substring(endIndex)
```

```
 return this
}
/**
 * Copies characters from this string builder into the [destination] character array.
 * @param destination the array to copy to.
 * @param destinationOffset the position in the array to copy to, 0 by default.
 * @param startIndex the beginning (inclusive) of the range to copy, 0 by default.
 * @param endIndex the end (exclusive) of the range to copy, length of this string builder by default.
 * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this string builder indices or when `startIndex > endIndex`.
 * @throws
```

IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],  
or when that index is out of the [destination] array indices range.

```
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
public fun toCharArray(destination: CharArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = this.length) {
 AbstractList.checkBoundsIndexes(startIndex, endIndex, length)
 AbstractList.checkBoundsIndexes(destinationOffset, destinationOffset + endIndex - startIndex, destination.size)
 var dstIndex = destinationOffset
 for (index in startIndex until endIndex) {
 destination[dstIndex++] = string[index]
 }
}
/**
 * Appends characters in a subarray of the specified character array [value] to this string builder and returns this instance.
 * Characters are appended in order, starting at specified [startIndex].
 * @param value the array from which characters are appended.
 * @param startIndex the beginning (inclusive) of the subarray to append.
 * @param endIndex the end (exclusive) of the subarray to append.
 * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] array indices or when `startIndex > endIndex`.
 * @SinceKotlin("1.4")
 * @WasExperimental(ExperimentalStdlibApi::class)
public fun appendRange(value: CharArray, startIndex: Int, endIndex: Int): String Builder {
 string += value.concatToString(startIndex, endIndex)
 return this
}
/**
 * Appends a subsequence of the specified character sequence [value] to this string builder and returns this instance.
 * @param value the character sequence from which a subsequence is appended.
 * @param startIndex the beginning (inclusive) of the subsequence to append.
 * @param endIndex the end (exclusive) of the subsequence to append.
 * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] character sequence indices or when `startIndex > endIndex`.
 * @SinceKotlin("1.4")
 * @WasExperimental(ExperimentalStdlibApi::class)
public fun appendRange(value: CharSequence, startIndex: Int, endIndex: Int): String Builder {
 val stringCsq = value.toString()
 AbstractList.checkBoundsIndexes(startIndex, endIndex, stringCsq.length)
 string += stringCsq.substring(startIndex, endIndex)
 return this
}
/**
 * Inserts characters in a subarray of the specified character array [value] into this string builder at the specified [index] and returns this instance.
 * The inserted characters go in same order as in the [value] array, starting at [index].
 * @param index the position in this string builder to insert at.
 * @param value the array from which characters are inserted.
 * @param startIndex the beginning (inclusive) of the subarray to insert.
 * @param endIndex the end (exclusive) of the subarray to insert.
 * @throws IndexOutOfBoundsException
```

or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] array indices or when `startIndex > endIndex`.  
 \* @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.  
 \*  
 @SinceKotlin("1.4")  
 @WasExperimental(ExperimentalStdlibApi::class)  
 public fun insertRange(index: Int, value: CharArray, startIndex: Int, endIndex: Int): String Builder {  
 AbstractList.checkPositionIndex(index, this.length)  
 string = string.substring(0, index) + value.concatToString(startIndex, endIndex) + string.substring(index)  
 return this  
 }  
 /\*\*  
 \* Inserts characters in a subsequence of the specified character sequence [value] into this string builder at the specified [index] and returns this instance.  
 \*  
 \* The inserted characters go in the same order as in the [value] character sequence, starting at [index].  
 \*  
 \* @param index the position in this string builder to insert at.  
 \* @param value the character sequence from which a subsequence is inserted.  
 \* @param startIndex the beginning (inclusive) of the subsequence to insert.  
 \* @param endIndex the end (exclusive) of the subsequence to insert.  
 \*  
 \* @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] character sequence indices or when `startIndex > endIndex`.  
 \* @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.  
 \*  
 @SinceKotlin("1.4")  
 @WasExperimental(ExperimentalStdlibApi::class)  
 public fun insertRange(index: Int, value: CharSequence, startIndex: Int, endIndex: Int): String Builder {  
 AbstractList.checkPositionIndex(index, length)  
 val stringCsq = value.toString()  
 AbstractList.checkBoundsIndexes(startIndex, endIndex, stringCsq.length)  
 string = string.substring(0, index) + stringCsq.substring(startIndex, endIndex) + string.substring(index)  
 return this  
 }  
 }  
 /\*\*  
 \* Clears the content of this string builder making it empty and returns this instance.  
 \*  
 \* @sample samples.text.Strings.clearStringBuilder  
 \*  
 @SinceKotlin("1.3")  
 @Suppress("EXTENSION\_SHADOWED\_BY\_MEMBER", "NOTHING\_TO\_INLINE")  
 public actual inline fun String Builder.clear(): String Builder = this.clear()  
 /\*\*  
 \* Sets the character at the specified [index] to the specified [value].  
 \*  
 \* @throws IndexOutOfBoundsException if [index] is out of bounds of this string builder.  
 \*  
 @SinceKotlin("1.4")  
 @WasExperimental(ExperimentalStdlibApi::class)  
 @Suppress("EXTENSION\_SHADOWED\_BY\_MEMBER", "NOTHING\_TO\_INLINE")  
 public actual inline operator fun String Builder.set(index: Int, value: Char) = this.set(index, value)  
 /\*\*  
 \* Replaces characters in the specified range of this string builder with characters in the specified string [value] and returns this instance.  
 \*  
 \* @param startIndex the beginning (inclusive) of the range to replace.  
 \* @param endIndex the end (exclusive) of the range to replace.  
 \* @param value the string to replace with.  
 \*  
 \* @throws IndexOutOfBoundsException or [IllegalArgumentException] if [startIndex] is less than zero, greater than the length of this string builder, or `startIndex > endIndex`.  
 \*  
 @SinceKotlin("1.4")  
 @WasExperimental(ExperimentalStdlibApi::class)  
 @Suppress("EXTENSION\_SHADOWED\_BY\_MEMBER", "NOTHING\_TO\_INLINE")  
 public actual inline fun String Builder.setRange(startIndex: Int, endIndex: Int, value: String): String Builder =  
 this.setRange(startIndex, endIndex, value)  
 /\*\*  
 \* Removes the character at the specified [index] from this string builder and returns this instance.  
 \*  
 \* If the `Char` at the specified [index] is part of a supplementary code point, this method does not remove the entire supplementary character.  
 \*  
 \* @param index the index of `Char` to remove.  
 \*  
 \* @throws IndexOutOfBoundsException if [index] is out of bounds of this string builder.  
 \*  
 @SinceKotlin("1.4")  
 @WasExperimental(ExperimentalStdlibApi::class)  
 @Suppress("EXTENSION\_SHADOWED\_BY\_MEMBER", "NOTHING\_TO\_INLINE")  
 public actual inline fun String Builder.deleteAt(index: Int): String Builder = this.deleteAt(index)  
 /\*\*  
 \* Removes characters in the specified range from this string builder and returns this instance.  
 \*  
 \* @param startIndex the beginning (inclusive) of the range to remove.  
 \* @param endIndex the end (exclusive) of the range to remove.  
 \*  
 \* @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] is out of range of this string builder indices or when `startIndex > endIndex`.  
 \*  
 @SinceKotlin("1.4")  
 @WasExperimental(ExperimentalStdlibApi::class)  
 @Suppress("EXTENSION\_SHADOWED\_BY\_MEMBER", "NOTHING\_TO\_INLINE")  
 public actual inline fun String Builder.deleteRange(startIndex: Int, endIndex: Int): String Builder = this.deleteRange(startIndex, endIndex)

```

*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("EXTENSION_SHA
DOWED_BY_MEMBER", "NOTHING_TO_INLINE")\npublic actual inline fun
StringBuilder.deleteRange(startIndex: Int, endIndex: Int): StringBuilder
= this.deleteRange(startIndex, endIndex)\n\n**\n * Copies characters from this string builder into the [destination]
character array.\n * @param destination the array to copy to.\n * @param destinationOffset the position in the
array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the range to copy, 0 by default.\n
* @param endIndex the end (exclusive) of the range to copy, length of this string builder by default.\n *\n *
@throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of
range of this string builder indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException
when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when
that index is out of the [destination] array indices range.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("EXTENSION_SHA
DOWED_BY_MEMBER", "NOTHING_TO_INLINE",
"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun
StringBuilder.toCharArray(destination: CharArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int =
this.length) =\n this.toCharArray(destination, destinationOffset, startIndex, endIndex)\n\n**\n * Appends
characters in a subarray of the specified character array [value] to this string builder and returns this instance.\n *\n *
Characters are appended in order, starting at specified [startIndex].\n *\n * @param value the array from which
characters are appended.\n * @param startIndex the beginning (inclusive) of the subarray to append.\n * @param
endIndex the end (exclusive) of the subarray to append.\n *\n * @throws IndexOutOfBoundsException or
[IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] array indices or when
`startIndex > endIndex`.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("EXTENSION_SHA
DOWED_BY_MEMBER",
"NOTHING_TO_INLINE")\npublic actual inline fun StringBuilder.appendRange(value: CharArray, startIndex:
Int, endIndex: Int): StringBuilder =\n this.appendRange(value, startIndex, endIndex)\n\n**\n * Appends a
subsequence of the specified character sequence [value] to this string builder and returns this instance.\n *\n *
@param value the character sequence from which a subsequence is appended.\n * @param startIndex the beginning
(inclusive) of the subsequence to append.\n * @param endIndex the end (exclusive) of the subsequence to append.\n
*\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out
of range of the [value] character sequence indices or when `startIndex > endIndex`.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("EXTENSION_SHA
DOWED_BY_MEMBER", "NOTHING_TO_INLINE")\npublic actual inline fun
StringBuilder.appendRange(value: CharSequence, startIndex: Int, endIndex:
Int): StringBuilder =\n this.appendRange(value, startIndex, endIndex)\n\n**\n * Inserts characters in a subarray
of the specified character array [value] into this string builder at the specified [index] and returns this instance.\n
*\n * The inserted characters go in same order as in the [value] array, starting at [index].\n *\n * @param index the
position in this string builder to insert at.\n * @param value the array from which characters are inserted.\n *
@param startIndex the beginning (inclusive) of the subarray to insert.\n * @param endIndex the end (exclusive) of
the subarray to insert.\n *\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when
[startIndex] or [endIndex] is out of range of the [value] array indices or when `startIndex > endIndex`.\n *
@throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("EXTENSION_SHA
DOWED_BY_MEMBER",
"NOTHING_TO_INLINE")\npublic actual inline fun StringBuilder.insertRange(index: Int, value: CharArray,
startIndex: Int, endIndex: Int): StringBuilder =\n this.insertRange(index, value, startIndex, endIndex)\n\n**\n *
Inserts characters in a subsequence of the specified character sequence [value] into this string builder at the
specified [index] and returns this instance.\n *\n * The inserted characters go in the same order as in the [value]
character

```

sequence, starting at [index].\n \* @param index the position in this string builder to insert at.\n \* @param value the character sequence from which a subsequence is inserted.\n \* @param startIndex the beginning (inclusive) of the subsequence to insert.\n \* @param endIndex the end (exclusive) of the subsequence to insert.\n \* @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] character sequence indices or when `startIndex >

endIndex`. \n \* @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("EXTENSION_SHA DOWED_BY_MEMBER", "NOTHING_TO_INLINE")\npublic actual inline fun
```

```
StringBuilder.insertRange(index: Int, value: CharSequence, startIndex: Int, endIndex: Int): StringBuilder =\nthis.insertRange(index, value, startIndex, endIndex)\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\npackage kotlin.text\n\n/**\n * Returns `true` if the content of this string is equal to the word `true`, ignoring case, and `false` otherwise.\n *\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@DeprecatedSinceKotlin(hiddenSince =
```

```
"1.4")\n@kotlin.internal.InlineOnly\npublic actual
```

```
inline fun String.toBoolean(): Boolean = this.toBoolean()\n\n/**\n * Returns `true` if this string is not `null` and its content is equal to the word `true`, ignoring case, and `false` otherwise.\n *\n * There are also strict versions of the function available on non-nullable String, [toBooleanStrict] and [toBooleanStrictOrNull].\n
```

```
*\n@SinceKotlin("1.4")\npublic actual fun String?.toBoolean(): Boolean = this != null && this.lowercase() ==\n`true`\n\n/**\n * Parses the string as a signed [Byte] number and returns the result.\n * @throws
```

```
NumberFormatException if the string is not a valid representation of a number.\n\npublic actual fun
```

```
String.toByte(): Byte = toByteOrNull() ?: numberFormatError(this)\n\n/**\n * Parses the string as a signed [Byte] number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n\npublic
```

```
actual fun String.toByte(radix: Int): Byte = toByteOrNull(radix) ?: numberFormatError(this)\n\n/**\n * Parses the string as a [Short] number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n\npublic actual fun String.toShort(): Short = toShortOrNull() ?:
```

```
numberFormatError(this)\n\n/**\n * Parses the string as a [Short] number and returns the result.\n * @throws
```

```
NumberFormatException if the string is not a valid representation of a number.\n * @throws
```

```
IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n\npublic actual fun
```

```
String.toShort(radix: Int): Short = toShortOrNull(radix) ?:\nnumberFormatError(this)\n\n/**\n * Parses the string as an [Int] number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n\npublic actual fun String.toInt(): Int = toIntOrNull() ?:
```

```
numberFormatError(this)\n\n/**\n * Parses the
```

```
string as an [Int] number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n\npublic actual fun String.toInt(radix: Int): Int = toIntOrNull(radix) ?:
```

```
numberFormatError(this)\n\n/**\n * Parses the string as a [Long] number and returns the result.\n * @throws
```

```
NumberFormatException if the string is not a valid representation of a number.\n\npublic actual fun
```

```
String.toLong(): Long = toLongOrNull() ?:\nnumberFormatError(this)\n\n/**\n * Parses the string as a [Long] number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n\npublic actual fun String.toLong(radix: Int): Long = toLongOrNull(radix) ?:\nnumberFormatError(this)\n\n/**\n * Parses the string
```

```
as a [Double] number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n\npublic actual fun String.toDouble(): Double =
```



```

+(this.asDynamic()).unsafeCast<Double>().also { \n if (it.isNaN() && !this.isNaN() || it == 0.0 &&
this.isBlank()) \n numberFormatException(this)\n}\n\n/**\n * Parses the string as a [Float] number and returns the
result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n
*/\n@kotlin.internal.InlineOnly\npublic actual inline fun String.toFloat(): Float =
toDouble().unsafeCast<Float>()\n\n/**\n * Parses the string as a [Double] number and returns the result\n * or `null`
if the string is not a valid representation of a number.\n */\npublic actual fun String.toDoubleOrNull(): Double? =
+(this.asDynamic()).unsafeCast<Double>().takeIf { \n !(it.isNaN() && !this.isNaN() || it == 0.0 &&
this.isBlank())\n}\n\n/**\n * Parses the string as a [Float] number
and returns the result\n * or `null` if the string is not a valid representation of a number.\n
*/\n@kotlin.internal.InlineOnly\npublic actual inline fun String.toFloatOrNull(): Float? =
toDoubleOrNull().unsafeCast<Float?>()\n\n/**\n * Returns a string representation of this [Byte] value in the
specified [radix].\n * \n * @throws IllegalArgumentException when [radix] is not a valid radix for number to string
conversion.\n */\n@SinceKotlin("1.2")\n@kotlin.internal.InlineOnly\npublic actual inline fun Byte.toString(radix:
Int): String = this.toInt().toString(radix)\n\n/**\n * Returns a string representation of this [Short] value in the
specified [radix].\n * \n * @throws IllegalArgumentException when [radix] is not a valid radix for number to string
conversion.\n */\n@SinceKotlin("1.2")\n@kotlin.internal.InlineOnly\npublic actual inline fun Short.toString(radix:
Int): String = this.toInt().toString(radix)\n\n/**\n * Returns a string representation of this [Int] value in the specified
[radix].\n * \n * @throws IllegalArgumentException when [radix] is not a valid radix for number to string
conversion.\n */\n@SinceKotlin("1.2")\npublic actual fun Int.toString(radix: Int): String =
asDynamic().toString(checkRadix(radix))\n\nprivate fun String.isNaN(): Boolean = when (this.lowercase()) { \n
"nan", "+nan", "-nan" -> true\n else -> false\n}\n\n/**\n * Checks whether the given [radix] is valid radix for
string to number and number to string conversion.\n */\n@PublishedApi\ninternal actual fun checkRadix(radix: Int):
Int { \n if (radix !in 2..36) { \n throw IllegalArgumentException("\radix $radix was not in valid range 2..36")\n }\n return radix\n}\n\ninternal actual fun digitOf(char: Char, radix: Int): Int = when { \n char >= '0' && char <=
'9' -> char - '0'\n char >= 'A' && char <= 'Z' -> char - 'A' + 10\n char >= 'a' && char <= 'z' -> char - 'a' + 10\n char < "\u0080" -> -1\n char >= "\uFF21" && char <= "\uFF3A" -> char - "\uFF21"
+ 10 // full-width latin capital letter\n char >= "\uFF41" && char <= "\uFF5A" -> char - "\uFF41" + 10 // full-width
latin small letter\n else -> char.digitToIntImpl()\n}.let { if (it >= radix) -1 else it }\n\n"/*\n * Copyright 2010-2021
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\nimport
kotlin.js.RegExp\n\n/**\n * Provides enumeration values to use to set regular expression options.\n */\npublic actual
enum class RegexOptions(val value: String) { \n /** Enables case-insensitive matching. */\n IGNORE_CASE("\i"),\n /** Enables multiline mode.\n * \n * In multiline mode the expressions `^` and `$`
match just after or just before,\n * respectively, a line terminator or the end of the input sequence. */\n MULTILINE("\m")\n}\n\nprivate fun Iterable<RegexOption>.toFlags(prepend: String): String
= joinToString("\",", prefix = prepend) { it.value }\n\n/**\n * Represents the results from a single capturing group
within a [MatchResult] of [Regex].\n * \n * @param value The value of captured group.\n */\npublic actual data
class MatchGroup(actual val value: String)\n\n/**\n * Represents a compiled regular expression.\n * Provides
functions to match strings in text with a pattern, replace the found occurrences and split text around matches.\n * \n
* For pattern syntax reference see [MDN RegExp](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/RegExp#Special_characters_meaning_in_regular_expressions)\n
*/\n * and
[http://www.w3schools.com/jsref/jsref_obj_regexp.asp](https://www.w3schools.com/jsref/jsref_obj_regexp.asp).\n
*/\n * Note that `RegExp` objects under the hood are constructed with [the "\u"
flag](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/RegExp/unicode)\n * that
enables Unicode-related features in regular
expressions. This also makes the pattern syntax more strict,\n * for example, prohibiting unnecessary escape
sequences.\n * \n * @constructor Creates a regular expression from the specified [pattern] string and the specified set

```

```

of [options].\n */\npublic actual class Regex actual constructor(pattern: String, options: Set<RegexOption>) {\n\n
/** Creates a regular expression from the specified [pattern] string and the specified single [option]. */\n public
actual constructor(pattern: String, option: RegexOption) : this(pattern, setOf(option))\n\n /** Creates a regular
expression from the specified [pattern] string and the default options. */\n public actual constructor(pattern:
String) : this(pattern, emptySet())\n\n\n /** The pattern string of this regular expression. */\n public actual val
pattern: String = pattern\n\n /** The set of options that were used to create this regular expression. */\n public
actual val options: Set<RegexOption> = options.toSet()\n\n
private val nativePattern: RegExp = RegExp(pattern, options.toFlags("gu"))\n private var nativeStickyPattern:
RegExp? = null\n private fun initStickyPattern(): RegExp =\n nativeStickyPattern?: RegExp(pattern,
options.toFlags("yu")).also { nativeStickyPattern = it }\n\n private var nativeMatchesEntirePattern: RegExp? =
null\n private fun initMatchesEntirePattern(): RegExp =\n nativeMatchesEntirePattern?: run {\n if
(pattern.startsWith('^') && pattern.endsWith('$'))\n nativePattern\n else\n return
RegExp("^${pattern.trimStart('^').trimEnd('$')}$", options.toFlags("gu"))\n } .also {\n
nativeMatchesEntirePattern = it }\n\n\n /** Indicates whether the regular expression matches the entire [input].
*/\n public actual infix fun matches(input: CharSequence): Boolean {\n nativePattern.reset()\n val match
= nativePattern.exec(input.toString())\n return match != null && match.index
== 0 && nativePattern.lastIndex == input.length\n }\n\n /** Indicates whether the regular expression can find at
least one match in the specified [input]. */\n public actual fun containsMatchIn(input: CharSequence): Boolean {\n
nativePattern.reset()\n return nativePattern.test(input.toString())\n }\n\n @SinceKotlin("1.5")\n
@ExperimentalStdlibApi\n public actual fun matchesAt(input: CharSequence, index: Int): Boolean {\n if
(index < 0 || index > input.length) {\n throw IndexOutOfBoundsException("index out of bounds: $index,
input length: ${input.length}")\n }\n val pattern = initStickyPattern()\n pattern.lastIndex = index\n
return pattern.test(input.toString())\n }\n\n /**\n * Returns the first match of a regular expression in the
[input], beginning at the specified [startIndex].\n * @param startIndex An index to start search with, by
default 0. Must be not less than zero and
not greater than `input.length()`\n * @return An instance of [MatchResult] if match was found or `null`
otherwise.\n * @throws IndexOutOfBoundsException if [startIndex] is less than zero or greater than the length of
the [input] char sequence.\n * @sample samples.text.Regexps.find\n */\n
@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n public actual fun find(input:
CharSequence, startIndex: Int = 0): MatchResult? {\n if (startIndex < 0 || startIndex > input.length) {\n
throw IndexOutOfBoundsException("Start index out of bounds: $startIndex, input length: ${input.length}")\n
}\n return nativePattern.findNext(input.toString(), startIndex, nativePattern)\n }\n\n /**\n * Returns a
sequence of all occurrences of a regular expression within the [input] string, beginning at the specified
[startIndex].\n * @throws IndexOutOfBoundsException if [startIndex] is less than zero or greater than the
length of the
[input] char sequence.\n * @sample samples.text.Regexps.findAll\n */\n
@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n public actual fun findAll(input:
CharSequence, startIndex: Int = 0): Sequence<MatchResult> {\n if (startIndex < 0 || startIndex > input.length)
{\n throw IndexOutOfBoundsException("Start index out of bounds: $startIndex, input length:
${input.length}")\n }\n return generateSequence({ find(input, startIndex) }, { match -> match.next() })\n
}\n\n /**\n * Attempts to match the entire [input] CharSequence against the pattern.\n * @return An
instance of [MatchResult] if the entire input matches or `null` otherwise.\n */\n public actual fun
matchEntire(input: CharSequence): MatchResult? =\n initMatchesEntirePattern().findNext(input.toString(), 0,
nativePattern)\n\n @SinceKotlin("1.5")\n @ExperimentalStdlibApi\n public actual fun matchAt(input:
CharSequence, index: Int):
MatchResult? {\n if (index < 0 || index > input.length) {\n throw IndexOutOfBoundsException("index
out of bounds: $index, input length: ${input.length}")\n }\n return
initStickyPattern().findNext(input.toString(), index, nativePattern)\n }\n\n\n /**\n * Replaces all occurrences

```

of this regular expression in the specified [input] string with specified [replacement] expression.  
 \* The replacement string may contain references to the captured groups during a match. Occurrences of ``$index`` in the replacement string will be substituted with the subsequences corresponding to the captured groups with the specified index.  
 \* The first digit after '\$' is always treated as part of group reference. Subsequent digits are incorporated into ``index`` only if they would form a valid group reference. Only the digits '0'..'9' are considered as potential components of the group reference. Note that indexes of captured

groups start from 1, and the group with index 0 is the whole match.  
 \* Backslash character `'\'` can be used to include the succeeding character as a literal in the replacement string, e.g. `\\$` or `\\\\`.

[`Regex.escapeReplacement`] can be used if [replacement] have to be treated as a literal string.  
 \* Note that referring named capturing groups by name is currently not supported in Kotlin/JS.  
 \* However, you can still refer them by index.

\* `@param` input the char sequence to find matches of this regular expression in  
 \* `@param` replacement the expression to replace found matches with  
 \* `@return` the result of replacing each occurrence of this regular expression in [input] with the result of evaluating the [replacement] expression  
 \* `@throws` RuntimeException if [replacement] expression is malformed, or capturing group with specified ``name`` or ``index`` does not exist  
 \*  
 public actual fun replace(input: CharSequence,

```
replacement: String): String {
 if (!replacement.contains("\\\\") && !replacement.contains('$')) {
 return input.toString().nativeReplace(nativePattern, replacement)
 }
 return replace(input) {
```

```
 substituteGroupRefs(it, replacement)
 }
}

/**
 * Replaces all occurrences of this regular expression in the specified [input] string with the result of the given function [transform] that takes [MatchResult] and returns a string to be used as a replacement for that match.
 */
public actual fun replace(input:
```

```
CharSequence, transform: (MatchResult) -> CharSequence): String {
 var match = find(input)
 if (match == null) return input.toString()
 var lastStart = 0
 val length = input.length
 val sb = StringBuilder(length)
 do {
 val foundMatch = match!!
 sb.append(input, lastStart, foundMatch.range.start)
 sb.append(transform(foundMatch))
 lastStart = foundMatch.range.endInclusive + 1
 match = foundMatch.next()
 } while (lastStart < length && match != null)
 if (lastStart < length) {
 sb.append(input, lastStart, length)
 }
 return sb.toString()
}

/**
 * Replaces the first occurrence of this regular expression in the specified [input] string with specified [replacement] expression.
 * The replacement string may contain references to the captured groups during a match. Occurrences of `$index` in the replacement string will be substituted with the subsequences corresponding to the captured groups with the specified index.
 * The first digit after '$' is always treated as part of group reference. Subsequent digits are incorporated into `index` only if they would form a valid group reference. Only the digits '0'..'9' are considered as potential components of the group reference. Note that indexes of captured groups start from 1, and the group with index 0 is the whole match.
 * Backslash character '\' can be used to include the succeeding character as a literal in the replacement string, e.g. \\$ or \\\\.
 [Regex.escapeReplacement] can be used if [replacement] have to be treated as a literal string.
 * Note that referring named capturing groups by name is not supported currently in Kotlin/JS.
 * However, you can still refer them by index.
 * @param input the char sequence to find a match of this regular expression in
 * @param replacement the expression to replace the found match with
 * @return the result of replacing the first occurrence of this regular expression in [input] with the result of evaluating the [replacement] expression
 * @throws RuntimeException if [replacement] expression is malformed, or capturing group with specified `name` or `index` does not exist
 */
public actual fun
```

```
replaceFirst(input: CharSequence, replacement: String): String {
 if (!replacement.contains("\\\\") && !replacement.contains('$')) {
 val nonGlobalOptions = options.toFlags("u")
 return input.toString().nativeReplace(RegExp(pattern, nonGlobalOptions), replacement)
 }
 val match = find(input) ?: return input.toString()
 return buildString {
 append(input.substring(0, match.range.first))
 append(substituteGroupRefs(match, replacement))
 append(input.substring(match.range.last + 1, input.length))
 }
}

/**
 * Splits the [input]
```

```

 * Replaces the first occurrence of this regular expression in the specified [input] string with specified [replacement] expression.
 * The replacement string may contain references to the captured groups during a match. Occurrences of `$index` in the replacement string will be substituted with the subsequences corresponding to the captured groups with the specified index.
 * The first digit after '$' is always treated as part of group reference. Subsequent digits are incorporated into `index` only if they would form a valid group reference. Only the digits '0'..'9' are considered as potential components of the group reference. Note that indexes of captured groups start from 1, and the group with index 0 is the whole match.
 * Backslash character '\' can be used to include the succeeding character as a literal in the replacement string, e.g. \\$ or \\\\.
 [Regex.escapeReplacement] can be used if [replacement] have to be treated as a literal string.
 * Note that referring named capturing groups by name is not supported currently in Kotlin/JS.
 * However, you can still refer them by index.
 * @param input the char sequence to find a match of this regular expression in
 * @param replacement the expression to replace the found match with
 * @return the result of replacing the first occurrence of this regular expression in [input] with the result of evaluating the [replacement] expression
 * @throws RuntimeException if [replacement] expression is malformed, or capturing group with specified `name` or `index` does not exist
 */
public actual fun
```

```
replaceFirst(input: CharSequence, replacement: String): String {
 if (!replacement.contains("\\\\") && !replacement.contains('$')) {
 val nonGlobalOptions = options.toFlags("u")
 return input.toString().nativeReplace(RegExp(pattern, nonGlobalOptions), replacement)
 }
 val match = find(input) ?: return input.toString()
 return buildString {
 append(input.substring(0, match.range.first))
 append(substituteGroupRefs(match, replacement))
 append(input.substring(match.range.last + 1, input.length))
 }
}

/**
 * Splits the [input]
```

```

 * Replaces the first occurrence of this regular expression in the specified [input] string with specified [replacement] expression.
 * The replacement string may contain references to the captured groups during a match. Occurrences of `$index` in the replacement string will be substituted with the subsequences corresponding to the captured groups with the specified index.
 * The first digit after '$' is always treated as part of group reference. Subsequent digits are incorporated into `index` only if they would form a valid group reference. Only the digits '0'..'9' are considered as potential components of the group reference. Note that indexes of captured groups start from 1, and the group with index 0 is the whole match.
 * Backslash character '\' can be used to include the succeeding character as a literal in the replacement string, e.g. \\$ or \\\\.
 [Regex.escapeReplacement] can be used if [replacement] have to be treated as a literal string.
 * Note that referring named capturing groups by name is not supported currently in Kotlin/JS.
 * However, you can still refer them by index.
 * @param input the char sequence to find a match of this regular expression in
 * @param replacement the expression to replace the found match with
 * @return the result of replacing the first occurrence of this regular expression in [input] with the result of evaluating the [replacement] expression
 * @throws RuntimeException if [replacement] expression is malformed, or capturing group with specified `name` or `index` does not exist
 */
public actual fun
```

```
replaceFirst(input: CharSequence, replacement: String): String {
 if (!replacement.contains("\\\\") && !replacement.contains('$')) {
 val nonGlobalOptions = options.toFlags("u")
 return input.toString().nativeReplace(RegExp(pattern, nonGlobalOptions), replacement)
 }
 val match = find(input) ?: return input.toString()
 return buildString {
 append(input.substring(0, match.range.first))
 append(substituteGroupRefs(match, replacement))
 append(input.substring(match.range.last + 1, input.length))
 }
}

/**
 * Splits the [input]
```

```

 * Replaces the first occurrence of this regular expression in the specified [input] string with specified [replacement] expression.
 * The replacement string may contain references to the captured groups during a match. Occurrences of `$index` in the replacement string will be substituted with the subsequences corresponding to the captured groups with the specified index.
 * The first digit after '$' is always treated as part of group reference. Subsequent digits are incorporated into `index` only if they would form a valid group reference. Only the digits '0'..'9' are considered as potential components of the group reference. Note that indexes of captured groups start from 1, and the group with index 0 is the whole match.
 * Backslash character '\' can be used to include the succeeding character as a literal in the replacement string, e.g. \\$ or \\\\.
 [Regex.escapeReplacement] can be used if [replacement] have to be treated as a literal string.
 * Note that referring named capturing groups by name is not supported currently in Kotlin/JS.
 * However, you can still refer them by index.
 * @param input the char sequence to find a match of this regular expression in
 * @param replacement the expression to replace the found match with
 * @return the result of replacing the first occurrence of this regular expression in [input] with the result of evaluating the [replacement] expression
 * @throws RuntimeException if [replacement] expression is malformed, or capturing group with specified `name` or `index` does not exist
 */
public actual fun
```

```
replaceFirst(input: CharSequence, replacement: String): String {
 if (!replacement.contains("\\\\") && !replacement.contains('$')) {
 val nonGlobalOptions = options.toFlags("u")
 return input.toString().nativeReplace(RegExp(pattern, nonGlobalOptions), replacement)
 }
 val match = find(input) ?: return input.toString()
 return buildString {
 append(input.substring(0, match.range.first))
 append(substituteGroupRefs(match, replacement))
 append(input.substring(match.range.last + 1, input.length))
 }
}

/**
 * Splits the [input]
```

CharSequence to a list of strings around matches of this regular expression.  
 \* @param limit Non-negative value specifying the maximum number of substrings the string can be split to.  
 \* Zero by default means no limit is set.  
 \* @Suppress("ACTUAL\_FUNCTION\_WITH\_DEFAULT\_ARGUMENTS")  
 public actual fun split(input:

```
CharSequence, limit: Int = 0): List<String> {
 requireNonNegativeLimit(limit)
 val matches = findAll(input).let { if (limit == 0) it else it.take(limit - 1) }
 val result = mutableListOf<String>()
 var lastStart = 0
 for (match in matches) {
 result.add(input.subSequence(lastStart, match.range.start).toString())
 lastStart = match.range.endInclusive + 1
 }
 result.add(input.subSequence(lastStart, input.length).toString())
 return result
}

/**
 * Splits the [input] CharSequence to a sequence of strings around matches of this regular expression.
 * @param limit Non-negative value specifying the maximum number of substrings the string can be split to.
 * Zero by default means no limit is set.
 * @sample samples.text.Regexps.splitToSequence
 * @SinceKotlin("1.6")
 * @WasExperimental(ExperimentalStdlibApi::class)

```

```
@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")
public actual fun splitToSequence(input: CharSequence, limit: Int = 0): Sequence<String> {
 requireNonNegativeLimit(limit)
 return sequence {
 var match = find(input)
 if (match == null || limit == 1) {
 yield(input.toString())
 return@sequence
 }
 var nextStart = 0
 var splitCount = 0
 do {
 val foundMatch = match!!
 yield(input.substring(nextStart, foundMatch.range.first))
 nextStart = foundMatch.range.endInclusive + 1
 match = foundMatch.next()
 } while (++splitCount != limit - 1 && match != null)
 yield(input.substring(nextStart, input.length))
 }
}

/**
 * Returns the string representation of this regular expression, namely the [pattern] of this regular expression.
 * Note that another regular expression

```

```
constructed from the same pattern string may have different [options]
* and may match strings differently.
*/
public override fun toString(): String = nativePattern.toString()
actual companion object {
 /**
 * Returns a regular expression that matches the specified [literal] string literally.
 * No characters of that string will have special meaning when searching for an occurrence of the regular expression.
 */
 public actual fun fromLiteral(literal: String): Regex = Regex(escape(literal))
 /**
 * Returns a regular expression pattern string that matches the specified [literal] string literally.
 * No characters of that string will have special meaning when searching for an occurrence of the regular expression.
 */
 public actual fun escape(literal: String): String = literal.nativeReplace(patternEscape, "\\|\\$&")
 /**
 * Returns a literal replacement

```

```
expression for the specified [literal] string.
* No characters of that string will have special meaning when it is used as a replacement string in [Regex.replace] function.
*/
public actual fun escapeReplacement(literal: String): String = literal.nativeReplace(replacementEscape, "\\|\\$&")
private val patternEscape = Regex("\\|\\^$*+?.|[\\]{}|\\\"|'")
private val replacementEscape = Regex("\\|\\\"|'")
internal fun nativeEscapeReplacement(literal: String): String = literal.nativeReplace(nativeReplacementEscape, "\\$&")
private val nativeReplacementEscape = Regex("\\|\\\"|'")
}

private fun Regex.findNext(input: String, from: Int, nextPattern: Regex): MatchResult? {
 this.lastIndex = from
 val match = exec(input)
 if (match == null) return null
 val range = match.index..lastIndex - 1
 return object : MatchResult {
 override val range: IntRange = range
 override val value: String
 get() = match[0]!!
 override val groups: MatchGroupCollection = object : MatchGroupCollection, AbstractCollection<MatchGroup?>() {
 override val size: Int
 get() = match.length
 override fun iterator(): Iterator<MatchGroup?> = indices.asSequence().map { this[it] }.iterator()
 override fun get(index: Int): MatchGroup? = match[index]?.let { MatchGroup(it) }
 }
 private var groupValues_: List<String?> = null
 override val groupValues: List<String>
 get() {
 if (groupValues_ == null) {
 groupValues_ = object : AbstractList<String>() {
 override val size: Int
 get() = match.length

```



```

effect is exactly as if the [value] were converted to a string by the `value.toString()` method,\n * and then that
string was appended to this string builder.\n *^n fun append(value: Any?): StringBuilder\n\n /**\n *
Appends the string representation of the specified boolean [value] to this string builder and returns this instance.\n
*\n * The overall effect is exactly as if the [value] were converted to a string by the `value.toString()` method,\n
* and then that string was appended to this string builder.\n *^n @SinceKotlin("1.3")\n fun append(value:
Boolean): StringBuilder\n\n /**\n * Appends characters in the specified character array [value] to this string
builder and returns this instance.\n *\n * Characters are appended in order, starting at the index 0.\n *^n
@SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n fun append(value: CharArray):
StringBuilder\n\n /**\n * Appends the
specified string [value] to this string builder and returns this instance.\n *\n * If [value] is `null`, then the four
characters `"\null"` are appended.\n *^n @SinceKotlin("1.3")\n fun append(value: String?):
StringBuilder\n\n /**\n * Returns the current capacity of this string builder.\n *\n * The capacity is the
maximum length this string builder can have before an allocation occurs.\n *^n @SinceKotlin("1.3")\n//
@ExperimentalStdlibApi\n @Deprecated("Obtaining StringBuilder capacity is not supported in JS and common
code.", level = DeprecationLevel.ERROR)\n fun capacity(): Int\n\n /**\n * Ensures that the capacity of this
string builder is at least equal to the specified [minimumCapacity].\n *\n * If the current capacity is less than
the [minimumCapacity], a new backing storage is allocated with greater capacity.\n * Otherwise, this method
takes no action and simply returns.\n *^n @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n fun ensureCapacity(minimumCapacity: Int)\n\n /**\n
* Returns the index within this string builder of the first occurrence of the specified [string].\n *\n * Returns `-
1` if the specified [string] does not occur in this string builder.\n *^n @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n fun indexOf(string: String): Int\n\n /**\n * Returns the
index within this string builder of the first occurrence of the specified [string],\n * starting at the specified
[startIndex].\n *\n * Returns `-1` if the specified [string] does not occur in this string builder starting at the
specified [startIndex].\n *^n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n
fun indexOf(string: String, startIndex: Int): Int\n\n /**\n * Returns the index within this string builder of the last
occurrence of the specified [string].\n *\n * The last occurrence of empty string `""` is considered to be at the index equal to `this.length`.\n *\n * Returns
`-1` if the specified [string] does not occur in this string builder.\n *^n @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n fun lastIndexOf(string: String): Int\n\n /**\n * Returns
the index within this string builder of the last occurrence of the specified [string],\n * starting from the specified
[startIndex] toward the beginning.\n *\n * Returns `-1` if the specified [string] does not occur in this string
builder starting at the specified [startIndex].\n *^n @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n fun lastIndexOf(string: String, startIndex: Int): Int\n\n
/**\n * Inserts the string representation of the specified boolean [value] into this string builder at the specified
[index] and returns this instance.\n *\n * The overall effect is exactly as
if the [value] were converted to a string by the `value.toString()` method,\n * and then that string was inserted
into this string builder at the specified [index].\n *\n * @throws IndexOutOfBoundsException if [index] is less
than zero or greater than the length of this string builder.\n *^n @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n fun insert(index: Int, value: Boolean): StringBuilder\n\n
/**\n * Inserts the specified character [value] into this string builder at the specified [index] and returns this
instance.\n *\n * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of
this string builder.\n *^n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n fun
insert(index: Int, value: Char): StringBuilder\n\n /**\n * Inserts characters in the specified character array
[value] into this string builder at the specified [index] and returns this
instance.\n *\n * The inserted characters go in same order as in the [value] character array, starting at
[index].\n *\n * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of
this string builder.\n *^n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n fun

```

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insert(index: Int, value: CharArray): StringBuilder\n\n /**\n * Inserts characters in the specified character
sequence [value] into this string builder at the specified [index] and returns this instance.\n *\n * The inserted
characters go in the same order as in the [value] character sequence, starting at [index].\n *\n * @param index
the position in this string builder to insert at.\n * @param value the character sequence from which characters are
inserted. If [value] is `null`, then the four characters `"\null"` are inserted.\n *\n * @throws
IndexOutOfBoundsException if [index] is less than zero or greater
than the length of this string builder.\n */\n @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n fun insert(index: Int, value: CharSequence?):
StringBuilder\n\n /**\n * Inserts the string representation of the specified object [value] into this string builder
at the specified [index] and returns this instance.\n *\n * The overall effect is exactly as if the [value] were
converted to a string by the `value.toString()` method,\n * and then that string was inserted into this string builder
at the specified [index].\n *\n * @throws IndexOutOfBoundsException if [index] is less than zero or greater
than the length of this string builder.\n */\n @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n fun insert(index: Int, value: Any?): StringBuilder\n\n /**\n
* Inserts the string [value] into this string builder at the specified [index] and returns this instance.\n *\n * If
[value]
is `null`, then the four characters `"\null"` are inserted.\n *\n * @throws IndexOutOfBoundsException if
[index] is less than zero or greater than the length of this string builder.\n */\n @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n fun insert(index: Int, value: String?): StringBuilder\n\n
/**\n * Sets the length of this string builder to the specified [newLength].\n *\n * If the [newLength] is less
than the current length, it is changed to the specified [newLength].\n * Otherwise, null characters `'\u0000'` are
appended to this string builder until its length is less than the [newLength].\n *\n * Note that in Kotlin/JS [set]
operator function has non-constant execution time complexity.\n * Therefore, increasing length of this string
builder and then updating each character by index may slow down your program.\n *\n * @throws
IndexOutOfBoundsException or [IllegalArgumentException] if [newLength]
is less than zero.\n */\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n fun
setLength(newLength: Int)\n\n /**\n * Returns a new [String] that contains characters in this string builder at
[startIndex] (inclusive) and up to the [length] (exclusive).\n *\n * @throws IndexOutOfBoundsException if
[startIndex] is less than zero or greater than the length of this string builder.\n */\n @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n fun substring(startIndex: Int): String\n\n /**\n * Returns
a new [String] that contains characters in this string builder at [startIndex] (inclusive) and up to the [endIndex]
(exclusive).\n *\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex]
or [endIndex] is out of range of this string builder indices or when `startIndex > endIndex`.\n */\n
@SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n
fun substring(startIndex: Int, endIndex: Int): String\n\n /**\n * Attempts to reduce storage used for this string
builder.\n *\n * If the backing storage of this string builder is larger than necessary to hold its current
contents,\n * then it may be resized to become more space efficient.\n * Calling this method may, but is not
required to, affect the value of the [capacity] property.\n */\n @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n fun trimToSize()\n\n\n /**\n * Clears the content of this
string builder making it empty and returns this instance.\n *\n * @sample samples.text.Strings.clearStringBuilder\n
*/\n @SinceKotlin("1.3")\n public expect fun StringBuilder.clear(): StringBuilder\n\n /**\n * Sets the character at
the specified [index] to the specified [value].\n *\n * @throws IndexOutOfBoundsException if [index] is out of
bounds of this string builder.\n */\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n public
expect operator fun StringBuilder.set(index: Int, value: Char)\n\n /**\n * Replaces characters in the specified range
of this string builder with characters in the specified string [value] and returns this instance.\n *\n * @param
startIndex the beginning (inclusive) of the range to replace.\n * @param endIndex the end (exclusive) of the range to
replace.\n * @param value the string to replace with.\n *\n * @throws IndexOutOfBoundsException or

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[IllegalArgumentException] if [startIndex] is less than zero, greater than the length of this string builder, or `startIndex > endIndex`.  
`*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun StringBuilder.setRange(startIndex: Int, endIndex: Int, value: String): StringBuilder\n\n/**\n * Removes the character at the specified [index] from this string builder and returns this instance.\n * If the `Char` at the specified [index] is part of a supplementary code point, this method does not remove the entire supplementary character.\n * @param index the index of `Char` to remove.\n * @throws IndexOutOfBoundsException if [index] is out of bounds of this string builder.\n */\n*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun StringBuilder.deleteAt(index: Int): StringBuilder\n\n/**\n * Removes characters in the specified range from this string builder and returns this instance.\n * @param startIndex the beginning (inclusive) of the range to remove.\n * @param endIndex the end (exclusive) of the range to remove.\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] is out of range of this string builder indices or when `startIndex > endIndex`.\n */\n*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun StringBuilder.deleteRange(startIndex: Int, endIndex: Int): StringBuilder\n\n/**\n * Copies characters from this string builder into the [destination] character array.\n * @param destination the array to copy to.\n * @param destinationOffset the position in the array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the range to copy, 0 by default.\n * @param endIndex the end (exclusive) of the range to copy, length of this string builder by default.\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this string builder indices or when `startIndex > endIndex`.  
* @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],  
* or when that index is out of the [destination] array indices range.\n */\n*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun StringBuilder.toCharArray(destination: CharArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = this.length)\n\n/**\n * Appends characters in a subarray of the specified character array [value] to this string builder and returns this instance.  
Characters are appended in order, starting at specified [startIndex].  
* @param value the array from which characters are appended.  
* @param startIndex the beginning (inclusive) of the subarray to append.  
* @param endIndex the end (exclusive) of the subarray to append.  
* @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] array indices or when `startIndex > endIndex`.\n */\n*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun StringBuilder.appendRange(value: CharArray, startIndex: Int, endIndex: Int): StringBuilder\n\n/**\n * Appends a subsequence of the specified character sequence [value] to this string builder and returns this instance.  
* @param value the character sequence from which a subsequence is appended.  
* @param startIndex the beginning (inclusive) of the subsequence to append.  
* @param endIndex the end (exclusive) of the subsequence to append.  
* @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] character sequence indices or when `startIndex > endIndex`.\n */\n*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun StringBuilder.appendRange(value: CharSequence, startIndex: Int, endIndex: Int): StringBuilder\n\n/**\n * Inserts characters in a subarray of the specified character array [value] into this string builder at the specified [index] and returns this instance.  
The inserted characters go in same order as in the [value] array, starting at [index].  
* @param index the position in this string builder to insert at.  
* @param value the array from which characters are inserted.  
* @param startIndex the beginning (inclusive) of the subarray to insert.  
* @param endIndex the end (exclusive) of the subarray to insert.  
* @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] array indices or when `startIndex > endIndex`.\n * @throws`



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IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
StringBuilder.insertRange(index: Int, value: CharArray, startIndex: Int, endIndex: Int): StringBuilder\n\n/**\n
Inserts characters in a subsequence of the specified character sequence [value] into this string builder at the specified
[index] and returns this instance.\n *\n * The inserted characters go in the same order as in the [value] character
sequence, starting at [index].\n *\n * @param index the position in this string builder to insert at.\n * @param value
the character sequence from which a subsequence is inserted.\n * @param startIndex the beginning (inclusive)
of the subsequence to insert.\n * @param endIndex the end (exclusive) of the subsequence to insert.\n *\n *
@throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of
range of the [value] character sequence indices or when `startIndex > endIndex`.\n *\n * @throws
IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
StringBuilder.insertRange(index: Int, value: CharSequence, startIndex: Int, endIndex: Int):
StringBuilder\n\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER")\n@Deprecated("Use
append(value: Any?) instead", ReplaceWith("append(value = obj)"),
DeprecationLevel.WARNING)\n@kotlin.internal.InlineOnly\npublic inline fun StringBuilder.append(obj: Any?):
StringBuilder = this.append(obj)\n\n/**\n * Builds new string by populating newly created [StringBuilder] using
provided [builderAction]\n
* and then converting it to [String].\n *\n@kotlin.internal.InlineOnly\npublic inline fun buildString(builderAction:
StringBuilder.() -> Unit): String {\n contract { callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE)
}\n return StringBuilder().apply(builderAction).toString()\n}\n\n/**\n * Builds new string by populating newly
created [StringBuilder] initialized with the given [capacity]\n * using provided [builderAction] and then converting
it to [String].\n *\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun buildString(capacity: Int,
builderAction: StringBuilder.() -> Unit): String {\n contract { callsInPlace(builderAction,
InvocationKind.EXACTLY_ONCE) }\n return
StringBuilder(capacity).apply(builderAction).toString()\n}\n\n/**\n * Appends all arguments to the given
StringBuilder.\n *\n@public fun StringBuilder.append(vararg value: String?): StringBuilder {\n for (item in
value)\n append(item)\n return this\n}\n\n/**\n * Appends
all arguments to the given StringBuilder.\n *\n@public fun StringBuilder.append(vararg value: Any?): StringBuilder
{\n for (item in value)\n append(item)\n return this\n}\n\n/**\n * Appends a line feed character (`\n`) to this
StringBuilder. *\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun
StringBuilder.appendLine(): StringBuilder = append("\n")\n\n/**\n * Appends [value] to this [StringBuilder], followed
by a line feed character (`\n`). *\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun
StringBuilder.appendLine(value: CharSequence?): StringBuilder = append(value).appendLine()\n\n/**\n * Appends
[value] to this [StringBuilder], followed by a line feed character (`\n`).\n *\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun StringBuilder.appendLine(value:
String?): StringBuilder = append(value).appendLine()\n\n/**\n * Appends [value] to this [StringBuilder], followed by a
line feed character (`\n`). *\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic
inline fun StringBuilder.appendLine(value: Any?): StringBuilder = append(value).appendLine()\n\n/**\n * Appends
[value] to this [StringBuilder], followed by a line feed character (`\n`).\n *\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun StringBuilder.appendLine(value:
CharArray): StringBuilder = append(value).appendLine()\n\n/**\n * Appends [value] to this [StringBuilder], followed
by a line feed character (`\n`). *\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun
StringBuilder.appendLine(value: Char): StringBuilder = append(value).appendLine()\n\n/**\n * Appends [value] to this
[StringBuilder], followed by a line feed character (`\n`).\n *\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun StringBuilder.appendLine(value:
Boolean): StringBuilder = append(value).appendLine()\n\n"/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source

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code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.text\nimport kotlin.js.RegExp\n\n@kotlin.internal.InlineOnly\ninternal actual inline fun
String.nativeIndexOf(ch: Char, fromIndex: Int): Int = nativeIndexOf(ch.toString(),
fromIndex)\n\n@kotlin.internal.InlineOnly\ninternal actual inline fun String.nativeLastIndexOf(ch: Char,
fromIndex: Int): Int = nativeLastIndexOf(ch.toString(), fromIndex)\n\n/**\n * Returns `true` if this string starts with
the specified prefix.\n */\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun String.startsWith(prefix: String, ignoreCase: Boolean = false): Boolean {\n if (!ignoreCase)\n return
nativeStartsWith(prefix, 0)\n else\n return regionMatches(0, prefix, 0, prefix.length, ignoreCase)\n}\n\n/**\n *
Returns `true` if a substring of this string starting at the specified offset [startIndex] starts with the specified prefix.\n
*/\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun String.startsWith(prefix: String, startIndex: Int, ignoreCase: Boolean = false): Boolean {\n if
(!ignoreCase)\n return nativeStartsWith(prefix, startIndex)\n else\n return regionMatches(startIndex,
prefix, 0, prefix.length, ignoreCase)\n}\n\n/**\n * Returns `true` if this string ends with the specified suffix.\n
*/\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual fun
String.endsWith(suffix: String, ignoreCase: Boolean = false): Boolean {\n if (!ignoreCase)\n return
nativeEndsWith(suffix)\n else\n return regionMatches(length - suffix.length, suffix, 0, suffix.length,
ignoreCase)\n}\n\n@Deprecated("Use Regex.matches() instead",
ReplaceWith("regex.toRegex().matches(this)"))\n@DeprecatedSinceKotlin(warningSince = "1.6")\npublic fun
String.matches(regex: String): Boolean {\n @Suppress("DEPRECATION")\n val result = this.match(regex)\n return result != null
&& result.size != 0\n}\n\n/**\n * Returns `true` if this string is empty or consists solely of whitespace characters.\n
*/\n * @sample samples.text.Strings.stringIsBlank\n */\npublic actual fun CharSequence.isBlank(): Boolean = length
== 0 || indices.all { this[it].isWhitespace() }\n\n/**\n * Returns `true` if this string is equal to [other], optionally
ignoring character case.\n */\n * Two strings are considered to be equal if they have the same length and the same
character at the same index.\n */\n * If [ignoreCase] is true, the result of `Char.uppercaseChar().lowercaseChar()` on
each character is compared.\n */\n * @param ignoreCase `true` to ignore character case when comparing strings. By
default `false`.\n */\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual
fun String?.equals(other: String?, ignoreCase: Boolean = false): Boolean {\n if (this == null) return other == null\n
 if (other == null) return false\n if (!ignoreCase) return this == other\n\n if (this.length
!= other.length) return false\n\n for (index in 0 until this.length) {\n val thisChar = this[index]\n val
otherChar = other[index]\n if (!thisChar.equals(otherChar, ignoreCase)) {\n return false\n }\n }\n
 return true\n}\n\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual
fun CharSequence.regionMatches(thisOffset: Int, other: CharSequence, otherOffset: Int, length: Int, ignoreCase:
Boolean = false): Boolean =\n regionMatchesImpl(thisOffset, other, otherOffset, length, ignoreCase)\n\n\n/**\n *
Returns a copy of this string having its first letter titlecased using the rules of the default locale,\n */\n * or the original
string if it's empty or already starts with a title case letter.\n */\n * The title case of a character is usually the same as
its upper case with several exceptions.\n */\n * The particular list of characters with the special title case form depends
on the underlying platform.\n */\n * @sample samples.text.Strings.capitalize\n
*/\n@Deprecated("Use replaceFirstChar instead.", ReplaceWith("replaceFirstChar { if (it.isLowerCase())
it.titlecase() else it.toString() }"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic actual fun
String.capitalize(): String {\n return if (isEmpty()) substring(0, 1).uppercase() + substring(1) else
this\n}\n\n\n/**\n * Returns a copy of this string having its first letter lowercased using the rules of the default
locale,\n */\n * or the original string if it's empty or already starts with a lower case letter.\n */\n * @sample
samples.text.Strings.decapitalize\n */\n@Deprecated("Use replaceFirstChar instead.",
ReplaceWith("replaceFirstChar { it.lowercase() }"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic
actual fun String.decapitalize(): String {\n return if (isEmpty()) substring(0, 1).lowercase() + substring(1) else
this\n}\n\n\n/**\n * Returns a string containing this char sequence repeated [n] times.\n */\n * @throws
[IllegalArgumentException]

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```

when n < 0.\n * @sample samples.text.Strings.repeat\n *^npublic actual fun CharSequence.repeat(n: Int): String
{\n require(n >= 0) { \"Count 'n' must be non-negative, but was $n.\" }\n return when (n) {\n 0 -> \"\"\n 1 -> this.toString()\n else -> {\n var result = \"\"\n if (!isEmpty()) {\n var s = this.toString()\n var count = n\n while (true) {\n if ((count and 1) == 1) {\n result += s\n }\n count = count ushr 1\n if (count == 0) {\n break\n }\n s += s\n }\n }\n return result\n }\n }\n}\n\nReturns a new string obtained by replacing all occurrences of the [oldValue] substring in this string\n * with the specified [newValue] string.\n *^n * @sample samples.text.Strings.replace\n *^n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun String.replace(oldValue: String, newValue: String, ignoreCase: Boolean = false): String =\n nativeReplace(RegExp(Regex.escape(oldValue), if (ignoreCase) \"gui\" else \"gu\"),\n Regex.nativeEscapeReplacement(newValue))\n\nReturns a new string with all occurrences of [oldChar] replaced with [newChar].\n *^n * @sample samples.text.Strings.replace\n *^n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun String.replace(oldChar: Char, newChar: Char, ignoreCase: Boolean = false): String =\n nativeReplace(RegExp(Regex.escape(oldChar.toString()), if (ignoreCase) \"gui\" else \"gu\"),\n newChar.toString())\n\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun String.replaceFirst(oldValue: String, newValue: String, ignoreCase: Boolean = false): String =\n nativeReplace(RegExp(Regex.escape(oldValue), if (ignoreCase) \"ui\" else \"u\"),\n Regex.nativeEscapeReplacement(newValue))\n\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun String.replaceFirst(oldChar: Char, newChar: Char, ignoreCase: Boolean = false): String =\n nativeReplace(RegExp(Regex.escape(oldChar.toString()), if (ignoreCase) \"ui\" else \"u\"),\n newChar.toString())\n\n\"/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\n/** Returns the negative [size] if [throwOnMalformed] is false, throws [CharacterCodingException] otherwise. */\nprivate fun malformed(size: Int, index: Int, throwOnMalformed: Boolean): Int {\n if (throwOnMalformed) throw CharacterCodingException(\"Malformed sequence starting at ${index - 1}\")\n return -size\n}\n\n/** Returns code point corresponding to UTF-16 surrogate pair,\n * where the first of the pair is the [high] and the second is in the [string] at the [index].\n * Returns zero if the pair is malformed and [throwOnMalformed] is false.\n */\nprivate fun codePointFromSurrogate(string: String, high: Int, index: Int, endIndex: Int, throwOnMalformed: Boolean): Int {\n if (high !in 0xD800..0xDBFF || index >= endIndex) {\n return malformed(0, index, throwOnMalformed)\n }\n val low = string[index].code\n if (low !in 0xDC00..0xDFFF) {\n return malformed(0, index, throwOnMalformed)\n }\n return 0x10000 + ((high and 0x3FF) shl 10) or (low and 0x3FF)\n}\n\nReturns code point corresponding to UTF-8 sequence of two bytes,\n * where the first byte of the sequence is the [byte1] and the second byte is in the [bytes] array at the [index].\n * Returns zero if the sequence is malformed and [throwOnMalformed] is false.\n */\nprivate fun codePointFrom2(bytes: ByteArray, byte1: Int, index: Int, endIndex: Int, throwOnMalformed: Boolean): Int {\n if (byte1 and 0x1E == 0 || index >= endIndex) {\n return malformed(0, index, throwOnMalformed)\n }\n val byte2 = bytes[index].toInt()\n if (byte2 and 0xC0 != 0x80) {\n return malformed(0, index, throwOnMalformed)\n }\n return (byte1 shl 6) xor byte2 xor 0xF8\n}\n\nReturns code point corresponding to UTF-8 sequence of three bytes,\n * where the first byte of the sequence is the [byte1] and the others are in the [bytes] array starting from the [index].\n * Returns a non-positive value indicating number of bytes from [bytes] included in malformed sequence\n * if the sequence is malformed and [throwOnMalformed] is false.\n */\nprivate fun codePointFrom3(bytes: ByteArray,

```

```

byte1: Int, index: Int, endIndex: Int, throwOnMalformed: Boolean): Int {\n if (index >= endIndex) {\n return
malformed(0, index, throwOnMalformed)\n }\n val byte2 = bytes[index].toInt()\n if (byte1 and 0xF == 0)
{\n if (byte2 and 0xE0 != 0xA0) {\n // Non-shortest form\n return malformed(0, index,
throwOnMalformed)\n }\n } else if (byte1 and 0xF == 0xD) {\n if (byte2 and 0xE0 != 0x80) {\n //
Surrogate code point\n return malformed(0, index, throwOnMalformed)\n }\n } else if (byte2 and 0xC0
!= 0x80) {\n return malformed(0, index, throwOnMalformed)\n }\n if (index + 1 == endIndex) {\n
return malformed(1, index, throwOnMalformed)\n }\n val byte3 = bytes[index + 1].toInt()\n if (byte3 and
0xC0 != 0x80) {\n return malformed(1, index, throwOnMalformed)\n }\n return (byte1 shl 12) xor (byte2
shl 6) xor byte3 xor -0x1E080)\n}\n\n/**\n * Returns code point
corresponding to UTF-8 sequence of four bytes,\n * where the first byte of the sequence is the [byte1] and the
others are in the [bytes] array starting from the [index].\n * Returns a non-positive value indicating number of bytes
from [bytes] included in malformed sequence\n * if the sequence is malformed and [throwOnMalformed] is false.\n
*\n * @throws CharacterCodingException if the sequence of four bytes is malformed and [throwOnMalformed] is
true.\n */\nprivate fun codePointFrom4(bytes: ByteArray, byte1: Int, index: Int, endIndex: Int, throwOnMalformed:
Boolean): Int {\n if (index >= endIndex) {\n malformed(0, index, throwOnMalformed)\n }\n val byte2 =
bytes[index].toInt()\n if (byte1 and 0xF == 0x0) {\n if (byte2 and 0xF0 <= 0x80) {\n // Non-shortest
form\n return malformed(0, index, throwOnMalformed)\n }\n } else if (byte1 and 0xF == 0x4) {\n
if (byte2 and 0xF0 != 0x80) {\n // Out of Unicode code points
domain (larger than U+10FFFF)\n return malformed(0, index, throwOnMalformed)\n }\n } else if
(byte1 and 0xF > 0x4) {\n return malformed(0, index, throwOnMalformed)\n } else if (byte2 and 0xC0 !=
0x80) {\n return malformed(0, index, throwOnMalformed)\n }\n if (index + 1 == endIndex) {\n return
malformed(1, index, throwOnMalformed)\n }\n val byte3 = bytes[index + 1].toInt()\n if (byte3 and 0xC0 !=
0x80) {\n return malformed(1, index, throwOnMalformed)\n }\n if (index + 2 == endIndex) {\n return
malformed(2, index, throwOnMalformed)\n }\n val byte4 = bytes[index + 2].toInt()\n if (byte4 and 0xC0 !=
0x80) {\n return malformed(2, index, throwOnMalformed)\n }\n return (byte1 shl 18) xor (byte2 shl 12) xor
(byte3 shl 6) xor byte4 xor 0x381F80)\n}\n\n/**\n * Maximum number of bytes needed to encode a single char.\n
*\n * Code points in `0..0x7F` are encoded in a single byte.\n * Code
points in `0x80..0x7FF` are encoded in two bytes.\n * Code points in `0x800..0xD7FF` or in `0xE000..0xFFFF` are
encoded in three bytes.\n * Surrogate code points in `0xD800..0xDFFF` are not Unicode scalar values, therefore
aren't encoded.\n * Code points in `0x10000..0x10FFFF` are represented by a pair of surrogate `Char`s and are
encoded in four bytes.\n */\nprivate const val MAX_BYTES_PER_CHAR = 3\n\n/**\n * The byte sequence a
malformed UTF-16 char sequence is replaced by.\n */\nprivate val REPLACEMENT_BYTE_SEQUENCE:
ByteArray = byteArrayOf(0xEF.toByte(), 0xBF.toByte(), 0xBD.toByte())\n\n/**\n * Encodes the [string] using
UTF-8 and returns the resulting [ByteArray].\n * @param string the string to encode.\n * @param startIndex the
start offset (inclusive) of the substring to encode.\n * @param endIndex the end offset (exclusive) of the substring
to encode.\n * @param throwOnMalformed whether to throw on malformed char sequence or replace by the
[REPLACEMENT_BYTE_SEQUENCE].\n */\n
* @throws CharacterCodingException if the char sequence is malformed and [throwOnMalformed] is true.\n
*/\ninternal fun encodeUtf8(string: String, startIndex: Int, endIndex: Int, throwOnMalformed: Boolean): ByteArray
{\n require(startIndex >= 0 && endIndex <= string.length && startIndex <= endIndex)\n val bytes =
ByteArray((endIndex - startIndex) * MAX_BYTES_PER_CHAR)\n var byteIndex = 0\n var charIndex =
startIndex\n\n while (charIndex < endIndex) {\n val code = string[charIndex++].code\n when {\n
code < 0x80 ->\n bytes[byteIndex++] = code.toByte()\n code < 0x800 -> {\n
bytes[byteIndex++] = ((code shr 6) or 0xC0).toByte()\n bytes[byteIndex++] = ((code and 0x3F) or
0x80).toByte()\n }\n code < 0xD800 || code >= 0xE000 -> {\n bytes[byteIndex++] = ((code
shr 12) or 0xE0).toByte()\n bytes[byteIndex++] = (((code shr 6) and 0x3F) or 0x80).toByte()\n
 bytes[byteIndex++] = ((code and 0x3F) or 0x80).toByte()\n }\n else -> { // Surrogate char
value\n val codePoint = codePointFromSurrogate(string, code, charIndex, endIndex,

```

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throwOnMalformed)\n if (codePoint <= 0) {\n bytes[byteIndex++] =
REPLACEMENT_BYTE_SEQUENCE[0]\n bytes[byteIndex++] =
REPLACEMENT_BYTE_SEQUENCE[1]\n bytes[byteIndex++] =
REPLACEMENT_BYTE_SEQUENCE[2]\n } else {\n bytes[byteIndex++] = ((codePoint shr
18) or 0xF0).toByte()\n bytes[byteIndex++] = (((codePoint shr 12) and 0x3F) or 0x80).toByte()\n bytes[byteIndex++] = (((codePoint shr 6) and 0x3F) or 0x80).toByte()\n bytes[byteIndex++] = ((codePoint and 0x3F) or 0x80).toByte()\n charIndex++\n }\n }\n }\n }\n }\nreturn if (bytes.size == byteIndex) bytes
else bytes.copyOf(byteIndex)\n}\n\n/**\n * The character a malformed UTF-8 byte sequence is replaced by.\n */\nprivate const val REPLACEMENT_CHAR = "\uFFFF"\n\n/**\n * Decodes the UTF-8 [bytes] array and returns
the resulting [String].\n */\n * @param bytes the byte array to decode.\n * @param startIndex the start offset
(inclusive) of the array to be decoded.\n * @param endIndex the end offset (exclusive) of the array to be encoded.\n
* @param throwOnMalformed whether to throw on malformed byte sequence or replace by the
[REPLACEMENT_CHAR].\n */\n * @throws CharacterCodingException if the array is malformed UTF-8 byte
sequence and [throwOnMalformed] is true.\n */\ninternal fun decodeUtf8(bytes: ByteArray, startIndex: Int,
endIndex: Int, throwOnMalformed: Boolean): String {\n require(startIndex >= 0 && endIndex <= bytes.size &&
startIndex <= endIndex)\n var byteIndex = startIndex\n val stringBuilder = StringBuilder()\n while
(byteIndex < endIndex) {\n val byte
= bytes[byteIndex++].toInt()\n when {\n byte >= 0 -> {\n stringBuilder.append(byte.toChar())\n
 }\n byte shr 5 == -2 -> {\n val code = codePointFrom2(bytes, byte, byteIndex, endIndex,
throwOnMalformed)\n if (code <= 0) {\n stringBuilder.append(REPLACEMENT_CHAR)\n
 }\n byteIndex += -code\n } else {\n stringBuilder.append(code.toChar())\n
 }\n byte shr 4 == -2 -> {\n val code = codePointFrom3(bytes,
byte, byteIndex, endIndex, throwOnMalformed)\n if (code <= 0) {\n
 stringBuilder.append(REPLACEMENT_CHAR)\n }\n byteIndex += -code\n }
 } else {\n stringBuilder.append(code.toChar())\n byteIndex += 2\n }\n byte shr 3 == -2 -
> {\n
 val code = codePointFrom4(bytes, byte, byteIndex, endIndex, throwOnMalformed)\n if (code <= 0)
{\n stringBuilder.append(REPLACEMENT_CHAR)\n }\n byteIndex += -code\n }
 } else {\n val high = (code - 0x10000) shr 10 or 0xD800\n val low = (code and 0x3FFF) or
0xDC00\n stringBuilder.append(high.toChar())\n stringBuilder.append(low.toChar())\n
 byteIndex += 3\n }\n }\n else -> {\n malformed(0, byteIndex,
throwOnMalformed)\n stringBuilder.append(REPLACEMENT_CHAR)\n }\n }\n }\n}\n
return stringBuilder.toString()\n}"/\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\npackage kotlin\n\n/**\n * Returns the detailed description of this throwable with its stack trace.\n */\n * The detailed description includes:\n
* - the short description (see [Throwable.toString]) of this throwable;\n * - the complete stack trace;\n * - detailed
descriptions of the exceptions that were [suppressed][suppressedExceptions] in order to deliver this exception;\n * -
the detailed description of each throwable in the [Throwable.cause] chain.\n */\n@SinceKotlin("1.4")\npublic
actual fun Throwable.stackTraceToString(): String = ExceptionTraceBuilder().buildFor(this)\n\n/**\n * Prints the
[detailed description][Throwable.stackTraceToString] of this throwable to console error output.\n */\n@SinceKotlin("1.4")\npublic
actual fun Throwable.printStackTrace() {\n console.error(this.stackTraceToString())\n}\n\n/**\n * Adds the specified exception to the list of exceptions that
were\n * suppressed in order to deliver this exception.\n */\n@SinceKotlin("1.4")\npublic actual fun
Throwable.addSuppressed(exception:
Throwable) {\n if (this !== exception) {\n val suppressed =
this.asDynamic()._suppressed.unsafeCast<MutableList<Throwable>>()\n if (suppressed == null) {\n

```



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decimals)).unsafeCast<String>()\n\n", /*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage
kotlin.time\n\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalTime::class)\npublic actual enum class
DurationUnit(internal val scale: Double) {\n /*\n * Time unit representing one nanosecond, which is 1/1000 of
a microsecond.\n */\n NANOSECONDS(1e0),\n /*\n * Time unit representing
one microsecond, which is 1/1000 of a millisecond.\n */\n MICROSECONDS(1e3),\n /*\n * Time unit
representing one millisecond, which is 1/1000 of a second.\n */\n MILLISECONDS(1e6),\n /*\n * Time
unit representing one second.\n */\n SECONDS(1e9),\n /*\n * Time unit representing one minute.\n */\n
MINUTES(60e9),\n /*\n * Time unit representing one hour.\n */\n HOURS(3600e9),\n /*\n * Time
unit representing one day, which is always equal to 24 hours.\n */\n
DAYS(86400e9);\n}\n\n@SinceKotlin("1.3")\ninternal actual fun convertDurationUnit(value: Double, sourceUnit:
DurationUnit, targetUnit: DurationUnit): Double {\n val sourceCompareTarget =
sourceUnit.scale.compareTo(targetUnit.scale)\n return when {\n sourceCompareTarget > 0 -> value *
(sourceUnit.scale / targetUnit.scale)\n sourceCompareTarget < 0 -> value / (targetUnit.scale /
sourceUnit.scale)\n else -> value\n }\n}\n\n@SinceKotlin("1.5")\ninternal actual fun convertDurationUnitOverflow(value: Long, sourceUnit:
DurationUnit, targetUnit: DurationUnit): Long {\n val sourceCompareTarget =
sourceUnit.scale.compareTo(targetUnit.scale)\n return when {\n sourceCompareTarget > 0 -> value *
(sourceUnit.scale / targetUnit.scale).toLong()\n sourceCompareTarget < 0 -> value / (targetUnit.scale /
sourceUnit.scale).toLong()\n else -> value\n }\n}\n\n@SinceKotlin("1.5")\ninternal actual fun
convertDurationUnit(value: Long, sourceUnit: DurationUnit, targetUnit: DurationUnit): Long {\n val
sourceCompareTarget = sourceUnit.scale.compareTo(targetUnit.scale)\n return when {\n
sourceCompareTarget > 0 -> {\n val scale = (sourceUnit.scale / targetUnit.scale).toLong()\n val result
= value * scale\n when {\n result / scale == value -> result\n value > 0 ->
Long.MAX_VALUE\n else -> Long.MIN_VALUE\n }\n }\n sourceCompareTarget < 0 -> value / (targetUnit.scale / sourceUnit.scale).toLong()\n
else -> value\n }\n}\n\n", /*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.time\n\nimport org.w3c.performance.GlobalPerformance\nimport
org.w3c.performance.Performance\n\n@SinceKotlin("1.3")\n@ExperimentalTime\ninternal actual object
MonotonicTimeSource : TimeSource {\n\n private val actualSource: TimeSource = run {\n val isNode:
Boolean = js("typeof process !== 'undefined' && process.versions && !!process.versions.node")\n\n if
(isNode)\n HrTimeSource(js("process").unsafeCast<Process>())\n else\n
js("self").unsafeCast<GlobalPerformance?>()?.performance?.let(::PerformanceTimeSource)\n\n ?:\n
DateNowTimeSource\n}\n\n override fun markNow(): TimeMark = actualSource.markNow()\n}\n\ninternal external interface Process
{\n fun hrtime(time: Array<Double> = definedExternally):
Array<Double>}\n\n@SinceKotlin("1.3")\n@ExperimentalTime\ninternal class HrTimeSource(val process:
Process) : TimeSource {\n\n override fun markNow(): TimeMark = object : TimeMark() {\n val startedAt =
process.hrtime()\n\n override fun elapsedNow(): Duration =\n process.hrtime(startedAt).let { (seconds,
nanos) -> seconds.toDuration(DurationUnit.SECONDS) + nanos.toDuration(DurationUnit.NANOSECONDS) }\n}\n\n
override fun toString(): String =
\n"TimeSource(process.hrtime())"\n}\n\n@SinceKotlin("1.3")\n@ExperimentalTime\ninternal class
PerformanceTimeSource(val performance: Performance) : AbstractDoubleTimeSource(unit =
DurationUnit.MILLISECONDS) {\n\n override fun read(): Double = performance.now()\n\n override fun toString():
String = \n"TimeSource(self.performance.now())"\n}\n\n@SinceKotlin("1.3")\n@ExperimentalTime\ninternal

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object DateNowTimeSource : AbstractDoubleTimeSource(unit = DurationUnit.MILLISECONDS) {
 override fun read(): Double = kotlin.js.Date.now()
 override fun toString(): String = "TimeSource(Date.now())"
}
/* Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.
 * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.
 */
package kotlinx.dom
import org.w3c.dom.*
import kotlin.contracts.*
/* Creates a new element with the specified [name].
 * The element is initialized with the specified [init] function.
 */
@SinceKotlin("1.4")
public fun Document.createElement(name: String, init: Element.() -> Unit): Element {
 contract { callsInPlace(init, InvocationKind.EXACTLY_ONCE) }
 return createElement(name).apply(init)
}
/* Appends a newly created element with the specified [name] to this element.
 * The element is initialized with the specified [init] function.
 */
@SinceKotlin("1.4")
public fun Element.appendChild(name: String, init: Element.() -> Unit): Element {
 contract { callsInPlace(init, InvocationKind.EXACTLY_ONCE) }
 return ownerDocument!!.createElement(name, init).also {
 appendChild(it)
 }
}
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 */
package kotlinx.dom
import org.w3c.dom.*
/* Returns true if the element has the given CSS class style in its 'class' attribute
 */
@SinceKotlin("1.4")
fun Element.hasClass(cssClass: String): Boolean = className.matches("\\s*(\\s+)$cssClass(\\s+.*|\\s)".toRegex())
/* Adds CSS class to element. Has no effect if all specified classes are already in class attribute of the element
 * @return true if at least one class has been added
 */
@SinceKotlin("1.4")
fun Element.addClass(vararg cssClasses: String): Boolean {
 val missingClasses = cssClasses.filterNot { hasClass(it) }
 if (missingClasses.isNotEmpty()) {
 val presentClasses = className.trim()
 className = buildString {
 append(presentClasses)
 if (!presentClasses.isEmpty()) {
 append(" ")
 }
 missingClasses.joinTo(this, " ")
 }
 return true
 }
 return false
}
/* Removes all [cssClasses] from element. Has no effect if all specified classes are missing in class attribute of the element
 * @return true if at least one class has been removed
 */
@SinceKotlin("1.4")
fun Element.removeClass(vararg cssClasses: String): Boolean {
 if (cssClasses.any { hasClass(it) }) {
 val toBeRemoved = cssClasses.toSet()
 className = className.trim().split("\\s+".toRegex()).filter { it !in toBeRemoved }.joinToString(" ")
 return true
 }
 return false
}
}
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 */
@file:kotlin.jvm.JvmMultifileClass
@file:kotlin.jvm.JvmName("StringsKt")
package kotlin.text
/* Converts the string into a regular expression [Regex] with the default options.
 */
@kotlin.internal.InlineOnly
public inline fun String.toRegex(): Regex = Regex(this)
/* Converts the string into a regular expression [Regex] with the specified single [option].
 */
@kotlin.internal.InlineOnly
public inline fun String.toRegex(option: RegexOptions): Regex = Regex(this, option)
/* Converts the string into a regular expression [Regex] with the specified set of [options].
 */
@kotlin.internal.InlineOnly
public inline fun String.toRegex(options: Set<RegexOption>): Regex = Regex(this, options)
}
/* Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.
 * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.
 */
package kotlinx.dom
import org.w3c.dom.*
/* Gets a value indicating whether this node is a TEXT_NODE or a CDATA_SECTION_NODE.
 */
@SinceKotlin("1.4")
public val Node.isText: Boolean
get() = nodeType == Node.TEXT_NODE || nodeType == Node.CDATA_SECTION_NODE
/* Gets a value indicating whether this node is an [Element].
 */
@SinceKotlin("1.4")
public val Node.isElement: Boolean
get() = nodeType == Node.ELEMENT_NODE
}
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 */
package kotlinx.dom
import org.w3c.dom.*
/* Removes all

```



```

the children from this node. */\n@SinceKotlin("1.4")\npublic
fun Node.clear() {\n while (hasChildNodes()) {\n removeChild(firstChild!!)\n }\n}\n\n/**\n * Creates text
node and append it to the element.\n */\n * @return this element\n */\n@SinceKotlin("1.4")\nfun
Element.appendText(text: String): Element {\n appendChild(ownerDocument!!.createTextNode(text))\n return
this}\n}\n\n"/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\npackage org.w3c.dom\n\n@Deprecated("Use UnionMessagePortOrWindowProxy instead.",
ReplaceWith("UnionMessagePortOrWindowProxy"))\ntypealias UnionMessagePortOrWindow =
UnionMessagePortOrWindowProxy\n\n@Deprecated("Use `as` instead.", ReplaceWith("`as`"))\nvar
HTMMLinkElement.as_\n get() = `as`\n set(value) {\n `as` = value\n }\n}\n\n@Deprecated("Use `is`
instead.", ReplaceWith("`is`"))\nvar
ElementCreationOptions.is_\n get() = `is`\n set(value) {\n `is` = value\n }\n\n"/*\n * Copyright 2010-2021
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-
GENERATED, DO NOT EDIT!\n// See github.com/kotlin/dukat for details\n\npackage
org.khronos.webgl\n\nimport kotlin.js.*\nimport org.w3c.dom.*\nimport org.w3c.dom.events.*\n\npublic external
interface WebGLContextAttributes {\n var alpha: Boolean? /* = true */\n get() = definedExternally\n
set(value) = definedExternally\n var depth: Boolean? /* = true */\n get() = definedExternally\n set(value)
= definedExternally\n var stencil: Boolean? /* = false */\n get() = definedExternally\n set(value) =
definedExternally\n var antialias: Boolean? /* = true */\n get() = definedExternally\n set(value)
= definedExternally\n var premultipliedAlpha: Boolean? /* = true */\n get() = definedExternally\n
set(value) = definedExternally\n var preserveDrawingBuffer: Boolean? /* = false */\n get() =
definedExternally\n set(value) = definedExternally\n var preferLowPowerToHighPerformance: Boolean? /* =
false */\n get() = definedExternally\n set(value) = definedExternally\n var failIfMajorPerformanceCaveat:
Boolean? /* = false */\n get() = definedExternally\n set(value) =
definedExternally\n }\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun WebGLContextAttributes(alpha:
Boolean? = true, depth: Boolean? = true, stencil: Boolean? = false, antialias: Boolean? = true, premultipliedAlpha:
Boolean? = true, preserveDrawingBuffer: Boolean? = false, preferLowPowerToHighPerformance: Boolean? = false,
failIfMajorPerformanceCaveat: Boolean? = false): WebGLContextAttributes {\n
val o = js("{}")\n o["alpha"] = alpha\n o["depth"] = depth\n o["stencil"] = stencil\n o["antialias"] =
antialias\n o["premultipliedAlpha"] = premultipliedAlpha\n o["preserveDrawingBuffer"] =
preserveDrawingBuffer\n o["preferLowPowerToHighPerformance"] = preferLowPowerToHighPerformance\n
o["failIfMajorPerformanceCaveat"] = failIfMajorPerformanceCaveat\n return o\n}\n\npublic external abstract
class WebGLObject\n\n/**\n * Exposes the JavaScript
[WebGLBuffer](https://developer.mozilla.org/en/docs/Web/API/WebGLBuffer) to Kotlin\n */\n\npublic external
abstract class WebGLBuffer : WebGLObject\n\n/**\n * Exposes the JavaScript
[WebGLFramebuffer](https://developer.mozilla.org/en/docs/Web/API/WebGLFramebuffer) to Kotlin\n */\n\npublic
external abstract class WebGLFramebuffer : WebGLObject\n\n/**\n * Exposes the JavaScript
[WebGLProgram](https://developer.mozilla.org/en/docs/Web/API/WebGLProgram) to Kotlin\n */\n\npublic external
abstract class WebGLProgram
: WebGLObject\n\n/**\n * Exposes the JavaScript
[WebGLRenderbuffer](https://developer.mozilla.org/en/docs/Web/API/WebGLRenderbuffer) to Kotlin\n */\n\npublic
external abstract class WebGLRenderbuffer : WebGLObject\n\n/**\n * Exposes the JavaScript
[WebGLShader](https://developer.mozilla.org/en/docs/Web/API/WebGLShader) to Kotlin\n */\n\npublic external
abstract class WebGLShader : WebGLObject\n\n/**\n * Exposes the JavaScript
[WebGLTexture](https://developer.mozilla.org/en/docs/Web/API/WebGLTexture) to Kotlin\n */\n\npublic external
abstract class WebGLTexture : WebGLObject\n\n/**\n * Exposes the JavaScript

```

[WebGLUniformLocation](https://developer.mozilla.org/en/docs/Web/API/WebGLUniformLocation) to Kotlin  
`*\npublic external abstract class WebGLUniformLocation\n\n/**\n * Exposes the JavaScript`

[WebGLActiveInfo](https://developer.mozilla.org/en/docs/Web/API/WebGLActiveInfo) to Kotlin  
`*\npublic external abstract class WebGLActiveInfo {\n\n open val size: Int\n\n open val type: Int\n\n\n open val name: String\n}\n\n/**\n * Exposes the JavaScript`

[WebGLShaderPrecisionFormat](https://developer.mozilla.org/en/docs/Web/API/WebGLShaderPrecisionFormat) to Kotlin  
`*\npublic external abstract class WebGLShaderPrecisionFormat {\n\n open val rangeMin: Int\n\n open val rangeMax: Int\n\n open val precision:`

`Int\n}\n\n@Suppress(\\\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\\\")\npublic external interface WebGLRenderingContextBase {\n\n val canvas: HTMLCanvasElement\n\n val drawingBufferWidth: Int\n\n val drawingBufferHeight: Int\n\n fun getContextAttributes(): WebGLContextAttributes?\n\n fun isContextLost(): Boolean\n\n fun getSupportedExtensions(): Array<String>?\n\n fun getExtension(name: String): dynamic\n\n fun activeTexture(texture: Int)\n\n fun attachShader(program: WebGLProgram?, shader: WebGLShader?)\n\n fun bindAttribLocation(program: WebGLProgram?, index: Int, name: String)\n\n fun bindBuffer(target: Int, buffer: WebGLBuffer?)\n\n fun bindFramebuffer(target: Int, framebuffer: WebGLFramebuffer?)\n\n fun bindRenderbuffer(target: Int, renderbuffer: WebGLRenderbuffer?)\n\n fun bindTexture(target: Int, texture: WebGLTexture?)\n\n fun blendColor(red: Float, green: Float, blue: Float, alpha: Float)\n\n fun blendEquation(mode: Int)\n\n fun blendEquationSeparate(modeRGB: Int, modeAlpha: Int)\n\n fun blendFunc(sfactor: Int, dfactor: Int)\n\n fun blendFuncSeparate(srcRGB: Int, dstRGB: Int, srcAlpha: Int, dstAlpha: Int)\n\n fun bufferData(target: Int, size: Int, usage: Int)\n\n fun bufferData(target: Int, data: BufferDataSource?, usage: Int)\n\n fun bufferSubData(target: Int, offset: Int, data: BufferDataSource?)\n\n fun checkFramebufferStatus(target: Int): Int\n\n fun clear(mask: Int)\n\n fun clearColor(red: Float, green: Float, blue: Float, alpha: Float)\n\n fun clearDepth(depth: Float)\n\n fun clearStencil(s: Int)\n\n fun colorMask(red: Boolean, green: Boolean, blue: Boolean, alpha: Boolean)\n\n fun compileShader(shader: WebGLShader?)\n\n\n fun compressedTexImage2D(target: Int, level: Int, internalformat: Int, width: Int, height: Int, border: Int, data: ArrayBufferView)\n\n fun compressedTexSubImage2D(target: Int, level: Int, xoffset: Int, yoffset: Int, width: Int, height: Int, format: Int, data: ArrayBufferView)\n\n fun copyTexImage2D(target: Int, level: Int, internalformat: Int, x: Int, y: Int, width: Int, height: Int, border: Int)\n\n fun copyTexSubImage2D(target: Int, level: Int, xoffset: Int, yoffset: Int, x: Int, y: Int, width: Int, height: Int)\n\n fun createBuffer(): WebGLBuffer?\n\n fun createFramebuffer(): WebGLFramebuffer?\n\n fun createProgram(): WebGLProgram?\n\n fun createRenderbuffer(): WebGLRenderbuffer?\n\n fun createShader(type: Int): WebGLShader?\n\n fun createTexture(): WebGLTexture?\n\n fun cullFace(mode: Int)\n\n fun deleteBuffer(buffer: WebGLBuffer?)\n\n fun deleteFramebuffer(framebuffer: WebGLFramebuffer?)\n\n fun deleteProgram(program: WebGLProgram?)\n\n fun deleteRenderbuffer(renderbuffer: WebGLRenderbuffer?)\n\n fun deleteShader(shader: WebGLShader?)\n\n fun deleteTexture(texture: WebGLTexture?)\n\n fun depthFunc(func: Int)\n\n fun depthMask(flag: Boolean)\n\n fun depthRange(zNear: Float, zFar: Float)\n\n fun detachShader(program: WebGLProgram?, shader: WebGLShader?)\n\n fun disable(cap: Int)\n\n fun disableVertexAttribArray(index: Int)\n\n fun drawArrays(mode: Int, first: Int, count: Int)\n\n fun drawElements(mode: Int, count: Int, type: Int, offset: Int)\n\n fun enable(cap: Int)\n\n fun enableVertexAttribArray(index: Int)\n\n fun finish()\n\n fun flush()\n\n fun framebufferRenderbuffer(target: Int, attachment: Int, renderbuffertarget: Int, renderbuffer: WebGLRenderbuffer?)\n\n fun framebufferTexture2D(target: Int, attachment: Int, textarget: Int, texture: WebGLTexture?, level: Int)\n\n fun frontFace(mode: Int)\n\n fun generateMipmap(target: Int)\n\n fun getActiveAttrib(program: WebGLProgram?, index: Int): WebGLActiveInfo?\n\n fun getActiveUniform(program: WebGLProgram?, index: Int): WebGLActiveInfo?\n\n fun getAttachedShaders(program: WebGLProgram?): Array<WebGLShader>?\n\n fun getAttribLocation(program: WebGLProgram?, name: String): Int\n\n fun getBufferParameter(target: Int, pname: Int): Any?\n\n fun getParameter(pname: Int): Any?\n\n fun getError(): Int\n\n fun getFramebufferAttachmentParameter(target: Int, attachment: Int, pname: Int): Any?\n\n fun getProgramParameter(program: WebGLProgram?, pname: Int): Any?\n\n fun getProgramInfoLog(program:`

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WebGLProgram?): String?\n fun getRenderbufferParameter(target: Int, pname: Int): Any?\n fun
getShaderParameter(shader: WebGLShader?, pname: Int): Any?\n fun getShaderPrecisionFormat(shader: Int,
precision: Int): WebGLShaderPrecisionFormat?\n fun getShaderInfoLog(shader: WebGLShader?): String?\n
fun getShaderSource(shader: WebGLShader?): String?\n fun getTexParameter(target: Int, pname: Int): Any?\n
fun getUniform(program: WebGLProgram?,
location: WebGLUniformLocation?): Any?\n fun getUniformLocation(program: WebGLProgram?, name:
String): WebGLUniformLocation?\n fun getVertexAttrib(index: Int, pname: Int): Any?\n fun
getVertexAttribOffset(index: Int, pname: Int): Int\n fun hint(target: Int, mode: Int)\n fun isBuffer(buffer:
WebGLBuffer?): Boolean\n fun isEnabled(cap: Int): Boolean\n fun isFramebuffer(framebuffer:
WebGLFramebuffer?): Boolean\n fun isProgram(program: WebGLProgram?): Boolean\n fun
isRenderbuffer(renderbuffer: WebGLRenderbuffer?): Boolean\n fun isShader(shader: WebGLShader?): Boolean\n
fun isTexture(texture: WebGLTexture?): Boolean\n fun lineWidth(width: Float)\n fun linkProgram(program:
WebGLProgram?)\n fun pixelStorei(pname: Int, param: Int)\n fun polygonOffset(factor: Float, units: Float)\n
fun readPixels(x: Int, y: Int, width: Int, height: Int, format: Int, type: Int, pixels: ArrayBufferView?)\n fun
renderbufferStorage(target: Int, internalformat: Int,
width: Int, height: Int)\n fun sampleCoverage(value: Float, invert: Boolean)\n fun scissor(x: Int, y: Int, width:
Int, height: Int)\n fun shaderSource(shader: WebGLShader?, source: String)\n fun stencilFunc(func: Int, ref: Int,
mask: Int)\n fun stencilFuncSeparate(face: Int, func: Int, ref: Int, mask: Int)\n fun stencilMask(mask: Int)\n fun
stencilMaskSeparate(face: Int, mask: Int)\n fun stencilOp(fail: Int, zfail: Int, zpass: Int)\n fun
stencilOpSeparate(face: Int, fail: Int, zfail: Int, zpass: Int)\n fun texImage2D(target: Int, level: Int, internalformat:
Int, width: Int, height: Int, border: Int, format: Int, type: Int, pixels: ArrayBufferView?)\n fun texImage2D(target:
Int, level: Int, internalformat: Int, format: Int, type: Int, source: TexImageSource?)\n fun texParameterf(target: Int,
pname: Int, param: Float)\n fun texParameteri(target: Int, pname: Int, param: Int)\n fun texSubImage2D(target:
Int, level: Int, xoffset: Int, yoffset: Int,
width: Int, height: Int, format: Int, type: Int, pixels: ArrayBufferView?)\n fun texSubImage2D(target: Int, level:
Int, xoffset: Int, yoffset: Int, format: Int, type: Int, source: TexImageSource?)\n fun uniform1f(location:
WebGLUniformLocation?, x: Float)\n fun uniform1fv(location: WebGLUniformLocation?, v: Float32Array)\n
fun uniform1fv(location: WebGLUniformLocation?, v: Array<Float>)\n fun uniform1i(location:
WebGLUniformLocation?, x: Int)\n fun uniform1iv(location: WebGLUniformLocation?, v: Int32Array)\n fun
uniform1iv(location: WebGLUniformLocation?, v: Array<Int>)\n fun uniform2f(location:
WebGLUniformLocation?, x: Float, y: Float)\n fun uniform2fv(location: WebGLUniformLocation?, v:
Float32Array)\n fun uniform2fv(location: WebGLUniformLocation?, v: Array<Float>)\n fun
uniform2i(location: WebGLUniformLocation?, x: Int, y: Int)\n fun uniform2iv(location:
WebGLUniformLocation?, v: Int32Array)\n fun uniform2iv(location: WebGLUniformLocation?,
v: Array<Int>)\n fun uniform3f(location: WebGLUniformLocation?, x: Float, y: Float, z: Float)\n fun
uniform3fv(location: WebGLUniformLocation?, v: Float32Array)\n fun uniform3fv(location:
WebGLUniformLocation?, v: Array<Float>)\n fun uniform3i(location: WebGLUniformLocation?, x: Int, y: Int, z:
Int)\n fun uniform3iv(location: WebGLUniformLocation?, v: Int32Array)\n fun uniform3iv(location:
WebGLUniformLocation?, v: Array<Int>)\n fun uniform4f(location: WebGLUniformLocation?, x: Float, y: Float,
z: Float, w: Float)\n fun uniform4fv(location: WebGLUniformLocation?, v: Float32Array)\n fun
uniform4fv(location: WebGLUniformLocation?, v: Array<Float>)\n fun uniform4i(location:
WebGLUniformLocation?, x: Int, y: Int, z: Int, w: Int)\n fun uniform4iv(location: WebGLUniformLocation?, v:
Int32Array)\n fun uniform4iv(location: WebGLUniformLocation?, v: Array<Int>)\n fun
uniformMatrix2fv(location: WebGLUniformLocation?, transpose: Boolean, value: Float32Array)\n
fun uniformMatrix2fv(location: WebGLUniformLocation?, transpose: Boolean, value: Array<Float>)\n fun
uniformMatrix3fv(location: WebGLUniformLocation?, transpose: Boolean, value: Float32Array)\n fun
uniformMatrix3fv(location: WebGLUniformLocation?, transpose: Boolean, value: Array<Float>)\n fun
uniformMatrix4fv(location: WebGLUniformLocation?, transpose: Boolean, value: Float32Array)\n fun

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uniformMatrix4fv(location: WebGLUniformLocation?, transpose: Boolean, value: Array<Float>)\n fun
useProgram(program: WebGLProgram?)\n fun validateProgram(program: WebGLProgram?)\n fun
vertexAttrib1f(index: Int, x: Float)\n fun vertexAttrib1fv(index: Int, values: dynamic)\n fun
vertexAttrib2f(index: Int, x: Float, y: Float)\n fun vertexAttrib2fv(index: Int, values: dynamic)\n fun
vertexAttrib3f(index: Int, x: Float, y: Float, z: Float)\n fun vertexAttrib3fv(index: Int, values: dynamic)\n fun
vertexAttrib4f(index: Int, x: Float, y: Float, z: Float, w: Float)\n
fun vertexAttrib4fv(index: Int, values: dynamic)\n fun vertexAttribPointer(index: Int, size: Int, type: Int,
normalized: Boolean, stride: Int, offset: Int)\n fun viewport(x: Int, y: Int, width: Int, height: Int)\n\n companion
object {\n val DEPTH_BUFFER_BIT: Int\n val STENCIL_BUFFER_BIT: Int\n val
COLOR_BUFFER_BIT: Int\n val POINTS: Int\n val LINES: Int\n val LINE_LOOP: Int\n val
LINE_STRIP: Int\n val TRIANGLES: Int\n val TRIANGLE_STRIP: Int\n val TRIANGLE_FAN:
Int\n val ZERO: Int\n val ONE: Int\n val SRC_COLOR: Int\n val ONE_MINUS_SRC_COLOR:
Int\n val SRC_ALPHA: Int\n val ONE_MINUS_SRC_ALPHA: Int\n val DST_ALPHA: Int\n val
ONE_MINUS_DST_ALPHA: Int\n val DST_COLOR: Int\n val ONE_MINUS_DST_COLOR: Int\n
val SRC_ALPHA_SATURATE: Int\n val FUNC_ADD: Int\n val BLEND_EQUATION: Int\n val
BLEND_EQUATION_RGB: Int\n
val BLEND_EQUATION_ALPHA: Int\n val FUNC_SUBTRACT: Int\n val
FUNC_REVERSE_SUBTRACT: Int\n val BLEND_DST_RGB: Int\n val BLEND_SRC_RGB: Int\n
val BLEND_DST_ALPHA: Int\n val BLEND_SRC_ALPHA: Int\n val CONSTANT_COLOR: Int\n
val ONE_MINUS_CONSTANT_COLOR: Int\n val CONSTANT_ALPHA: Int\n val
ONE_MINUS_CONSTANT_ALPHA: Int\n val BLEND_COLOR: Int\n val ARRAY_BUFFER: Int\n
val ELEMENT_ARRAY_BUFFER: Int\n val ARRAY_BUFFER_BINDING: Int\n val
ELEMENT_ARRAY_BUFFER_BINDING: Int\n val STREAM_DRAW: Int\n val STATIC_DRAW: Int\n
val DYNAMIC_DRAW: Int\n val BUFFER_SIZE: Int\n val BUFFER_USAGE: Int\n val
CURRENT_VERTEX_ATTRIB: Int\n val FRONT: Int\n val BACK: Int\n val FRONT_AND_BACK:
Int\n val CULL_FACE: Int\n val BLEND: Int\n val DITHER: Int\n val STENCIL_TEST: Int\n
val DEPTH_TEST: Int\n val
SCISSOR_TEST: Int\n val POLYGON_OFFSET_FILL: Int\n val SAMPLE_ALPHA_TO_COVERAGE:
Int\n val SAMPLE_COVERAGE: Int\n val NO_ERROR: Int\n val INVALID_ENUM: Int\n val
INVALID_VALUE: Int\n val INVALID_OPERATION: Int\n val OUT_OF_MEMORY: Int\n val CW:
Int\n val CCW: Int\n val LINE_WIDTH: Int\n val ALIASED_POINT_SIZE_RANGE: Int\n val
ALIASED_LINE_WIDTH_RANGE: Int\n val CULL_FACE_MODE: Int\n val FRONT_FACE: Int\n
val DEPTH_RANGE: Int\n val DEPTH_WRITEMASK: Int\n val DEPTH_CLEAR_VALUE: Int\n val
DEPTH_FUNC: Int\n val STENCIL_CLEAR_VALUE: Int\n val STENCIL_FUNC: Int\n val
STENCIL_FAIL: Int\n val STENCIL_PASS_DEPTH_FAIL: Int\n val STENCIL_PASS_DEPTH_PASS:
Int\n val STENCIL_REF: Int\n val STENCIL_VALUE_MASK: Int\n val STENCIL_WRITEMASK:
Int\n val STENCIL_BACK_FUNC: Int\n val STENCIL_BACK_FAIL: Int\n
val STENCIL_BACK_PASS_DEPTH_FAIL: Int\n val STENCIL_BACK_PASS_DEPTH_PASS: Int\n
val STENCIL_BACK_REF: Int\n val STENCIL_BACK_VALUE_MASK: Int\n val
STENCIL_BACK_WRITEMASK: Int\n val VIEWPORT: Int\n val SCISSOR_BOX: Int\n val
COLOR_CLEAR_VALUE: Int\n val COLOR_WRITEMASK: Int\n val UNPACK_ALIGNMENT: Int\n
val PACK_ALIGNMENT: Int\n val MAX_TEXTURE_SIZE: Int\n val MAX_VIEWPORT_DIMS: Int\n
val SUBPIXEL_BITS: Int\n val RED_BITS: Int\n val GREEN_BITS: Int\n val BLUE_BITS: Int\n
val ALPHA_BITS: Int\n val DEPTH_BITS: Int\n val STENCIL_BITS: Int\n val
POLYGON_OFFSET_UNITS: Int\n val POLYGON_OFFSET_FACTOR: Int\n val
TEXTURE_BINDING_2D: Int\n val SAMPLE_BUFFERS: Int\n val SAMPLES: Int\n val
SAMPLE_COVERAGE_VALUE: Int\n val SAMPLE_COVERAGE_INVERT: Int\n val
COMPRESSED_TEXTURE_FORMATS: Int\n val DONT_CARE:

```

Int\n val FASTEST: Int\n val NICEST: Int\n val GENERATE\_MIPMAP\_HINT: Int\n val BYTE:  
 Int\n val UNSIGNED\_BYTE: Int\n val SHORT: Int\n val UNSIGNED\_SHORT: Int\n val INT:  
 Int\n val UNSIGNED\_INT: Int\n val FLOAT: Int\n val DEPTH\_COMPONENT: Int\n val  
 ALPHA: Int\n val RGB: Int\n val RGBA: Int\n val LUMINANCE: Int\n val  
 LUMINANCE\_ALPHA: Int\n val UNSIGNED\_SHORT\_4\_4\_4\_4: Int\n val  
 UNSIGNED\_SHORT\_5\_5\_5\_1: Int\n val UNSIGNED\_SHORT\_5\_6\_5: Int\n val  
 FRAGMENT\_SHADER: Int\n val VERTEX\_SHADER: Int\n val MAX\_VERTEX\_ATTRIBS: Int\n  
 val MAX\_VERTEX\_UNIFORM\_VECTORS: Int\n val MAX\_VARYING\_VECTORS: Int\n val  
 MAX\_COMBINED\_TEXTURE\_IMAGE\_UNITS: Int\n val MAX\_VERTEX\_TEXTURE\_IMAGE\_UNITS:  
 Int\n val MAX\_TEXTURE\_IMAGE\_UNITS: Int\n val MAX\_FRAGMENT\_UNIFORM\_VECTORS: Int\n  
 val SHADER\_TYPE: Int\n val DELETE\_STATUS:  
 Int\n val LINK\_STATUS: Int\n val VALIDATE\_STATUS: Int\n val ATTACHED\_SHADERS: Int\n  
 val ACTIVE\_UNIFORMS: Int\n val ACTIVE\_ATTRIBUTES: Int\n val  
 SHADING\_LANGUAGE\_VERSION: Int\n val CURRENT\_PROGRAM: Int\n val NEVER: Int\n val  
 LESS: Int\n val EQUAL: Int\n val LEQUAL: Int\n val GREATER: Int\n val NOTEQUAL: Int\n  
 val GEQUAL: Int\n val ALWAYS: Int\n val KEEP: Int\n val REPLACE: Int\n val INCR: Int\n  
 val DECR: Int\n val INVERT: Int\n val INCR\_WRAP: Int\n val DECR\_WRAP: Int\n val  
 VENDOR: Int\n val RENDERER: Int\n val VERSION: Int\n val NEAREST: Int\n val LINEAR:  
 Int\n val NEAREST\_MIPMAP\_NEAREST: Int\n val LINEAR\_MIPMAP\_NEAREST: Int\n val  
 NEAREST\_MIPMAP\_LINEAR: Int\n val LINEAR\_MIPMAP\_LINEAR: Int\n val  
 TEXTURE\_MAG\_FILTER: Int\n val TEXTURE\_MIN\_FILTER: Int\n  
 val TEXTURE\_WRAP\_S: Int\n val TEXTURE\_WRAP\_T: Int\n val TEXTURE\_2D: Int\n val  
 TEXTURE: Int\n val TEXTURE\_CUBE\_MAP: Int\n val TEXTURE\_BINDING\_CUBE\_MAP: Int\n  
 val TEXTURE\_CUBE\_MAP\_POSITIVE\_X: Int\n val TEXTURE\_CUBE\_MAP\_NEGATIVE\_X: Int\n val  
 TEXTURE\_CUBE\_MAP\_POSITIVE\_Y: Int\n val TEXTURE\_CUBE\_MAP\_NEGATIVE\_Y: Int\n val  
 TEXTURE\_CUBE\_MAP\_POSITIVE\_Z: Int\n val TEXTURE\_CUBE\_MAP\_NEGATIVE\_Z: Int\n val  
 MAX\_CUBE\_MAP\_TEXTURE\_SIZE: Int\n val TEXTURE0: Int\n val TEXTURE1: Int\n val  
 TEXTURE2: Int\n val TEXTURE3: Int\n val TEXTURE4: Int\n val TEXTURE5: Int\n val  
 TEXTURE6: Int\n val TEXTURE7: Int\n val TEXTURE8: Int\n val TEXTURE9: Int\n val  
 TEXTURE10: Int\n val TEXTURE11: Int\n val TEXTURE12: Int\n val TEXTURE13: Int\n val  
 TEXTURE14: Int\n val TEXTURE15: Int\n val TEXTURE16: Int\n val TEXTURE17:  
 Int\n val TEXTURE18: Int\n val TEXTURE19: Int\n val TEXTURE20: Int\n val TEXTURE21:  
 Int\n val TEXTURE22: Int\n val TEXTURE23: Int\n val TEXTURE24: Int\n val TEXTURE25:  
 Int\n val TEXTURE26: Int\n val TEXTURE27: Int\n val TEXTURE28: Int\n val TEXTURE29:  
 Int\n val TEXTURE30: Int\n val TEXTURE31: Int\n val ACTIVE\_TEXTURE: Int\n val  
 REPEAT: Int\n val CLAMP\_TO\_EDGE: Int\n val MIRRORED\_REPEAT: Int\n val FLOAT\_VEC2:  
 Int\n val FLOAT\_VEC3: Int\n val FLOAT\_VEC4: Int\n val INT\_VEC2: Int\n val INT\_VEC3:  
 Int\n val INT\_VEC4: Int\n val BOOL: Int\n val BOOL\_VEC2: Int\n val BOOL\_VEC3: Int\n  
 val BOOL\_VEC4: Int\n val FLOAT\_MAT2: Int\n val FLOAT\_MAT3: Int\n val FLOAT\_MAT4: Int\n  
 val SAMPLER\_2D: Int\n val SAMPLER\_CUBE: Int\n val VERTEX\_ATTRIB\_ARRAY\_ENABLED:  
 Int\n  
 val VERTEX\_ATTRIB\_ARRAY\_SIZE: Int\n val VERTEX\_ATTRIB\_ARRAY\_STRIDE: Int\n val  
 VERTEX\_ATTRIB\_ARRAY\_TYPE: Int\n val VERTEX\_ATTRIB\_ARRAY\_NORMALIZED: Int\n val  
 VERTEX\_ATTRIB\_ARRAY\_POINTER: Int\n val VERTEX\_ATTRIB\_ARRAY\_BUFFER\_BINDING: Int\n  
 val IMPLEMENTATION\_COLOR\_READ\_TYPE: Int\n val  
 IMPLEMENTATION\_COLOR\_READ\_FORMAT: Int\n val COMPILE\_STATUS: Int\n val  
 LOW\_FLOAT: Int\n val MEDIUM\_FLOAT: Int\n val HIGH\_FLOAT: Int\n val LOW\_INT: Int\n  
 val MEDIUM\_INT: Int\n val HIGH\_INT: Int\n val FRAMEBUFFER: Int\n val RENDERBUFFER:



STENCIL\_FAIL:

Int\n val STENCIL\_PASS\_DEPTH\_FAIL: Int\n val STENCIL\_PASS\_DEPTH\_PASS: Int\n val  
STENCIL\_REF: Int\n val STENCIL\_VALUE\_MASK: Int\n val STENCIL\_WRITEMASK: Int\n val  
STENCIL\_BACK\_FUNC: Int\n val STENCIL\_BACK\_FAIL: Int\n val  
STENCIL\_BACK\_PASS\_DEPTH\_FAIL: Int\n val STENCIL\_BACK\_PASS\_DEPTH\_PASS: Int\n val  
STENCIL\_BACK\_REF: Int\n val STENCIL\_BACK\_VALUE\_MASK: Int\n val  
STENCIL\_BACK\_WRITEMASK: Int\n val VIEWPORT: Int\n val SCISSOR\_BOX: Int\n val  
COLOR\_CLEAR\_VALUE: Int\n val COLOR\_WRITEMASK: Int\n val UNPACK\_ALIGNMENT: Int\n  
val PACK\_ALIGNMENT: Int\n val MAX\_TEXTURE\_SIZE: Int\n val MAX\_VIEWPORT\_DIMS: Int\n  
val SUBPIXEL\_BITS: Int\n val RED\_BITS: Int\n val GREEN\_BITS: Int\n val BLUE\_BITS: Int\n  
val ALPHA\_BITS: Int\n val DEPTH\_BITS: Int\n val STENCIL\_BITS: Int\n val

POLYGON\_OFFSET\_UNITS: Int\n

val POLYGON\_OFFSET\_FACTOR: Int\n val TEXTURE\_BINDING\_2D: Int\n val  
SAMPLE\_BUFFERS: Int\n val SAMPLES: Int\n val SAMPLE\_COVERAGE\_VALUE: Int\n val  
SAMPLE\_COVERAGE\_INVERT: Int\n val COMPRESSED\_TEXTURE\_FORMATS: Int\n val  
DONT\_CARE: Int\n val FASTEST: Int\n val NICEST: Int\n val GENERATE\_MIPMAP\_HINT: Int\n  
val BYTE: Int\n val UNSIGNED\_BYTE: Int\n val SHORT: Int\n val UNSIGNED\_SHORT: Int\n  
val INT: Int\n val UNSIGNED\_INT: Int\n val FLOAT: Int\n val DEPTH\_COMPONENT: Int\n  
val ALPHA: Int\n val RGB: Int\n val RGBA: Int\n val LUMINANCE: Int\n val  
LUMINANCE\_ALPHA: Int\n val UNSIGNED\_SHORT\_4\_4\_4\_4: Int\n val  
UNSIGNED\_SHORT\_5\_5\_5\_1: Int\n val UNSIGNED\_SHORT\_5\_6\_5: Int\n val  
FRAGMENT\_SHADER: Int\n val VERTEX\_SHADER: Int\n val MAX\_VERTEX\_ATTRIBS: Int\n  
val MAX\_VERTEX\_UNIFORM\_VECTORS: Int\n  
val MAX\_VARYING\_VECTORS: Int\n val MAX\_COMBINED\_TEXTURE\_IMAGE\_UNITS: Int\n  
val MAX\_VERTEX\_TEXTURE\_IMAGE\_UNITS: Int\n val MAX\_TEXTURE\_IMAGE\_UNITS: Int\n val  
MAX\_FRAGMENT\_UNIFORM\_VECTORS: Int\n val SHADER\_TYPE: Int\n val DELETE\_STATUS:  
Int\n val LINK\_STATUS: Int\n val VALIDATE\_STATUS: Int\n val ATTACHED\_SHADERS: Int\n  
val ACTIVE\_UNIFORMS: Int\n val ACTIVE\_ATTRIBUTES: Int\n val  
SHADING\_LANGUAGE\_VERSION: Int\n val CURRENT\_PROGRAM: Int\n val NEVER: Int\n val  
LESS: Int\n val EQUAL: Int\n val LEQUAL: Int\n val GREATER: Int\n val NOTEQUAL: Int\n  
val GEQUAL: Int\n val ALWAYS: Int\n val KEEP: Int\n val REPLACE: Int\n val INCR: Int\n  
val DECR: Int\n val INVERT: Int\n val INCR\_WRAP: Int\n val DECR\_WRAP: Int\n val  
VENDOR: Int\n val RENDERER: Int\n val VERSION: Int\n val  
NEAREST: Int\n val LINEAR: Int\n val NEAREST\_MIPMAP\_NEAREST: Int\n val  
LINEAR\_MIPMAP\_NEAREST: Int\n val NEAREST\_MIPMAP\_LINEAR: Int\n val  
LINEAR\_MIPMAP\_LINEAR: Int\n val TEXTURE\_MAG\_FILTER: Int\n val TEXTURE\_MIN\_FILTER:  
Int\n val TEXTURE\_WRAP\_S: Int\n val TEXTURE\_WRAP\_T: Int\n val TEXTURE\_2D: Int\n  
val TEXTURE: Int\n val TEXTURE\_CUBE\_MAP: Int\n val TEXTURE\_BINDING\_CUBE\_MAP: Int\n  
val TEXTURE\_CUBE\_MAP\_POSITIVE\_X: Int\n val TEXTURE\_CUBE\_MAP\_NEGATIVE\_X: Int\n  
val TEXTURE\_CUBE\_MAP\_POSITIVE\_Y: Int\n val TEXTURE\_CUBE\_MAP\_NEGATIVE\_Y: Int\n val  
TEXTURE\_CUBE\_MAP\_POSITIVE\_Z: Int\n val TEXTURE\_CUBE\_MAP\_NEGATIVE\_Z: Int\n val  
MAX\_CUBE\_MAP\_TEXTURE\_SIZE: Int\n val TEXTURE0: Int\n val TEXTURE1: Int\n val  
TEXTURE2: Int\n val TEXTURE3: Int\n val TEXTURE4: Int\n val TEXTURE5: Int\n val  
TEXTURE6: Int\n val TEXTURE7:  
Int\n val TEXTURE8: Int\n val TEXTURE9: Int\n val TEXTURE10: Int\n val TEXTURE11:  
Int\n val TEXTURE12: Int\n val TEXTURE13: Int\n val TEXTURE14: Int\n val TEXTURE15:  
Int\n val TEXTURE16: Int\n val TEXTURE17: Int\n val TEXTURE18: Int\n val TEXTURE19:  
Int\n val TEXTURE20: Int\n val TEXTURE21: Int\n val TEXTURE22: Int\n val TEXTURE23:

```

Int\n val TEXTURE24: Int\n val TEXTURE25: Int\n val TEXTURE26: Int\n val TEXTURE27:
Int\n val TEXTURE28: Int\n val TEXTURE29: Int\n val TEXTURE30: Int\n val TEXTURE31:
Int\n val ACTIVE_TEXTURE: Int\n val REPEAT: Int\n val CLAMP_TO_EDGE: Int\n val
MIRRORED_REPEAT: Int\n val FLOAT_VEC2: Int\n val FLOAT_VEC3: Int\n val FLOAT_VEC4:
Int\n val INT_VEC2: Int\n val INT_VEC3: Int\n val INT_VEC4: Int\n val BOOL: Int\n
 val BOOL_VEC2: Int\n val BOOL_VEC3: Int\n val BOOL_VEC4: Int\n val FLOAT_MAT2: Int\n
 val FLOAT_MAT3: Int\n val FLOAT_MAT4: Int\n val SAMPLER_2D: Int\n val
SAMPLER_CUBE: Int\n val VERTEX_ATTRIB_ARRAY_ENABLED: Int\n val
VERTEX_ATTRIB_ARRAY_SIZE: Int\n val VERTEX_ATTRIB_ARRAY_STRIDE: Int\n val
VERTEX_ATTRIB_ARRAY_TYPE: Int\n val VERTEX_ATTRIB_ARRAY_NORMALIZED: Int\n val
VERTEX_ATTRIB_ARRAY_POINTER: Int\n val VERTEX_ATTRIB_ARRAY_BUFFER_BINDING: Int\n
 val IMPLEMENTATION_COLOR_READ_TYPE: Int\n val
IMPLEMENTATION_COLOR_READ_FORMAT: Int\n val COMPILE_STATUS: Int\n val
LOW_FLOAT: Int\n val MEDIUM_FLOAT: Int\n val HIGH_FLOAT: Int\n val LOW_INT: Int\n
 val MEDIUM_INT: Int\n val HIGH_INT: Int\n val FRAMEBUFFER: Int\n val RENDERBUFFER:
Int\n val RGBA4: Int\n val RGB5_A1: Int\n val RGB565: Int\n val
DEPTH_COMPONENT16: Int\n val STENCIL_INDEX: Int\n val STENCIL_INDEX8: Int\n val
DEPTH_STENCIL: Int\n val RENDERBUFFER_WIDTH: Int\n val RENDERBUFFER_HEIGHT: Int\n
 val RENDERBUFFER_INTERNAL_FORMAT: Int\n val RENDERBUFFER_RED_SIZE: Int\n val
RENDERBUFFER_GREEN_SIZE: Int\n val RENDERBUFFER_BLUE_SIZE: Int\n val
RENDERBUFFER_ALPHA_SIZE: Int\n val RENDERBUFFER_DEPTH_SIZE: Int\n val
RENDERBUFFER_STENCIL_SIZE: Int\n val FRAMEBUFFER_ATTACHMENT_OBJECT_TYPE: Int\n
 val FRAMEBUFFER_ATTACHMENT_OBJECT_NAME: Int\n val
FRAMEBUFFER_ATTACHMENT_TEXTURE_LEVEL: Int\n val
FRAMEBUFFER_ATTACHMENT_TEXTURE_CUBE_MAP_FACE: Int\n val COLOR_ATTACHMENT0:
Int\n val DEPTH_ATTACHMENT: Int\n val STENCIL_ATTACHMENT: Int\n val
DEPTH_STENCIL_ATTACHMENT: Int\n val NONE: Int\n val FRAMEBUFFER_COMPLETE: Int\n
 val FRAMEBUFFER_INCOMPLETE_ATTACHMENT: Int\n val
FRAMEBUFFER_INCOMPLETE_MISSING_ATTACHMENT:
Int\n val FRAMEBUFFER_INCOMPLETE_DIMENSIONS: Int\n val
FRAMEBUFFER_UNSUPPORTED: Int\n val FRAMEBUFFER_BINDING: Int\n val
RENDERBUFFER_BINDING: Int\n val MAX_RENDERBUFFER_SIZE: Int\n val
INVALID_FRAMEBUFFER_OPERATION: Int\n val UNPACK_FLIP_Y_WEBGL: Int\n val
UNPACK_PREMULTIPLY_ALPHA_WEBGL: Int\n val CONTEXT_LOST_WEBGL: Int\n val
UNPACK_COLORSPACE_CONVERSION_WEBGL: Int\n val BROWSER_DEFAULT_WEBGL: Int\n
}}\n\n/**\n * Exposes the JavaScript
[WebGLContextEvent](https://developer.mozilla.org/en/docs/Web/API/WebGLContextEvent) to Kotlin\n
*/\npublic external open class WebGLContextEvent(type: String, eventInit: WebGLContextEventInit =
definedExternally) : Event {\n open val statusMessage: String\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n\n public external
interface WebGLContextEventInit : EventInit {\n var statusMessage: String? /* = \"\" */\n get() =
definedExternally\n set(value) = definedExternally\n }\n\n @Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n @kotlin.internal.InlineOnly\n public inline fun
WebGLContextEventInit(statusMessage: String? = \"\", bubbles: Boolean? = false, cancelable: Boolean? = false,
composed: Boolean? = false): WebGLContextEventInit {\n val o = js(\"({})\")\n o[\"statusMessage\"] =
statusMessage\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n }
return o\n}\n\n/**\n * Exposes the JavaScript

```



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[ArrayBuffer](https://developer.mozilla.org/en/docs/Web/API/ArrayBuffer) to Kotlin\n *^\\npublic external open
class ArrayBuffer(length: Int) : BufferDataSource {\n open val byteLength: Int\n fun slice(begin: Int, end: Int =
definedExternally): ArrayBuffer\n\n companion object {\n fun isView(value: Any?): Boolean\n
}\n}\n\n/*\n
* Exposes the JavaScript [ArrayBufferView](https://developer.mozilla.org/en/docs/Web/API/ArrayBufferView) to
Kotlin\n *^\\npublic external interface ArrayBufferView : BufferDataSource {\n val buffer: ArrayBuffer\n val
byteOffset: Int\n val byteLength: Int\n}\n\n/*\n
* Exposes the JavaScript
[Int8Array](https://developer.mozilla.org/en/docs/Web/API/Int8Array) to Kotlin\n *^\\npublic external open class
Int8Array : ArrayBufferView {\n constructor(length: Int)\n constructor(array: Int8Array)\n constructor(array:
Array<Byte>)\n constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int =
definedExternally)\n open val length: Int\n override val buffer: ArrayBuffer\n override val byteOffset: Int\n
override val byteLength: Int\n fun set(array: Int8Array, offset: Int = definedExternally)\n fun set(array:
Array<Byte>, offset: Int = definedExternally)\n fun subarray(start: Int, end: Int): Int8Array\n\n companion
object {\n
 val BYTES_PER_ELEMENT: Int\n }\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun Int8Array.get(index: Int):
Byte = asDynamic()[index]\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun Int8Array.set(index: Int,
value: Byte) { asDynamic()[index] = value }\n\n/*\n
* Exposes the JavaScript
[Uint8Array](https://developer.mozilla.org/en/docs/Web/API/Uint8Array) to Kotlin\n *^\\npublic external open class
Uint8Array : ArrayBufferView {\n constructor(length: Int)\n constructor(array: Uint8Array)\n
constructor(array: Array<Byte>)\n constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length:
Int = definedExternally)\n open val length: Int\n override val buffer: ArrayBuffer\n override val byteOffset:
Int\n override val byteLength: Int\n fun set(array: Uint8Array, offset: Int = definedExternally)\n fun
set(array: Array<Byte>, offset: Int = definedExternally)\n fun subarray(start: Int, end: Int): Uint8Array\n\n
companion object {\n val BYTES_PER_ELEMENT: Int\n
}\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun Uint8Array.get(index: Int):
Byte = asDynamic()[index]\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun Uint8Array.set(index: Int,
value: Byte) { asDynamic()[index] = value }\n\n/*\n
* Exposes the JavaScript
[Uint8ClampedArray](https://developer.mozilla.org/en/docs/Web/API/Uint8ClampedArray) to Kotlin\n *^\\npublic
external open class Uint8ClampedArray : ArrayBufferView {\n constructor(length: Int)\n constructor(array:
Uint8ClampedArray)\n constructor(array: Array<Byte>)\n constructor(buffer: ArrayBuffer, byteOffset: Int =
definedExternally, length: Int = definedExternally)\n open val length: Int\n override val
buffer: ArrayBuffer\n override val byteOffset: Int\n override val byteLength: Int\n fun set(array:
Uint8ClampedArray, offset: Int = definedExternally)\n fun set(array: Array<Byte>, offset: Int =
definedExternally)\n fun subarray(start: Int, end: Int): Uint8ClampedArray\n\n companion object {\n val
BYTES_PER_ELEMENT: Int\n }\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun
Uint8ClampedArray.get(index: Int): Byte = asDynamic()[index]\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun
Uint8ClampedArray.set(index: Int, value: Byte) { asDynamic()[index] = value }\n\n/*\n
* Exposes the JavaScript
[Int16Array](https://developer.mozilla.org/en/docs/Web/API/Int16Array) to Kotlin\n *^\\npublic external open class
Int16Array : ArrayBufferView {\n constructor(length: Int)\n constructor(array: Int16Array)\n
constructor(array:
Array<Short>)\n constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int =
definedExternally)\n open val length: Int\n override val buffer: ArrayBuffer\n override val byteOffset: Int\n
}

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override val byteLength: Int\n fun set(array: Int16Array, offset: Int = definedExternally)\n fun set(array:
Array<Short>, offset: Int = definedExternally)\n fun subarray(start: Int, end: Int): Int16Array\n\n companion
object {\n val BYTES_PER_ELEMENT: Int\n }\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun Int16Array.get(index: Int):
Short = asDynamic()[index]\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun Int16Array.set(index: Int,
value: Short) { asDynamic()[index] = value }\n\n/**\n * Exposes the JavaScript
[Uint16Array](https://developer.mozilla.org/en/docs/Web/API/Uint16Array) to Kotlin\n *\npublic
external open class Uint16Array : ArrayBufferView {\n constructor(length: Int)\n constructor(array:
Uint16Array)\n constructor(array: Array<Short>)\n constructor(buffer: ArrayBuffer, byteOffset: Int =
definedExternally, length: Int = definedExternally)\n open val length: Int\n override val buffer: ArrayBuffer\n
override val byteOffset: Int\n override val byteLength: Int\n fun set(array: Uint16Array, offset: Int =
definedExternally)\n fun set(array: Array<Short>, offset: Int = definedExternally)\n fun subarray(start: Int, end:
Int): Uint16Array\n\n companion object {\n val BYTES_PER_ELEMENT: Int\n
}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun Uint16Array.get(index: Int):
Short = asDynamic()[index]\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun Uint16Array.set(index: Int,
value: Short) { asDynamic()[index]
= value }\n\n/**\n * Exposes the JavaScript
[Int32Array](https://developer.mozilla.org/en/docs/Web/API/Int32Array) to Kotlin\n *\npublic external open class
Int32Array : ArrayBufferView {\n constructor(length: Int)\n constructor(array: Int32Array)\n
constructor(array: Array<Int>)\n constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int
= definedExternally)\n open val length: Int\n override val buffer: ArrayBuffer\n override val byteOffset: Int\n
override val byteLength: Int\n fun set(array: Int32Array, offset: Int = definedExternally)\n fun set(array:
Array<Int>, offset: Int = definedExternally)\n fun subarray(start: Int, end: Int): Int32Array\n\n companion object
{\n val BYTES_PER_ELEMENT: Int\n }\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun Int32Array.get(index: Int): Int
= asDynamic()[index]\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun Int32Array.set(index: Int,
value: Int) { asDynamic()[index] = value }\n\n/**\n * Exposes the JavaScript
[Uint32Array](https://developer.mozilla.org/en/docs/Web/API/Uint32Array) to Kotlin\n *\npublic external open
class Uint32Array : ArrayBufferView {\n constructor(length: Int)\n constructor(array: Uint32Array)\n
constructor(array: Array<Int>)\n constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int
= definedExternally)\n open val length: Int\n override val buffer: ArrayBuffer\n override val byteOffset: Int\n
override val byteLength: Int\n fun set(array: Uint32Array, offset: Int = definedExternally)\n fun set(array:
Array<Int>, offset: Int = definedExternally)\n fun subarray(start: Int, end: Int): Uint32Array\n\n companion
object {\n val BYTES_PER_ELEMENT: Int\n }\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic
inline operator fun Uint32Array.get(index: Int): Int =
asDynamic()[index]\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun Uint32Array.set(index: Int,
value: Int) { asDynamic()[index] = value }\n\n/**\n * Exposes the JavaScript
[Float32Array](https://developer.mozilla.org/en/docs/Web/API/Float32Array) to Kotlin\n *\npublic external open
class Float32Array : ArrayBufferView {\n constructor(length: Int)\n constructor(array: Float32Array)\n
constructor(array: Array<Float>)\n constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length:
Int = definedExternally)\n open val length: Int\n override val buffer: ArrayBuffer\n override val byteOffset:
Int\n override val byteLength: Int\n fun set(array: Float32Array, offset: Int = definedExternally)\n fun

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set(array: Array<Float>, offset: Int = definedExternally)\n fun subarray(start: Int, end: Int): Float32Array\n\n
 companion object {\n val BYTES_PER_ELEMENT: Int\n }\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun Float32Array.get(index: Int):
Float = asDynamic()[index]\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun Float32Array.set(index: Int,
value: Float) { asDynamic()[index] = value }\n\n/**\n * Exposes the JavaScript
[Float64Array](https://developer.mozilla.org/en/docs/Web/API/Float64Array) to Kotlin\n */\npublic external open
class Float64Array : ArrayBufferView {\n constructor(length: Int)\n constructor(array: Float64Array)\n
 constructor(array: Array<Double>)\n constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length:
Int = definedExternally)\n open val length: Int\n override val buffer: ArrayBuffer\n override val byteOffset:
Int\n override val byteLength: Int\n fun set(array:
Float64Array, offset: Int = definedExternally)\n fun set(array: Array<Double>, offset: Int = definedExternally)\n
 fun subarray(start: Int, end: Int): Float64Array\n\n companion object {\n val BYTES_PER_ELEMENT: Int\n
 }\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun Float64Array.get(index: Int):
Double = asDynamic()[index]\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun Float64Array.set(index: Int,
value: Double) { asDynamic()[index] = value }\n\n/**\n * Exposes the JavaScript
[DataView](https://developer.mozilla.org/en/docs/Web/API/DataView) to Kotlin\n */\npublic external open class
DataView(buffer: ArrayBuffer, byteOffset: Int = definedExternally, byteLength: Int = definedExternally) :
ArrayBufferView {\n override val buffer: ArrayBuffer\n override val byteOffset: Int\n override val
byteLength: Int\n fun getInt8(byteOffset:
Int): Byte\n fun getUint8(byteOffset: Int): Byte\n fun getInt16(byteOffset: Int, littleEndian: Boolean =
definedExternally): Short\n fun getUint16(byteOffset: Int, littleEndian: Boolean = definedExternally): Short\n
 fun getInt32(byteOffset: Int, littleEndian: Boolean = definedExternally): Int\n fun getUint32(byteOffset: Int,
littleEndian: Boolean = definedExternally): Int\n fun getFloat32(byteOffset: Int, littleEndian: Boolean =
definedExternally): Float\n fun getFloat64(byteOffset: Int, littleEndian: Boolean = definedExternally): Double\n
 fun setInt8(byteOffset: Int, value: Byte)\n fun setUint8(byteOffset: Int, value: Byte)\n fun setInt16(byteOffset:
Int, value: Short, littleEndian: Boolean = definedExternally)\n fun setUint16(byteOffset: Int, value: Short,
littleEndian: Boolean = definedExternally)\n fun setInt32(byteOffset: Int, value: Int, littleEndian: Boolean =
definedExternally)\n fun setUint32(byteOffset: Int, value: Int, littleEndian:
Boolean = definedExternally)\n fun setFloat32(byteOffset: Int, value: Float, littleEndian: Boolean =
definedExternally)\n fun setFloat64(byteOffset: Int, value: Double, littleEndian: Boolean =
definedExternally)\n}\n\npublic external interface BufferDataSource\n\npublic external interface
TexImageSource", "/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n *
Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *
/\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n// See github.com/kotlin/dukat for
details\n\npackage org.w3c.dom.clipboard\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport
org.w3c.dom.*\nimport org.w3c.dom.events.*\n\npublic external interface ClipboardEventInit : EventInit {\n var
clipboardData: DataTransfer? /* = null */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic
inline fun ClipboardEventInit(clipboardData: DataTransfer? = null, bubbles: Boolean? = false, cancelable:
Boolean? = false, composed: Boolean? = false): ClipboardEventInit {\n val o = js("{}")\n o["clipboardData"] = clipboardData\n o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n o["composed"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript
[ClipboardEvent](https://developer.mozilla.org/en/docs/Web/API/ClipboardEvent) to Kotlin\n */\npublic external

```

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open class ClipboardEvent(type: String, eventInitDict: ClipboardEventInit = definedExternally) : Event {
 open val clipboardData: DataTransfer?
 companion object {
 val NONE: Short
 val CAPTURING_PHASE: Short
 val AT_TARGET: Short
 val BUBBLING_PHASE: Short
 }
}
Exposes the JavaScript [Clipboard](https://developer.mozilla.org/en/docs/Web/API/Clipboard) to Kotlin
public external
abstract class Clipboard : EventTarget {
 fun read(): Promise<DataTransfer>
 fun readText(): Promise<String>
 fun write(data: DataTransfer): Promise<Unit>
 fun writeText(data: String): Promise<Unit>
}
public external interface ClipboardPermissionDescriptor {
 var allowWithoutGesture: Boolean?
}
= false
get() = definedExternally
set(value) = definedExternally
@Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline fun ClipboardPermissionDescriptor(allowWithoutGesture: Boolean? = false): ClipboardPermissionDescriptor {
 val o = js("{}")
 o["allowWithoutGesture"] = allowWithoutGesture
 return o
}
/* Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.
Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.
NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!
See github.com/kotlin/dukat for details
package org.w3c.dom.css
import kotlin.js.*
import org.khronos.webgl.*
import org.w3c.dom.*
public external abstract class MediaList : ItemArrayLike<String> {
 open var mediaText: String
 fun appendMedium(medium: String)
 fun deleteMedium(medium: String)
 override fun item(index: Int): String?
}
@Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline operator fun MediaList.get(index: Int): String? = asDynamic()[index]
Exposes the JavaScript [StyleSheet](https://developer.mozilla.org/en/docs/Web/API/StyleSheet) to Kotlin
public external abstract class StyleSheet {
 open val type: String
 open val href: String?
 open val ownerNode: UnionElementOrProcessingInstruction?
 open val parentStyleSheet: StyleSheet?
 open val title: String?
 open val media: MediaList
 open var disabled: Boolean
}
Exposes the JavaScript [CSSStyleSheet](https://developer.mozilla.org/en/docs/Web/API/CSSStyleSheet) to Kotlin
public external abstract class CSSStyleSheet : StyleSheet {
 open val ownerRule: CSSRule?
 open val cssRules: CSSRuleList
 fun insertRule(rule: String, index: Int): Int
 fun deleteRule(index: Int)
}
Exposes the JavaScript [StyleSheetList](https://developer.mozilla.org/en/docs/Web/API/StyleSheetList) to Kotlin
public external abstract class StyleSheetList : ItemArrayLike<StyleSheet> {
 override fun item(index: Int): StyleSheet?
}
@Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline operator fun StyleSheetList.get(index: Int): StyleSheet? = asDynamic()[index]
Exposes the JavaScript [LinkStyle](https://developer.mozilla.org/en/docs/Web/API/LinkStyle) to Kotlin
public external interface LinkStyle {
 val sheet: StyleSheet?
 get() = definedExternally
}
Exposes the JavaScript [CSSRuleList](https://developer.mozilla.org/en/docs/Web/API/CSSRuleList) to Kotlin
public external abstract class CSSRuleList : ItemArrayLike<CSSRule> {
 override fun item(index: Int): CSSRule?
}
@Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline operator fun CSSRuleList.get(index: Int): CSSRule? = asDynamic()[index]
Exposes the JavaScript [CSSRule](https://developer.mozilla.org/en/docs/Web/API/CSSRule) to Kotlin
public external abstract class CSSRule {
 open val type: Short
 open var cssText: String
 open val parentRule: CSSRule?
 open val parentStyleSheet: CSSStyleSheet?
 companion object {
 val STYLE_RULE: Short
 val CHARSET_RULE: Short
 val IMPORT_RULE: Short
 val MEDIA_RULE: Short
 val FONT_FACE_RULE: Short
 val PAGE_RULE: Short
 val MARGIN_RULE: Short
 val NAMESPACE_RULE: Short
 }
}
Exposes the JavaScript

```

[CSSStyleRule](https://developer.mozilla.org/en/docs/Web/API/CSSStyleRule) to Kotlin\n \*^public external abstract class CSSStyleRule : CSSRule {\n open var selectorText: String\n open val style: CSSStyleDeclaration\n\n companion object {\n val STYLE\_RULE: Short\n val CHARSET\_RULE: Short\n val IMPORT\_RULE: Short\n val MEDIA\_RULE: Short\n val FONT\_FACE\_RULE: Short\n val PAGE\_RULE: Short\n val MARGIN\_RULE: Short\n val NAMESPACE\_RULE: Short\n }\n}\n\npublic external abstract class CSSImportRule : CSSRule {\n open val href: String\n open val media: MediaList\n open val styleSheet: CSSStyleSheet\n\n companion object {\n val STYLE\_RULE: Short\n val CHARSET\_RULE: Short\n val IMPORT\_RULE: Short\n val MEDIA\_RULE: Short\n val FONT\_FACE\_RULE: Short\n val PAGE\_RULE: Short\n val MARGIN\_RULE: Short\n val NAMESPACE\_RULE: Short\n }\n}\n\n/\*\*\n \* Exposes the JavaScript

[CSSGroupingRule](https://developer.mozilla.org/en/docs/Web/API/CSSGroupingRule) to Kotlin\n \*^public external abstract class CSSGroupingRule : CSSRule {\n open val cssRules: CSSRuleList\n fun insertRule(rule: String, index: Int): Int\n fun deleteRule(index: Int)\n\n companion object {\n val STYLE\_RULE: Short\n val CHARSET\_RULE: Short\n val IMPORT\_RULE: Short\n val MEDIA\_RULE: Short\n val FONT\_FACE\_RULE: Short\n val PAGE\_RULE: Short\n val MARGIN\_RULE: Short\n val NAMESPACE\_RULE: Short\n }\n}\n\n/\*\*\n \* Exposes the JavaScript

[CSSMediaRule](https://developer.mozilla.org/en/docs/Web/API/CSSMediaRule) to Kotlin\n \*^public external abstract class CSSMediaRule : CSSGroupingRule {\n open val media: MediaList\n\n companion object {\n val STYLE\_RULE: Short\n val CHARSET\_RULE: Short\n val IMPORT\_RULE: Short\n val MEDIA\_RULE: Short\n val FONT\_FACE\_RULE: Short\n val PAGE\_RULE: Short\n val MARGIN\_RULE: Short\n val NAMESPACE\_RULE: Short\n }\n}\n\n/\*\*\n \* Exposes the JavaScript

[CSSPageRule](https://developer.mozilla.org/en/docs/Web/API/CSSPageRule) to Kotlin\n \*^public external abstract class CSSPageRule : CSSGroupingRule {\n open var selectorText: String\n open val style: CSSStyleDeclaration\n\n companion object {\n val STYLE\_RULE: Short\n val CHARSET\_RULE: Short\n val IMPORT\_RULE: Short\n val MEDIA\_RULE: Short\n val FONT\_FACE\_RULE: Short\n val PAGE\_RULE: Short\n val MARGIN\_RULE: Short\n val NAMESPACE\_RULE: Short\n }\n}\n\npublic external abstract class CSSMarginRule : CSSRule {\n open val name: String\n open val style: CSSStyleDeclaration\n\n companion object {\n val STYLE\_RULE: Short\n val CHARSET\_RULE: Short\n val IMPORT\_RULE: Short\n val MEDIA\_RULE: Short\n val FONT\_FACE\_RULE: Short\n val PAGE\_RULE: Short\n val MARGIN\_RULE: Short\n val NAMESPACE\_RULE: Short\n }\n}\n\n/\*\*\n \* Exposes the JavaScript

[CSSNamespaceRule](https://developer.mozilla.org/en/docs/Web/API/CSSNamespaceRule) to Kotlin\n \*^public external abstract class CSSNamespaceRule : CSSRule {\n open val namespaceURI: String\n open val prefix: String\n\n companion object {\n val STYLE\_RULE: Short\n val CHARSET\_RULE: Short\n val IMPORT\_RULE: Short\n val MEDIA\_RULE: Short\n val FONT\_FACE\_RULE: Short\n val PAGE\_RULE: Short\n val MARGIN\_RULE: Short\n val NAMESPACE\_RULE: Short\n }\n}\n\n/\*\*\n \* Exposes the JavaScript

[CSSStyleDeclaration](https://developer.mozilla.org/en/docs/Web/API/CSSStyleDeclaration) to Kotlin\n \*^public external abstract class CSSStyleDeclaration : ItemArrayLike<String> {\n open var cssText: String\n open val parentRule: CSSRule?\n open var cssFloat: String\n open var alignContent: String\n open var alignItems: String\n open var alignSelf: String\n open var animation: String\n open var animationDelay: String\n open var animationDirection: String\n open var animationDuration: String\n open var animationFillMode: String\n open var animationIterationCount: String\n open var animationName: String\n open var animationPlayState: String\n open var animationTimingFunction: String\n open var backfaceVisibility: String\n open var background: String\n open var backgroundAttachment: String\n open var backgroundClip: String\n open var backgroundColor: String\n open var backgroundImage: String\n open var backgroundOrigin: String\n open var backgroundPosition: String\n open var backgroundRepeat: String\n open var backgroundSize: String\n open

var border: String\n open var borderBottom: String\n open var borderBottomColor: String\n open var  
borderBottomLeftRadius: String\n open var borderBottomRightRadius: String\n open var borderBottomStyle:  
String\n  
open var borderBottomWidth: String\n open var borderCollapse: String\n open var borderColor: String\n  
open var borderImage: String\n open var borderImageOutset: String\n open var borderImageRepeat: String\n  
open var borderImageSlice: String\n open var borderImageSource: String\n open var borderImageWidth:  
String\n open var borderLeft: String\n open var borderLeftColor: String\n open var borderLeftStyle: String\n  
open var borderLeftWidth: String\n open var borderRadius: String\n open var borderRight: String\n open var  
borderRightColor: String\n open var borderRightStyle: String\n open var borderRightWidth: String\n open var  
borderSpacing: String\n open var borderStyle: String\n open var borderTop: String\n open var  
borderTopColor: String\n open var borderTopLeftRadius: String\n open var borderTopRightRadius: String\n  
open var borderTopStyle: String\n open var borderTopWidth: String\n open var borderWidth:  
String\n open var bottom: String\n open var boxDecorationBreak: String\n open var boxShadow: String\n  
open var boxSizing: String\n open var breakAfter: String\n open var breakBefore: String\n open var  
breakInside: String\n open var captionSide: String\n open var clear: String\n open var clip: String\n open var  
color: String\n open var columnCount: String\n open var columnFill: String\n open var columnGap: String\n  
open var columnRule: String\n open var columnRuleColor: String\n open var columnRuleStyle: String\n open  
var columnRuleWidth: String\n open var columnSpan: String\n open var columnWidth: String\n open var  
columns: String\n open var content: String\n open var counterIncrement: String\n open var counterReset:  
String\n open var cursor: String\n open var direction: String\n open var display: String\n open var  
emptyCells: String\n open var filter: String\n open var flex: String\n open  
var flexBasis: String\n open var flexDirection: String\n open var flexFlow: String\n open var flexGrow:  
String\n open var flexShrink: String\n open var flexWrap: String\n open var font: String\n open var  
fontFamily: String\n open var fontFeatureSettings: String\n open var fontKerning: String\n open var  
fontLanguageOverride: String\n open var fontSize: String\n open var fontSizeAdjust: String\n open var  
fontStretch: String\n open var fontStyle: String\n open var fontSynthesis: String\n open var fontVariant:  
String\n open var fontVariantAlternates: String\n open var fontVariantCaps: String\n open var  
fontVariantEastAsian: String\n open var fontVariantLigatures: String\n open var fontVariantNumeric: String\n  
open var fontVariantPosition: String\n open var fontWeight: String\n open var hangingPunctuation: String\n  
open var height: String\n open var hyphens: String\n open var imageOrientation: String\n open  
var imageRendering: String\n open var imageResolution: String\n open var imeMode: String\n open var  
justifyContent: String\n open var left: String\n open var letterSpacing: String\n open var lineBreak: String\n  
open var lineHeight: String\n open var listStyle: String\n open var listStyleImage: String\n open var  
listStylePosition: String\n open var listStyleType: String\n open var margin: String\n open var marginBottom:  
String\n open var marginLeft: String\n open var marginRight: String\n open var marginTop: String\n open  
var mark: String\n open var markAfter: String\n open var markBefore: String\n open var marks: String\n  
open var marqueeDirection: String\n open var marqueePlayCount: String\n open var marqueeSpeed: String\n  
open var marqueeStyle: String\n open var mask: String\n open var maskType: String\n open var maxHeight:  
String\n open var maxWidth: String\n open var minHeight: String\n open  
var minWidth: String\n open var navDown: String\n open var navIndex: String\n open var navLeft: String\n  
open var navRight: String\n open var navUp: String\n open var objectFit: String\n open var objectPosition:  
String\n open var opacity: String\n open var order: String\n open var orphans: String\n open var outline:  
String\n open var outlineColor: String\n open var outlineOffset: String\n open var outlineStyle: String\n open  
var outlineWidth: String\n open var overflowWrap: String\n open var overflowX: String\n open var  
overflowY: String\n open var padding: String\n open var paddingBottom: String\n open var paddingLeft:  
String\n open var paddingRight: String\n open var paddingTop: String\n open var pageBreakAfter: String\n  
open var pageBreakBefore: String\n open var pageBreakInside: String\n open var perspective: String\n open  
var perspectiveOrigin: String\n open var phonemes: String\n open var position:

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String\n open var quotes: String\n open var resize: String\n open var rest: String\n open var restAfter:
String\n open var restBefore: String\n open var right: String\n open var tabSize: String\n open var
tableLayout: String\n open var textAlign: String\n open var textAlignLast: String\n open var
textCombineUpright: String\n open var textDecoration: String\n open var textDecorationColor: String\n open
var textDecorationLine: String\n open var textDecorationStyle: String\n open var textIndent: String\n open var
textJustify: String\n open var textOrientation: String\n open var textOverflow: String\n open var textShadow:
String\n open var textTransform: String\n open var textUnderlinePosition: String\n open var top: String\n
open var transform: String\n open var transformOrigin: String\n open var transformStyle: String\n open var
transition: String\n open var transitionDelay: String\n open var
transitionDuration: String\n open var transitionProperty: String\n open var transitionTimingFunction: String\n
open var unicodeBidi: String\n open var verticalAlign: String\n open var visibility: String\n open var
voiceBalance: String\n open var voiceDuration: String\n open var voicePitch: String\n open var
voicePitchRange: String\n open var voiceRate: String\n open var voiceStress: String\n open var voiceVolume:
String\n open var whiteSpace: String\n open var widows: String\n open var width: String\n open var
wordBreak: String\n open var wordSpacing: String\n open var wordWrap: String\n open var writingMode:
String\n open var zIndex: String\n open var _dashed_attribute: String\n open var _camel_cased_attribute:
String\n open var _webkit_cased_attribute: String\n fun getProperty(property: String): String\n fun
getPropertyPriority(property: String): String\n fun setProperty(property: String, value: String,
priority: String = definedExternally)\n fun setPropertyValue(property: String, value: String)\n fun
setPropertyPriority(property: String, priority: String)\n fun removeProperty(property: String): String\n override
fun item(index: Int): String\n}\n\n@Suppress("\INVISIBLE_REFERENCE",
"\INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun
CSSStyleDeclaration.get(index: Int): String? = asDynamic()[index]\n\npublic external interface
ElementCSSInlineStyle {\n val style: CSSStyleDeclaration\n}\n\n/**\n * Exposes the JavaScript
[CSS](https://developer.mozilla.org/en/docs/Web/API/CSS) to Kotlin\n *\n\npublic external abstract class CSS {\n
companion object {\n fun escape(ident: String): String\n }\n}\n\npublic external interface
UnionElementOrProcessingInstruction", "/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in
the license/LICENSE.txt file.\n *\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n\n// See
github.com/kotlin/dukat for details\n\npackage org.w3c.dom.encryptedmedia\n\nimport kotlin.js.*\nimport
org.khronos.webgl.*\nimport org.w3c.dom.*\nimport org.w3c.dom.events.*\n\n/**\n * Exposes the JavaScript
[MediaKeySystemConfiguration](https://developer.mozilla.org/en/docs/Web/API/MediaKeySystemConfiguration)
to Kotlin\n *\n\npublic external interface MediaKeySystemConfiguration {\n var label: String? /* = "" *\n
get() = definedExternally\n set(value) = definedExternally\n var initDataTypes: Array<String>? /* = arrayOf()
*\n
get() = definedExternally\n set(value) = definedExternally\n var audioCapabilities:
Array<MediaKeySystemMediaCapability>? /* = arrayOf() *\n
get() = definedExternally\n set(value) =
definedExternally\n var videoCapabilities: Array<MediaKeySystemMediaCapability>? /* = arrayOf() *\n
get() = definedExternally\n
set(value) = definedExternally\n var distinctiveIdentifier: MediaKeysRequirement? /* =
MediaKeysRequirement.OPTIONAL *\n
get() = definedExternally\n set(value) = definedExternally\n
var persistentState: MediaKeysRequirement? /* = MediaKeysRequirement.OPTIONAL *\n
get() =
definedExternally\n set(value) = definedExternally\n var sessionTypes: Array<String>?\n
get() =
definedExternally\n set(value) = definedExternally\n}\n\n@Suppress("\INVISIBLE_REFERENCE",
"\INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun MediaKeySystemConfiguration(label:
String? = "", initDataTypes: Array<String>? = arrayOf(), audioCapabilities:
Array<MediaKeySystemMediaCapability>? = arrayOf(), videoCapabilities:
Array<MediaKeySystemMediaCapability>? = arrayOf(), distinctiveIdentifier: MediaKeysRequirement? =
MediaKeysRequirement.OPTIONAL, persistentState: MediaKeysRequirement? =

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MediaKeysRequirement.OPTIONAL, sessionTypes: Array<String>?
= undefined): MediaKeySystemConfiguration {
 val o = js("{}")
 o["label"] = label
 o["initDataTypes"] = initDataTypes
 o["audioCapabilities"] = audioCapabilities
 o["videoCapabilities"] = videoCapabilities
 o["distinctiveIdentifier"] = distinctiveIdentifier
 o["persistentState"] = persistentState
 o["sessionTypes"] = sessionTypes
 return o
}

public external interface MediaKeySystemMediaCapability {
 var contentType: String? /* = "" */
 get() = definedExternally
 set(value) = definedExternally
 var robustness: String? /* = "" */
 get() = definedExternally
 set(value) = definedExternally
}

@Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline fun MediaKeySystemMediaCapability(
 contentType: String? = "", robustness: String? = ""
): MediaKeySystemMediaCapability {
 val o = js("{}")
 o["contentType"] = contentType
 o["robustness"] = robustness
 return o
}

/** Exposes the JavaScript [MediaKeySystemAccess](https://developer.mozilla.org/en/docs/Web/API/MediaKeySystemAccess) to Kotlin
 */
public external abstract class MediaKeySystemAccess {
 open val keySystem: String
 fun getConfiguration(): MediaKeySystemConfiguration
 fun createMediaKeys(): Promise<MediaKeys>
}

/** Exposes the JavaScript [MediaKeys](https://developer.mozilla.org/en/docs/Web/API/MediaKeys) to Kotlin
 */
public external abstract class MediaKeys {
 fun createSession(sessionType: MediaKeySessionType = definedExternally): MediaKeySession
 fun setServerCertificate(serverCertificate: dynamic): Promise<Boolean>
}

/** Exposes the JavaScript [MediaKeySession](https://developer.mozilla.org/en/docs/Web/API/MediaKeySession) to Kotlin
 */
public external abstract class MediaKeySession : EventTarget {
 open val sessionId: String
 open val expiration: Double
 open val closed: Promise<Unit>
 open val keyStatuses: MediaKeyStatusMap
 open var onkeystatuschange: ((Event) -> dynamic)?
 open var onmessage: ((MessageEvent) -> dynamic)?
 fun generateRequest(
 initData: String,
 initData: dynamic
): Promise<Unit>
 fun load(sessionId: String): Promise<Boolean>
 fun update(response: dynamic): Promise<Unit>
 fun close(): Promise<Unit>
 fun remove(): Promise<Unit>
}

/** Exposes the JavaScript [MediaKeyStatusMap](https://developer.mozilla.org/en/docs/Web/API/MediaKeyStatusMap) to Kotlin
 */
public external abstract class MediaKeyStatusMap {
 open val size: Int
 fun has(keyId: dynamic): Boolean
 fun get(keyId: dynamic): Any?
}

/** Exposes the JavaScript [MediaKeyMessageEvent](https://developer.mozilla.org/en/docs/Web/API/MediaKeyMessageEvent) to Kotlin
 */
public external open class MediaKeyMessageEvent(
 type: String, eventInitDict: MediaKeyMessageEventInit
): Event {
 open val messageType: MediaKeyMessageType
 open val message: ArrayBuffer
 companion object {
 val NONE: Short
 val CAPTURING_PHASE: Short
 val AT_TARGET: Short
 val BUBBLING_PHASE: Short
 }
}

public external interface MediaKeyMessageEventInit : EventInit {
 var messageType: MediaKeyMessageType?
 var message: ArrayBuffer?
}

@Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline fun MediaKeyMessageEventInit(
 messageType: MediaKeyMessageType?, message: ArrayBuffer?, bubbles: Boolean? = false,
 cancelable: Boolean? = false, composed: Boolean? = false
): MediaKeyMessageEventInit {
 val o = js("{}")
 o["messageType"] = messageType
 o["message"] = message
 o["bubbles"] = bubbles
 o["cancelable"] = cancelable
 o["composed"] = composed
 return o
}

public external open class MediaEncryptedEvent(
 type: String, eventInitDict: MediaEncryptedEventInit = definedExternally
): Event {
 open val initData: String
 open val initData: ArrayBuffer?
 companion object {
 val NONE: Short
 val CAPTURING_PHASE: Short
 val AT_TARGET: Short
 val BUBBLING_PHASE: Short
 }
}

public external interface MediaEncryptedEventInit : EventInit {
 var initData: String? /* = "" */
 get() = definedExternally
 set(value) = definedExternally
 var initData: ArrayBuffer? /* = null */
 get() = definedExternally
 set(value) = definedExternally
}

@Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")

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\invisible_member()\n@kotlin.internal.InlineOnly\npublic inline fun
MediaEncryptedEventInit(initDataType: String? = "", initData: ArrayBuffer? = null, bubbles: Boolean? = false,
cancelable: Boolean? = false, composed: Boolean? = false): MediaEncryptedEventInit {n val o = js("{}")\n
o["initDataType"] = initDataType\n o["initData"] = initData\n o["bubbles"] = bubbles\n o["cancelable"]
=
cancelable\n o["composed"] = composed\n return o}\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface MediaKeysRequirement {n companion object\n}\n\npublic inline val
MediaKeysRequirement.Companion.REQUIRED: MediaKeysRequirement get() =
"required".asDynamic().unsafeCast<MediaKeysRequirement>()\n\npublic inline val
MediaKeysRequirement.Companion.OPTIONAL: MediaKeysRequirement get() =
"optional".asDynamic().unsafeCast<MediaKeysRequirement>()\n\npublic inline val
MediaKeysRequirement.Companion.NOT_ALLOWED: MediaKeysRequirement get() = "not-
allowed".asDynamic().unsafeCast<MediaKeysRequirement>()\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface MediaKeySessionType {n companion object\n}\n\npublic inline val
MediaKeySessionType.Companion.TEMPORARY: MediaKeySessionType get() =
"temporary".asDynamic().unsafeCast<MediaKeySessionType>()\n\npublic
inline val MediaKeySessionType.Companion.PERSISTENT_LICENSE: MediaKeySessionType get() =
"persistent-license".asDynamic().unsafeCast<MediaKeySessionType>()\n\n/* please, don't implement this
interface! *\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic
external interface MediaKeyStatus {n companion object\n}\n\npublic inline val
MediaKeyStatus.Companion.USABLE: MediaKeyStatus get() =
"usable".asDynamic().unsafeCast<MediaKeyStatus>()\n\npublic inline val
MediaKeyStatus.Companion.EXPIRED: MediaKeyStatus get() =
"expired".asDynamic().unsafeCast<MediaKeyStatus>()\n\npublic inline val
MediaKeyStatus.Companion.RELEASED: MediaKeyStatus get() =
"released".asDynamic().unsafeCast<MediaKeyStatus>()\n\npublic inline val
MediaKeyStatus.Companion.OUTPUT_RESTRICTED: MediaKeyStatus get() = "output-
restricted".asDynamic().unsafeCast<MediaKeyStatus>()\n\npublic inline val
MediaKeyStatus.Companion.OUTPUT_DOWNSCALED:
MediaKeyStatus get() = "output-downscaled".asDynamic().unsafeCast<MediaKeyStatus>()\n\npublic inline val
MediaKeyStatus.Companion.STATUS_PENDING: MediaKeyStatus get() = "status-
pending".asDynamic().unsafeCast<MediaKeyStatus>()\n\npublic inline val
MediaKeyStatus.Companion.INTERNAL_ERROR: MediaKeyStatus get() = "internal-
error".asDynamic().unsafeCast<MediaKeyStatus>()\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface MediaKeyMessageType {n companion object\n}\n\npublic inline val
MediaKeyMessageType.Companion.LICENSE_REQUEST: MediaKeyMessageType get() = "license-
request".asDynamic().unsafeCast<MediaKeyMessageType>()\n\npublic inline val
MediaKeyMessageType.Companion.LICENSE_RENEWAL: MediaKeyMessageType get() = "license-
renewal".asDynamic().unsafeCast<MediaKeyMessageType>()\n\npublic inline val
MediaKeyMessageType.Companion.LICENSE_RELEASE: MediaKeyMessageType
get() = "license-release".asDynamic().unsafeCast<MediaKeyMessageType>()\n\npublic inline val
MediaKeyMessageType.Companion.INDIVIDUALIZATION_REQUEST: MediaKeyMessageType get() =
"individualization-request".asDynamic().unsafeCast<MediaKeyMessageType>()"/*\n * Copyright 2010-2021
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-

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GENERATED, DO NOT EDIT!\n// See github.com/kotlin/dukat for details\n\npackage
org.w3c.dom.events\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.dom.*\n\n/**\n * Exposes
the JavaScript [UIEvent](https://developer.mozilla.org/en/docs/Web/API/UIEvent) to Kotlin\n *\npublic external
open class UIEvent(type: String, eventInitDict: UIEventInit = definedExternally) : Event {\n open val view:
Window?\n open val detail: Int?\n companion object {\n val NONE: Short?\n
 val CAPTURING_PHASE: Short?\n val AT_TARGET: Short?\n val BUBBLING_PHASE: Short?\n
 }\n}\n\npublic external interface UIEventInit : EventInit {\n var view: Window? /* = null */\n get() =
definedExternally\n set(value) = definedExternally\n var detail: Int? /* = 0 */\n get() =
definedExternally\n set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun UIEventInit(view: Window? = null,
detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): UIEventInit
{\n val o = js(\"({})\")\n o[\"view\"] = view\n o[\"detail\"] = detail\n o[\"bubbles\"] = bubbles\n
o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript
[FocusEvent](https://developer.mozilla.org/en/docs/Web/API/FocusEvent) to Kotlin\n *\npublic external open class
FocusEvent(type:
String, eventInitDict: FocusEventInit = definedExternally) : UIEvent {\n open val relatedTarget:
EventTarget?\n companion object {\n val NONE: Short?\n val CAPTURING_PHASE: Short?\n val
AT_TARGET: Short?\n val BUBBLING_PHASE: Short?\n }\n}\n\npublic external interface FocusEventInit :
UIEventInit {\n var relatedTarget: EventTarget? /* = null */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun FocusEventInit(relatedTarget:
EventTarget? = null, view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? =
false, composed: Boolean? = false): FocusEventInit {\n val o = js(\"({})\")\n o[\"relatedTarget\"] =
relatedTarget\n o[\"view\"] = view\n o[\"detail\"] = detail\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] =
cancelable\n o[\"composed\"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript [MouseEvent](https://developer.mozilla.org/en/docs/Web/API/MouseEvent) to Kotlin\n *\npublic external open class MouseEvent(type: String, eventInitDict: MouseEventInit = definedExternally) :
UIEvent, UnionElementOrMouseEvent {\n open val screenX: Int?\n open val screenY: Int?\n open val clientX:
Int?\n open val clientY: Int?\n open val ctrlKey: Boolean?\n open val shiftKey: Boolean?\n open val altKey:
Boolean?\n open val metaKey: Boolean?\n open val button: Short?\n open val buttons: Short?\n open val
relatedTarget: EventTarget?\n open val region: String?\n open val pageX: Double?\n open val pageY: Double?\n
open val x: Double?\n open val y: Double?\n open val offsetX: Double?\n open val offsetY: Double?\n fun
getModifierState(keyArg: String): Boolean\n companion object {\n val NONE: Short?\n val
CAPTURING_PHASE: Short?\n val AT_TARGET: Short?\n val BUBBLING_PHASE: Short?\n
 }\n}\n\npublic
external interface MouseEventInit : EventModifierInit {\n var screenX: Int? /* = 0 */\n get() =
definedExternally\n set(value) = definedExternally\n var screenY: Int? /* = 0 */\n get() =
definedExternally\n set(value) = definedExternally\n var clientX: Int? /* = 0 */\n get() =
definedExternally\n set(value) = definedExternally\n var clientY: Int? /* = 0 */\n get() =
definedExternally\n set(value) = definedExternally\n var button: Short? /* = 0 */\n get() =
definedExternally\n set(value) = definedExternally\n var buttons: Short? /* = 0 */\n get() =
definedExternally\n set(value) = definedExternally\n var relatedTarget: EventTarget? /* = null */\n get()
= definedExternally\n set(value) = definedExternally\n var region: String? /* = null */\n get() =
definedExternally\n set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun MouseEventInit(screenX: Int? = 0,
screenY: Int? = 0, clientX: Int? = 0, clientY: Int? = 0, button: Short? = 0, buttons: Short? = 0, relatedTarget:
EventTarget? = null, region: String? = null, ctrlKey: Boolean? = false, shiftKey: Boolean? = false, altKey: Boolean?
= false, metaKey: Boolean? = false, modifierAltGraph: Boolean? = false, modifierCapsLock: Boolean? = false,

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modifierFn: Boolean? = false, modifierFnLock: Boolean? = false, modifierHyper: Boolean? = false,
modifierNumLock: Boolean? = false, modifierScrollLock: Boolean? = false, modifierSuper: Boolean? = false,
modifierSymbol: Boolean? = false, modifierSymbolLock: Boolean? = false, view: Window? = null, detail: Int? = 0,
bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): MouseEventInit {\n val o =
js(\("{})\n o["screenX"] = screenX\n o["screenY"] = screenY\n o["clientX"] = clientX\n o["clientY"]
= clientY\n
 o["button"] = button\n o["buttons"] = buttons\n o["relatedTarget"] = relatedTarget\n o["region"] =
region\n o["ctrlKey"] = ctrlKey\n o["shiftKey"] = shiftKey\n o["altKey"] = altKey\n o["metaKey"] =
metaKey\n o["modifierAltGraph"] = modifierAltGraph\n o["modifierCapsLock"] = modifierCapsLock\n
o["modifierFn"] = modifierFn\n o["modifierFnLock"] = modifierFnLock\n o["modifierHyper"] =
modifierHyper\n o["modifierNumLock"] = modifierNumLock\n o["modifierScrollLock"] =
modifierScrollLock\n o["modifierSuper"] = modifierSuper\n o["modifierSymbol"] = modifierSymbol\n
o["modifierSymbolLock"] = modifierSymbolLock\n o["view"] = view\n o["detail"] = detail\n
o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n o["composed"] = composed\n return
o\n}\n\npublic external interface EventModifierInit : UIEventInit {\n var ctrlKey: Boolean? /* = false */\n
get() = definedExternally\n
 set(value) = definedExternally\n var shiftKey: Boolean? /* = false */\n get() = definedExternally\n
set(value) = definedExternally\n var altKey: Boolean? /* = false */\n get() = definedExternally\n
set(value) = definedExternally\n var metaKey: Boolean? /* = false */\n get() = definedExternally\n
set(value) = definedExternally\n var modifierAltGraph: Boolean? /* = false */\n get() = definedExternally\n
set(value) = definedExternally\n var modifierCapsLock: Boolean? /* = false */\n get() = definedExternally\n
set(value) = definedExternally\n var modifierFn: Boolean? /* = false */\n get() = definedExternally\n
set(value) = definedExternally\n var modifierFnLock: Boolean? /* = false */\n get() = definedExternally\n
set(value) = definedExternally\n var modifierHyper: Boolean? /* = false */\n get() = definedExternally\n
set(value) = definedExternally\n
 var modifierNumLock: Boolean? /* = false */\n get() = definedExternally\n set(value) =
definedExternally\n var modifierScrollLock: Boolean? /* = false */\n get() = definedExternally\n
set(value) = definedExternally\n var modifierSuper: Boolean? /* = false */\n get() = definedExternally\n
set(value) = definedExternally\n var modifierSymbol: Boolean? /* = false */\n get() = definedExternally\n
set(value) = definedExternally\n var modifierSymbolLock: Boolean? /* = false */\n get() =
definedExternally\n set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun EventModifierInit(ctrlKey: Boolean? =
false, shiftKey: Boolean? = false, altKey: Boolean? = false, metaKey: Boolean? = false, modifierAltGraph:
Boolean? = false, modifierCapsLock: Boolean? = false, modifierFn: Boolean? = false, modifierFnLock: Boolean?
= false, modifierHyper: Boolean? = false, modifierNumLock: Boolean? = false, modifierScrollLock: Boolean? =
false, modifierSuper: Boolean? = false, modifierSymbol: Boolean? = false, modifierSymbolLock: Boolean? = false,
view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed:
Boolean? = false): EventModifierInit {\n val o = js(\("{})\n o["ctrlKey"] = ctrlKey\n o["shiftKey"] =
shiftKey\n o["altKey"] = altKey\n o["metaKey"] = metaKey\n o["modifierAltGraph"] =
modifierAltGraph\n o["modifierCapsLock"] = modifierCapsLock\n o["modifierFn"] = modifierFn\n
o["modifierFnLock"] = modifierFnLock\n o["modifierHyper"] = modifierHyper\n o["modifierNumLock"] =
modifierNumLock\n o["modifierScrollLock"] = modifierScrollLock\n o["modifierSuper"] = modifierSuper\n
o["modifierSymbol"] = modifierSymbol\n o["modifierSymbolLock"] = modifierSymbolLock\n o["view"] =
view\n o["detail"]
= detail\n o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n o["composed"] = composed\n return
o\n}\n\n/**\n * Exposes the JavaScript [WheelEvent](https://developer.mozilla.org/en/docs/Web/API/WheelEvent)
to Kotlin\n */\npublic external open class WheelEvent(type: String, eventInitDict: WheelEventInit =
definedExternally) : MouseEvent {\n open val deltaX: Double\n open val deltaY: Double\n open val deltaZ:

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Double\n open val deltaMode: Int\n\n companion object {\n val DOM_DELTA_PIXEL: Int\n val DOM_DELTA_LINE: Int\n val DOM_DELTA_PAGE: Int\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n\n public external interface WheelEventInit : MouseEventInit {\n var deltaX: Double? /* = 0.0 */\n get() = definedExternally\n set(value) = definedExternally\n var deltaY: Double? /* = 0.0 */\n get() = definedExternally\n set(value) = definedExternally\n var deltaZ: Double? /* = 0.0 */\n get() = definedExternally\n set(value) = definedExternally\n var deltaMode: Int? /* = 0 */\n get() = definedExternally\n set(value) = definedExternally\n }\n\n @Suppress(\"INVISIBLE_REFERENCE\", \"INVISIBLE_MEMBER\")\n @kotlin.internal.InlineOnly\n public inline fun WheelEventInit(deltaX: Double? = 0.0, deltaY: Double? = 0.0, deltaZ: Double? = 0.0, deltaMode: Int? = 0, screenX: Int? = 0, screenY: Int? = 0, clientX: Int? = 0, clientY: Int? = 0, button: Short? = 0, buttons: Short? = 0, relatedTarget: EventTarget? = null, region: String? = null, ctrlKey: Boolean? = false, shiftKey: Boolean? = false, altKey: Boolean? = false, metaKey: Boolean? = false, modifierAltGraph: Boolean? = false, modifierCapsLock: Boolean? = false, modifierFn: Boolean? = false, modifierFnLock: Boolean? = false, modifierHyper: Boolean? = false, modifierNumLock: Boolean? = false, modifierScrollLock: Boolean? = false, modifierSuper: Boolean? = false, modifierSymbol: Boolean? = false, modifierSymbolLock: Boolean? = false, view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): WheelEventInit {\n val o = js(\"({})\")\n o[\"deltaX\"] = deltaX\n o[\"deltaY\"] = deltaY\n o[\"deltaZ\"] = deltaZ\n o[\"deltaMode\"] = deltaMode\n o[\"screenX\"] = screenX\n o[\"screenY\"] = screenY\n o[\"clientX\"] = clientX\n o[\"clientY\"] = clientY\n o[\"button\"] = button\n o[\"buttons\"] = buttons\n o[\"relatedTarget\"] = relatedTarget\n o[\"region\"] = region\n o[\"ctrlKey\"] = ctrlKey\n o[\"shiftKey\"] = shiftKey\n o[\"altKey\"] = altKey\n o[\"metaKey\"] = metaKey\n o[\"modifierAltGraph\"] = modifierAltGraph\n o[\"modifierCapsLock\"] = modifierCapsLock\n o[\"modifierFn\"] = modifierFn\n o[\"modifierFnLock\"] = modifierFnLock\n o[\"modifierHyper\"] = modifierHyper\n o[\"modifierNumLock\"] = modifierNumLock\n o[\"modifierScrollLock\"] = modifierScrollLock\n o[\"modifierSuper\"] = modifierSuper\n o[\"modifierSymbol\"] = modifierSymbol\n o[\"modifierSymbolLock\"] = modifierSymbolLock\n o[\"view\"] = view\n o[\"detail\"] = detail\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n }\n\n /** Exposes the JavaScript [InputEvent](https://developer.mozilla.org/en/docs/Web/API/InputEvent) to Kotlin */\n public external open class InputEvent(type: String, eventInitDict: InputEventInit = definedExternally) : UIEvent {\n open val data: String\n open val isComposing: Boolean\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n\n public external interface InputEventInit : UIEventInit {\n var data: String? /* = \"\" */\n get() = definedExternally\n set(value) = definedExternally\n var isComposing: Boolean? /* = false */\n get() = definedExternally\n set(value) = definedExternally\n }\n\n @Suppress(\"INVISIBLE_REFERENCE\", \"INVISIBLE_MEMBER\")\n @kotlin.internal.InlineOnly\n public inline fun InputEventInit(data: String? = \"\", isComposing: Boolean? = false, view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): InputEventInit {\n val o = js(\"({})\")\n o[\"data\"] = data\n o[\"isComposing\"] = isComposing\n o[\"view\"] = view\n o[\"detail\"] = detail\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n }\n\n /** Exposes the JavaScript [KeyboardEvent](https://developer.mozilla.org/en/docs/Web/API/KeyboardEvent) to Kotlin */\n public external open class KeyboardEvent(type: String, eventInitDict: KeyboardEventInit = definedExternally) : UIEvent {\n open val key: String\n open val code: String\n open val location: Int\n open val ctrlKey: Boolean\n open val shiftKey: Boolean\n open val altKey: Boolean\n open val metaKey: Boolean\n open val repeat: Boolean\n open val isComposing: Boolean\n open val charCode: Int\n open val keyCode: Int\n open val which: Int\n fun getModifierState(keyArg:

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String): Boolean\n\n companion object {\n val DOM_KEY_LOCATION_STANDARD: Int\n val DOM_KEY_LOCATION_LEFT: Int\n val DOM_KEY_LOCATION_RIGHT: Int\n val DOM_KEY_LOCATION_NUMPAD: Int\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface KeyboardEventInit : EventModifierInit {\n var key: String? /* = \"\" */\n get() = definedExternally\n set(value) = definedExternally\n var code: String? /* = \"\" */\n get() = definedExternally\n set(value) = definedExternally\n var location: Int? /* = 0 */\n get() = definedExternally\n set(value) = definedExternally\n var repeat: Boolean? /* = false */\n get() = definedExternally\n set(value) = definedExternally\n var isComposing: Boolean? /* = false */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\", \"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun KeyboardEventInit(key: String? = \"\", code: String? = \"\", location: Int? = 0, repeat: Boolean? = false, isComposing: Boolean? = false, ctrlKey: Boolean? = false, shiftKey: Boolean? = false, altKey: Boolean? = false, metaKey: Boolean? = false, modifierAltGraph: Boolean? = false, modifierCapsLock: Boolean? = false, modifierFn: Boolean? = false, modifierFnLock: Boolean? = false, modifierHyper: Boolean? = false, modifierNumLock: Boolean? = false, modifierScrollLock: Boolean? = false, modifierSuper: Boolean? = false, modifierSymbol: Boolean? = false, modifierSymbolLock: Boolean? = false, view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): KeyboardEventInit {\n val o = js(\"({})\")\n o[\"key\"] = key\n o[\"code\"] = code\n o[\"location\"] = location\n o[\"repeat\"] = repeat\n o[\"isComposing\"] = isComposing\n o[\"ctrlKey\"] = ctrlKey\n o[\"shiftKey\"] = shiftKey\n o[\"altKey\"] = altKey\n o[\"metaKey\"] = metaKey\n o[\"modifierAltGraph\"] = modifierAltGraph\n o[\"modifierCapsLock\"] = modifierCapsLock\n o[\"modifierFn\"] = modifierFn\n o[\"modifierFnLock\"] = modifierFnLock\n o[\"modifierHyper\"] = modifierHyper\n o[\"modifierNumLock\"] = modifierNumLock\n o[\"modifierScrollLock\"] = modifierScrollLock\n o[\"modifierSuper\"] = modifierSuper\n o[\"modifierSymbol\"] = modifierSymbol\n o[\"modifierSymbolLock\"] = modifierSymbolLock\n o[\"view\"] = view\n o[\"detail\"] = detail\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript [CompositionEvent](https://developer.mozilla.org/en/docs/Web/API/CompositionEvent) to Kotlin\n */\npublic external open class CompositionEvent(type: String, eventInitDict: CompositionEventInit = definedExternally) : UIEvent {\n open val data: String\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface CompositionEventInit : UIEventInit {\n var data: String? /* = \"\" */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\", \"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun CompositionEventInit(data: String? = \"\", view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): CompositionEventInit {\n val o = js(\"({})\")\n o[\"data\"] = data\n o[\"view\"] = view\n o[\"detail\"] = detail\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript [Event](https://developer.mozilla.org/en/docs/Web/API/Event) to Kotlin\n */\npublic external open class Event(type: String, eventInitDict: EventInit = definedExternally) {\n open val type: String\n open val target: EventTarget?\n open val currentTarget: EventTarget?\n open val eventPhase: Short\n open val bubbles: Boolean\n open val cancelable: Boolean\n open val defaultPrevented: Boolean\n open val composed: Boolean\n open val isTrusted: Boolean\n open val timeStamp: Number\n fun composedPath(): Array<EventTarget>\n fun stopPropagation()\n fun stopImmediatePropagation()\n fun preventDefault()\n fun initEvent(type: String, bubbles: Boolean, cancelable: Boolean)\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\n/**\n * Exposes the JavaScript

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[EventTarget](https://developer.mozilla.org/en/docs/Web/API/EventTarget) to Kotlin\n *\npublic external abstract
class EventTarget {\n fun addEventListener(type: String, callback: EventListener?, options: dynamic =
definedExternally)\n fun addEventListener(type: String, callback: ((Event) -> Unit)?, options: dynamic =
definedExternally)\n fun removeEventListener(type: String, callback: EventListener?, options: dynamic =
definedExternally)\n fun removeEventListener(type: String, callback: ((Event) -> Unit)?, options: dynamic =
definedExternally)\n fun dispatchEvent(event: Event): Boolean\n}\n\n**\n * Exposes the JavaScript
[EventListener](https://developer.mozilla.org/en/docs/Web/API/EventListener) to Kotlin\n *\npublic external
interface EventListener {\n fun handleEvent(event: Event)\n},"/*\n
* Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code
is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n\n// NOTE: THIS
FILE IS AUTO-GENERATED, DO NOT EDIT!\n// See github.com/kotlin/dukat for details\n\npackage
org.w3c.dom\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.dom.clipboard.*\nimport
org.w3c.dom.css.*\nimport org.w3c.dom.encryptedmedia.*\nimport org.w3c.dom.events.*\nimport
org.w3c.dom.mediacapture.*\nimport org.w3c.dom.mediasource.*\nimport org.w3c.dom.pointerevents.*\nimport
org.w3c.dom.svg.*\nimport org.w3c.fetch.*\nimport org.w3c.files.*\nimport org.w3c.performance.*\nimport
org.w3c.workers.*\nimport org.w3c.xhr.*\n\npublic external abstract class HTMLAllCollection {\n open val
length: Int\n fun item(nameOrIndex: String = definedExternally): UnionElementOrHTMLCollection?\n fun
namedItem(name: String): UnionElementOrHTMLCollection?\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun
HTMLAllCollection.get(index: Int): Element? =
asDynamic()[index]\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun
HTMLAllCollection.get(name: String): UnionElementOrHTMLCollection? = asDynamic()[name]\n\n**\n *
Exposes the JavaScript
[HTMLFormControlsCollection](https://developer.mozilla.org/en/docs/Web/API/HTMLFormControlsCollection)
to Kotlin\n *\npublic external abstract class HTMLFormControlsCollection : HTMLCollection\n\n**\n * Exposes
the JavaScript [RadioNodeList](https://developer.mozilla.org/en/docs/Web/API/RadioNodeList) to Kotlin\n
*\npublic external abstract class RadioNodeList : NodeList, UnionElementOrRadioNodeList {\n open var value:
String\n}\n\n**\n * Exposes the JavaScript
[HTMLOptionsCollection](https://developer.mozilla.org/en/docs/Web/API/HTMLOptionsCollection) to Kotlin\n
*\npublic
external abstract class HTMLOptionsCollection : HTMLCollection {\n override var length: Int\n open var
selectedIndex: Int\n fun add(element: UnionHTMLOptGroupElementOrHTMLOptionElement, before: dynamic =
definedExternally)\n fun remove(index: Int)\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun
HTMLOptionsCollection.set(index: Int, option: HTMLOptionElement?) { asDynamic()[index] = option }\n\n**\n *
Exposes the JavaScript [HTMLElement](https://developer.mozilla.org/en/docs/Web/API/HTMLElement) to
Kotlin\n *\npublic external abstract class HTMLElement : Element, GlobalEventHandlers,
DocumentAndElementEventHandlers, ElementContentEditable, ElementCSSInlineStyle {\n open var title:
String\n open var lang: String\n open var translate: Boolean\n open var dir: String\n open val dataset:
DOMStringMap\n open var hidden: Boolean\n open var tabIndex: Int\n open var accessKey: String\n
open val accessKeyLabel: String\n open var draggable: Boolean\n open val dropzone: DOMTokenList\n
open var contextMenu: HTMLMenuElement?\n open var spellcheck: Boolean\n open var innerText: String\n
open val offsetParent: Element?\n open val offsetTop: Int\n open val offsetLeft: Int\n open val offsetWidth:
Int\n open val offsetHeight: Int\n fun click()\n fun focus()\n fun blur()\n fun forceSpellCheck()\n\n
companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val
TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val

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COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING:
Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val
DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n
 val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the
JavaScript [HTMLUnknownElement](https://developer.mozilla.org/en/docs/Web/API/HTMLUnknownElement) to Kotlin\n
*/\n\npublic external abstract class HTMLUnknownElement : HTMLElement {\n companion object {\n
val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING:
Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val
DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n
 val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the
JavaScript [DOMStringMap](https://developer.mozilla.org/en/docs/Web/API/DOMStringMap) to Kotlin\n
*/\n\npublic external abstract class DOMStringMap\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\n\npublic inline operator fun DOMStringMap.get(name:
String): String? = asDynamic()[name]\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\n\npublic inline operator fun DOMStringMap.set(name:
String, value: String) { asDynamic()[name] = value }\n\n}\n\n/**\n * Exposes the JavaScript
[HTMLHtmlElement](https://developer.mozilla.org/en/docs/Web/API/HTMLHtmlElement) to Kotlin\n
*/\n\npublic external abstract class HTMLHtmlElement : HTMLElement {\n open var version: String\n\n companion
object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE:
Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val
ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE:
Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLHeadElement](https://developer.mozilla.org/en/docs/Web/API/HTMLHeadElement) to Kotlin\n
*/\n\npublic external abstract class HTMLHeadElement : HTMLElement {\n companion object {\n
val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLTitleElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTitleElement) to Kotlin\n
*/\n\npublic external abstract class HTMLTitleElement : HTMLElement {\n open var text: String\n\n companion object

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DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n } \n\n\n\n \* Exposes the JavaScript [HTMLStyleElement](https://developer.mozilla.org/en/docs/Web/API/HTMLStyleElement) to Kotlin\n \* \n\npublic external abstract class HTMLStyleElement : HTMLElement, LinkStyle {\n open var media: String\n open var nonce: String\n open var type: String\n\n companion object {\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val

DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n } \n\n\n\n \* Exposes the JavaScript [HTMLBodyElement](https://developer.mozilla.org/en/docs/Web/API/HTMLBodyElement) to Kotlin\n \* \n\npublic external abstract class HTMLBodyElement : HTMLElement, WindowEventHandlers {\n open var text: String\n open var link: String\n open var vLink: String\n open var aLink: String\n open var bgColor: String\n open var background: String\n\n companion object {\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val

DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n } \n\n\n\n \* Exposes the JavaScript [HTMLHeadingElement](https://developer.mozilla.org/en/docs/Web/API/HTMLHeadingElement) to Kotlin\n \* \n\npublic external abstract class HTMLHeadingElement : HTMLElement {\n open var align: String\n\n companion object {\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val

DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n } \n\n\n\n \* Exposes the JavaScript [HTMLParagraphElement](https://developer.mozilla.org/en/docs/Web/API/HTMLParagraphElement) to Kotlin\n \* \n\npublic external abstract class HTMLParagraphElement : HTMLElement {\n open var align: String\n\n companion object {\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val

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 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLHRElement](https://developer.mozilla.org/en/docs/Web/API/HTMLHRElement) to Kotlin\n *\npublic
external abstract class HTMLHRElement : HTMLElement {\n open var align: String\n open var color: String\n
open var noShade: Boolean\n open var size: String\n open var width: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val
TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLPreElement](https://developer.mozilla.org/en/docs/Web/API/HTMLPreElement) to Kotlin\n *\npublic
external abstract class HTMLPreElement : HTMLElement {\n open var width: Int\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val
TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLQuoteElement](https://developer.mozilla.org/en/docs/Web/API/HTMLQuoteElement) to Kotlin\n *\npublic
external abstract class HTMLQuoteElement : HTMLElement {\n open var cite:
String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n
 val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLLOListElement](https://developer.mozilla.org/en/docs/Web/API/HTMLLOListElement) to Kotlin\n *\npublic
external abstract class HTMLLOListElement : HTMLElement {\n open
var reversed: Boolean\n open var start: Int\n open var type: String\n open var compact: Boolean\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val
TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript

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[HTMLUListElement](https://developer.mozilla.org/en/docs/Web/API/HTMLUListElement) to Kotlin\n \* public external abstract class HTMLUListElement : HTMLInputElement {\n open var compact: Boolean\n open var type: String\n\n companion object {\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n }\n}\n\n/\*\*\n \* Exposes the JavaScript

[HTMLLIElement](https://developer.mozilla.org/en/docs/Web/API/HTMLLIElement) to Kotlin\n \* public external abstract class HTMLLIElement : HTMLInputElement {\n open var value: Int\n open var type: String\n\n companion object {\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n }\n}\n\n/\*\*\n \* Exposes the JavaScript

[HTMLDListElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDListElement) to Kotlin\n \* public external abstract class HTMLDListElement : HTMLInputElement {\n open var compact: Boolean\n\n companion object {\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n }\n}\n\n/\*\*\n \* Exposes the JavaScript

[HTMLDivElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDivElement) to Kotlin\n \* public external abstract class HTMLDivElement : HTMLInputElement {\n open var align: String\n\n companion object {\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n }\n}\n\n/\*\*\n \* Exposes the JavaScript

[HTMLAnchorElement](https://developer.mozilla.org/en/docs/Web/API/HTMLAnchorElement) to Kotlin\n \* public external abstract class HTMLAnchorElement : HTMLInputElement, HTMLHyperlinkElementUtils {\n open

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var target: String\n open var download: String\n open var ping: String\n open var rel: String\n open val
reList: DOMTokenList\n open var hreflang: String\n open var type: String\n open var text: String\n open
var referrerPolicy: String\n open var coords: String\n open var charset: String\n open var name: String\n
open var rev: String\n open var shape: String\n\n companion object {\n val ELEMENT_NODE: Short\n
val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n
val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLDataElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDataElement) to Kotlin\n */\npublic
external abstract class HTMLDataElement : HTMLElement {\n open var value: String\n\n companion object {\n
 val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE:
Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLTimeElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTimeElement) to Kotlin\n */\npublic
external abstract class HTMLTimeElement : HTMLElement {\n open var dateTime: String\n\n companion
object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE:
Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val
ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE:
Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE:
Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLSpanElement](https://developer.mozilla.org/en/docs/Web/API/HTMLSpanElement) to Kotlin\n */\npublic
external abstract class HTMLSpanElement : HTMLElement {\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLBRElement](https://developer.mozilla.org/en/docs/Web/API/HTMLBRElement) to Kotlin\n */\npublic
external abstract class HTMLBRElement : HTMLElement {\n open var clear: String\n\n companion object {\n

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 }
}

/**
 * Exposes the JavaScript
 [HTMLImageElement](https://developer.mozilla.org/en/docs/Web/API/HTMLImageElement) to Kotlin
 */
public external abstract class HTMLImageElement : HTMLElement, HTMLImageElement,
 TexImageSource {
 open var alt: String
 open var src: String
 open var srcset: String
 open var sizes:
 String
 open var crossOrigin: String?
 open var useMap: String
 open var isMap: Boolean
 open var
 width: Int
 open var height: Int
 open val naturalWidth: Int
 open val naturalHeight: Int
 open val
 complete: Boolean
 open val currentSrc: String
 open var referrerPolicy: String
 open var name: String
 open var
 lowsrc: String
 open var align: String
 open var hspace: Int
 open var vspace: Int
 open var
 longDesc: String
 open var border: String
 open val x: Int
 open val y: Int

 companion object {
 val ELEMENT_NODE: Short
 val ATTRIBUTE_NODE: Short

 val TEXT_NODE: Short
 val CDATA_SECTION_NODE: Short
 val
 ENTITY_REFERENCE_NODE: Short
 val ENTITY_NODE: Short
 val
 PROCESSING_INSTRUCTION_NODE: Short
 val COMMENT_NODE: Short
 val
 DOCUMENT_NODE: Short
 val DOCUMENT_TYPE_NODE: Short
 val
 DOCUMENT_FRAGMENT_NODE: Short
 val NOTATION_NODE: Short

 val DOCUMENT_POSITION_DISCONNECTED: Short
 val DOCUMENT_POSITION_PRECEDING: Short
 val DOCUMENT_POSITION_FOLLOWING: Short
 val DOCUMENT_POSITION_CONTAINS: Short
 val DOCUMENT_POSITION_CONTAINED_BY: Short

 val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short
 }
}

/**
 * Exposes the JavaScript
 [HTMLIFrameElement](https://developer.mozilla.org/en/docs/Web/API/HTMLIFrameElement) to Kotlin
 */
public external abstract class HTMLIFrameElement : HTMLElement {
 open var src: String
 open var
 srcdoc: String
 open var name: String
 open val sandbox: DOMTokenList

 open var allowFullscreen: Boolean
 open var allowUserMedia: Boolean
 open var width: String
 open
 var height: String
 open var referrerPolicy: String
 open val contentDocument: Document?
 open val
 contentWindow: Window?
 open var align: String
 open var scrolling: String
 open var frameBorder:
 String
 open var longDesc: String
 open var marginHeight: String
 open var marginWidth: String
 fun
 getSVGDocument(): Document?

 companion object {
 val ELEMENT_NODE: Short
 val
 ATTRIBUTE_NODE: Short
 val TEXT_NODE: Short
 val CDATA_SECTION_NODE: Short
 val
 ENTITY_REFERENCE_NODE: Short
 val ENTITY_NODE: Short
 val
 PROCESSING_INSTRUCTION_NODE: Short
 val COMMENT_NODE: Short
 val
 DOCUMENT_NODE: Short
 val DOCUMENT_TYPE_NODE: Short
 val
 DOCUMENT_FRAGMENT_NODE: Short
 val NOTATION_NODE: Short

 val DOCUMENT_POSITION_DISCONNECTED: Short
 val DOCUMENT_POSITION_PRECEDING: Short
 val DOCUMENT_POSITION_FOLLOWING:
 Short
 val DOCUMENT_POSITION_CONTAINS: Short
 val
 DOCUMENT_POSITION_CONTAINED_BY: Short

 val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short
 }
}

/**
 * Exposes the JavaScript
 [HTMLEmbedElement](https://developer.mozilla.org/en/docs/Web/API/HTMLEmbedElement) to Kotlin
 */
public external abstract class HTMLEmbedElement : HTMLElement {
 open var src: String
 open var
 type: String
 open var width: String
 open var height: String
 open var align: String
 open var name:
 String
 fun
 getSVGDocument(): Document?

 companion object {
 val ELEMENT_NODE: Short
 val
 ATTRIBUTE_NODE: Short
 val TEXT_NODE: Short
 val CDATA_SECTION_NODE: Short
 val
 ENTITY_REFERENCE_NODE: Short
 val ENTITY_NODE: Short
 val
 PROCESSING_INSTRUCTION_NODE: Short
 val COMMENT_NODE: Short

 val DOCUMENT_NODE:
 Short
 val DOCUMENT_TYPE_NODE: Short
 val DOCUMENT_FRAGMENT_NODE: Short
 val NOTATION_NODE: Short
 val DOCUMENT_POSITION_DISCONNECTED: Short
 val DOCUMENT_POSITION_PRECEDING: Short
 val DOCUMENT_POSITION_FOLLOWING: Short
 }
}

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val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY:
Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes
the JavaScript [HTMLElement](https://developer.mozilla.org/en/docs/Web/API/HTMLElement) to
Kotlin\n */\npublic external abstract class HTMLElement : HTMLElement {\n open var data: String\n
open var type: String\n open var typeMustMatch: Boolean\n open var name: String\n open var useMap:
String\n open val form: HTMLFormElement?\n open var width: String\n open var height: String\n open val
contentDocument: Document?\n open val contentWindow: Window?\n open val willValidate:
Boolean\n open val validity: ValidityState\n open val validationMessage: String\n open var align: String\n
open var archive: String\n open var code: String\n open var declare: Boolean\n open var hspace: Int\n open
var standby: String\n open var vspace: Int\n open var codeBase: String\n open var codeType: String\n open
var border: String\n fun getSVGDocument(): Document?\n fun checkValidity(): Boolean\n fun
reportValidity(): Boolean\n fun setCustomValidity(error: String)\n\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n
val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING:
Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val
DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n
val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the
JavaScript [HTMLParamElement](https://developer.mozilla.org/en/docs/Web/API/HTMLParamElement) to
Kotlin\n */\npublic external abstract class HTMLParamElement : HTMLElement {\n open var name: String\n
open var value: String\n open var type: String\n open var valueType: String\n\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE:
Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n
val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLVideoElement](https://developer.mozilla.org/en/docs/Web/API/HTMLVideoElement) to Kotlin\n */\npublic
external abstract class HTMLVideoElement : HTMLMediaElement, CanvasImageSource, TexImageSource {\n
 open var width: Int\n open var height: Int\n open val videoWidth: Int\n open val videoHeight: Int\n open var
poster: String\n open var playsInline: Boolean\n\n companion object {\n val NETWORK_EMPTY: Short\n
val NETWORK_IDLE: Short\n val NETWORK_LOADING: Short\n val NETWORK_NO_SOURCE:
Short\n val HAVE_NOTHING:
Short\n val HAVE_METADATA: Short\n val HAVE_CURRENT_DATA: Short\n val
HAVE_FUTURE_DATA: Short\n val HAVE_ENOUGH_DATA: Short\n val ELEMENT_NODE: Short\n
val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n
val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n

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 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLAudioElement](https://developer.mozilla.org/en/docs/Web/API/HTMLAudioElement)
to Kotlin\n */\npublic external abstract class HTMLAudioElement : HTMLMediaElement {\n companion object
{\n val NETWORK_EMPTY: Short\n val NETWORK_IDLE: Short\n val NETWORK_LOADING:
Short\n val NETWORK_NO_SOURCE: Short\n val HAVE_NOTHING: Short\n val
HAVE_METADATA: Short\n val HAVE_CURRENT_DATA: Short\n val HAVE_FUTURE_DATA:
Short\n val HAVE_ENOUGH_DATA: Short\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING:
Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val
DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n
 val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the
JavaScript [HTMLTrackElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTrackElement) to Kotlin\n
*/\npublic external abstract class HTMLTrackElement : HTMLMediaElement {\n open var kind: String\n open var src:
String\n open var srclang: String\n open var label: String\n open var default: Boolean\n open val readyState:
Short\n open val track: TextTrack\n\n companion object {\n val NONE: Short\n val LOADING: Short\n
 val LOADED: Short\n val ERROR: Short\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE:
Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val
DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val
NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val
DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n
 val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY:
Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes
the JavaScript [HTMLMediaElement](https://developer.mozilla.org/en/docs/Web/API/HTMLMediaElement) to
Kotlin\n */\npublic external abstract class HTMLMediaElement : HTMLMediaElement {\n open val error:
MediaError?\n open var src: String\n open var srcObject: MediaProvider?\n open val currentSrc: String\n
open var crossOrigin: String?\n open val networkState: Short\n open var preload: String\n open val buffered:
TimeRanges\n open val readyState:
Short\n open val seeking: Boolean\n open var currentTime: Double\n open val duration: Double\n open val
paused: Boolean\n open var defaultPlaybackRate: Double\n open var playbackRate: Double\n open val played:
TimeRanges\n open val seekable: TimeRanges\n open val ended: Boolean\n open var autoplay: Boolean\n
open var loop: Boolean\n open var controls: Boolean\n open var volume: Double\n open var muted: Boolean\n
open var defaultMuted: Boolean\n open val audioTracks: AudioTrackList\n open val videoTracks:
VideoTrackList\n open val textTracks: TextTrackList\n open val mediaKeys: MediaKeys?\n open var
onencrypted: ((Event) -> dynamic)?\n open var onwaitingforkey: ((Event) -> dynamic)?\n fun load()\n fun
canPlayType(type: String): CanPlayTypeResult\n fun fastSeek(time: Double)\n fun getStartDate(): dynamic\n
fun play(): Promise<Unit>\n fun pause()\n fun addTextTrack(kind: TextTrackKind, label: String
= definedExternally, language: String = definedExternally): TextTrack\n fun setMediaKeys(mediaKeys:
MediaKeys?): Promise<Unit>\n\n companion object {\n val NETWORK_EMPTY: Short\n val
NETWORK_IDLE: Short\n val NETWORK_LOADING: Short\n val NETWORK_NO_SOURCE: Short\n

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dynamic)?\n open val sourceBuffer: SourceBuffer?\n fun addCue(cue: TextTrackCue)\n fun removeCue(cue:
TextTrackCue)\n}\n\npublic external abstract class TextTrackCueList {\n open val length: Int\n fun
getCueById(id: String): TextTrackCue?\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic
inline operator fun TextTrackCueList.get(index: Int): TextTrackCue? = asDynamic()[index]\n\n/**\n * Exposes the
JavaScript [TextTrackCue](https://developer.mozilla.org/en/docs/Web/API/TextTrackCue) to Kotlin\n */\n\npublic
external abstract class TextTrackCue : EventTarget {\n open val track: TextTrack?\n open var id: String\n
open var startTime: Double\n open var endTime: Double\n open var pauseOnExit: Boolean\n open var
onenter: ((Event) -> dynamic)?\n open var onexit: ((Event) -> dynamic)?\n}\n\n/**\n * Exposes the JavaScript
[TimeRanges](https://developer.mozilla.org/en/docs/Web/API/TimeRanges) to Kotlin\n */\n\npublic external abstract
class TimeRanges {\n open val length: Int\n fun start(index: Int): Double\n fun end(index: Int):
Double\n}\n\n/**\n * Exposes the JavaScript
[TrackEvent](https://developer.mozilla.org/en/docs/Web/API/TrackEvent) to Kotlin\n */\n\npublic external open class
TrackEvent(type: String, eventInitDict: TrackEventInit
= definedExternally) : Event {\n open val track: UnionAudioTrackOrTextTrackOrVideoTrack?\n\n companion
object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val
BUBBLING_PHASE: Short\n }\n}\n\npublic external interface TrackEventInit : EventInit {\n var track:
UnionAudioTrackOrTextTrackOrVideoTrack? /* = null */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun TrackEventInit(track:
UnionAudioTrackOrTextTrackOrVideoTrack? = null, bubbles: Boolean? = false, cancelable: Boolean? = false,
composed: Boolean? = false): TrackEventInit {\n val o = js("{}")\n o["track"] = track\n o["bubbles"] =
bubbles\n o["cancelable"] = cancelable\n o["composed"] = composed\n return o\n}\n\n/**\n * Exposes the
JavaScript [HTMLMapElement](https://developer.mozilla.org/en/docs/Web/API/HTMLMapElement)
to Kotlin\n */\n\npublic external abstract class HTMLMapElement : HTMLElement {\n open var name: String\n
open val areas: HTMLCollection\n\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLAreaElement](https://developer.mozilla.org/en/docs/Web/API/HTMLAreaElement)
to Kotlin\n */\n\npublic external abstract class HTMLAreaElement : HTMLElement, HTMLHyperlinkElementUtils
{\n open var alt: String\n open var coords: String\n open var shape: String\n open var target: String\n open
var download: String\n open var ping: String\n open var rel: String\n open val relList: DOMTokenList\n
open var referrerPolicy: String\n open var noHref: Boolean\n\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n
val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING:
Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val

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DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLTableElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableElement) to Kotlin\n */\n\npublic
external abstract class HTMLTableElement : HTMLElement {\n open var caption:
HTMLTableCaptionElement?\n open var tHead: HTMLTableSectionElement?\n open var tFoot:
HTMLTableSectionElement?\n open val tBodies: HTMLCollection\n open val rows: HTMLCollection\n open
var align: String\n open var border: String\n open var frame: String\n open var rules: String\n open var
summary: String\n open var width: String\n open var bgColor: String\n open var cellPadding: String\n open
var cellSpacing: String\n fun createCaption(): HTMLTableCaptionElement\n fun deleteCaption()\n
 fun createTHead(): HTMLTableSectionElement\n fun deleteTHead()\n fun createTFoot():
HTMLTableSectionElement\n fun deleteTFoot()\n fun createTBody(): HTMLTableSectionElement\n fun
insertRow(index: Int = definedExternally): HTMLTableRowElement\n fun deleteRow(index: Int)\n\n
companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val
TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY:
Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes
the JavaScript
[HTMLTableCaptionElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableCaptionElement) to
Kotlin\n */\n\npublic external abstract class HTMLTableCaptionElement : HTMLElement {\n open var align:
String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n
 val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLTableColElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableColElement) to Kotlin\n
*/\n\npublic external abstract class HTMLTableColElement : HTMLElement {\n open var span: Int\n open var
align: String\n open var ch: String\n open var chOff: String\n open var vAlign: String\n open var width:
String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n
 val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED:
Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val
DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLTableSectionElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableSectionElement) to
Kotlin\n */\n\npublic external abstract class HTMLTableSectionElement : HTMLElement {\n open val rows:

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HTMLCollection\n open var align: String\n open var ch: String\n open var chOff: String\n open var vAlign:
String\n fun insertRow(index: Int = definedExternally): HTMLInputElement\n fun deleteRow(index: Int)\n\n
companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val
TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE:
Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val
DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val
NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val
DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n
val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY:
Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes
the JavaScript
[HTMLTableRowElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableRowElement) to Kotlin\n
*\npublic external abstract class HTMLTableRowElement : HTMLInputElement {\n open val rowIndex: Int\n open
val sectionRowIndex: Int\n open var cells: HTMLCollection\n open var align: String\n open var ch: String\n
open var chOff: String\n open var vAlign: String\n open var bgColor: String\n fun insertCell(index: Int =
definedExternally):
HTMLInputElement\n fun deleteCell(index: Int)\n\n companion object {\n val ELEMENT_NODE: Short\n
val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n
val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLTableCellElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableCellElement) to Kotlin\n
*\npublic external
abstract class HTMLTableCellElement : HTMLInputElement {\n open var colSpan: Int\n open var rowSpan: Int\n
open var headers: String\n open val cellIndex: Int\n open var scope: String\n open var abbr: String\n open var
align: String\n open var axis: String\n open var height: String\n open var width: String\n open var ch:
String\n open var chOff: String\n open var noWrap: Boolean\n open var vAlign: String\n open var bgColor:
String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n
val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n
val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING:
Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val
DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLFormElement](https://developer.mozilla.org/en/docs/Web/API/HTMLFormElement) to Kotlin\n
*\npublic external abstract class HTMLFormElement : HTMLInputElement {\n open var acceptCharset: String\n open var
action: String\n open var autocomplete: String\n open var enctype: String\n open var encoding: String\n open
var method: String\n open var name: String\n open var noValidate: Boolean\n open var target: String\n open
val elements: HTMLFormControlsCollection\n open val length: Int\n fun submit()\n fun reset()\n fun

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checkValidity(): Boolean\n fun reportValidity(): Boolean\n\n companion object {\n val ELEMENT_NODE:
Short\n val ATTRIBUTE_NODE:
Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n
}\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun
HTMLFormElement.get(index: Int): Element? =
asDynamic()[index]\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun
HTMLFormElement.get(name: String): UnionElementOrRadioNodeList? = asDynamic()[name]\n\n/**\n *
Exposes the JavaScript
[HTMLLabelElement](https://developer.mozilla.org/en/docs/Web/API/HTMLLabelElement) to Kotlin\n */\npublic
external abstract class HTMLLabelElement : HTMLInputElement {\n open val form: HTMLFormElement?\n open
var htmlFor: String\n open val control: HTMLInputElement?\n\n companion object {\n val ELEMENT_NODE:
Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE:
Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n
val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY:
Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes
the JavaScript [HTMLInputElement](https://developer.mozilla.org/en/docs/Web/API/HTMLInputElement) to
Kotlin\n */\npublic external abstract class HTMLInputElement : HTMLInputElement {\n open var accept: String\n
open var alt: String\n open var autocomplete: String\n open var autofocus: Boolean\n open var
defaultChecked: Boolean\n open var checked: Boolean\n open var dirName: String\n open var disabled:
Boolean\n open val form: HTMLFormElement?\n open val files: FileList?\n open var formAction: String\n
open var formEnctype: String\n open var formMethod: String\n open var formNoValidate: Boolean\n open var
formTarget: String\n open var height: Int\n open var indeterminate: Boolean\n open var inputMode: String\n
open val list: HTMLInputElement?\n open var
max: String\n open var maxLength: Int\n open var min: String\n open var minLength: Int\n open var
multiple: Boolean\n open var name: String\n open var pattern: String\n open var placeholder: String\n open
var readOnly: Boolean\n open var required: Boolean\n open var size: Int\n open var src: String\n open var
step: String\n open var type: String\n open var defaultValue: String\n open var value: String\n open var
valueAsDate: dynamic\n open var valueAsNumber: Double\n open var width: Int\n open val willValidate:
Boolean\n open val validity: ValidityState\n open val validationMessage: String\n open val labels: NodeList\n
open var selectionStart: Int?\n open var selectionEnd: Int?\n open var selectionDirection: String?\n open var
align: String\n open var useMap: String\n fun stepUp(n: Int = definedExternally)\n fun stepDown(n: Int =
definedExternally)\n fun checkValidity(): Boolean\n fun reportValidity():

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Boolean\n fun setCustomValidity(error: String)\n fun select()\n fun setRangeText(replacement: String)\n
fun setRangeText(replacement: String, start: Int, end: Int, selectionMode: SelectionMode = definedExternally)\n
fun setSelectionRange(start: Int, end: Int, direction: String = definedExternally)\n\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY:
Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes
the JavaScript [HTMLButtonElement](https://developer.mozilla.org/en/docs/Web/API/HTMLButtonElement) to
Kotlin\n */\n\npublic external abstract class HTMLButtonElement : HTMLElement {\n open var autofocus:
Boolean\n open var disabled: Boolean\n open val form: HTMLFormElement?\n open var formAction: String\n
open var formEnctype: String\n open var formMethod: String\n open var formNoValidate: Boolean\n open
var formTarget: String\n open var name: String\n open var type: String\n open var value: String\n open var
menu: HTMLMenuElement?\n open val willValidate: Boolean\n open val validity: ValidityState\n open val
validationMessage: String\n open val labels: NodeList\n fun checkValidity(): Boolean\n fun reportValidity():
Boolean\n fun setCustomValidity(error: String)\n\n companion object {\n val ELEMENT_NODE:
Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLSelectElement](https://developer.mozilla.org/en/docs/Web/API/HTMLSelectElement) to Kotlin\n */\n\npublic
external abstract class HTMLSelectElement : HTMLElement, ItemArrayLike<Element> {\n open var
autocomplete: String\n
open var autofocus: Boolean\n open var disabled: Boolean\n open val form: HTMLFormElement?\n open
var multiple: Boolean\n open var name: String\n open var required: Boolean\n open var size: Int\n open val
type: String\n open val options: HTMLOptionsCollection\n override var length: Int\n open val
selectedOptions: HTMLCollection\n open var selectedIndex: Int\n open var value: String\n open val
willValidate: Boolean\n open val validity: ValidityState\n open val validationMessage: String\n open val
labels: NodeList\n fun namedItem(name: String): HTMLOptionElement?\n fun add(element:
UnionHTMLOptGroupElementOrHTMLOptionElement, before: dynamic = definedExternally)\n fun
remove(index: Int)\n fun checkValidity(): Boolean\n fun reportValidity(): Boolean\n fun
setCustomValidity(error: String)\n override fun item(index: Int): Element?\n\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE:
Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n

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 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n
}\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun
HTMLSelectElement.get(index: Int): Element? =
asDynamic()[index]\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun
HTMLSelectElement.set(index:
Int, option: HTMLOptionElement?) { asDynamic()[index] = option }\n\n/**\n * Exposes the JavaScript
[HTMLDataListElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDataListElement) to Kotlin\n
*/\npublic external abstract class HTMLDataListElement : HTMLElement {\n open val options:
HTMLCollection\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE:
Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLOptGroupElement](https://developer.mozilla.org/en/docs/Web/API/HTMLOptGroupElement) to Kotlin\n
*/\npublic external abstract class HTMLOptGroupElement : HTMLElement,
UnionHTMLOptGroupElementOrHTMLOptionElement {\n open var disabled: Boolean\n open var label:
String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n
 val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS:
Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLOptionElement](https://developer.mozilla.org/en/docs/Web/API/HTMLOptionElement) to Kotlin\n
*/\npublic external abstract class HTMLOptionElement : HTMLElement,
UnionHTMLOptGroupElementOrHTMLOptionElement {\n open var disabled: Boolean\n open val form:
HTMLFormElement?\n open var label: String\n open var defaultSelected: Boolean\n open var selected:
Boolean\n open var value: String\n open var text: String\n open val index: Int\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n
 val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE:
Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n}\n}\n\n/**\n * Exposes the JavaScript

```

[HTMLTextAreaElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTextAreaElement) to Kotlin

```

*^public external abstract class HTMLTextAreaElement : HTMLElement {
 open var autoComplete: String
 open var autofocus: Boolean
 open var cols: Int
 open var dirName: String
 open var disabled: Boolean
 open val form: HTMLFormElement?
 open var inputMode: String
 open var maxLength: Int
 open var minLength: Int
 open var name: String
 open var placeholder: String
 open var readOnly: Boolean
 open var required: Boolean
 open var rows: Int
 open var wrap: String
 open val type: String
 open var defaultValue: String
 open var value: String
 open val textLength: Int
 open val willValidate: Boolean
 open val validity: ValidityState
 open val validationMessage: String
 open val labels: NodeList
 open var selectionStart: Int?
 open var selectionEnd: Int?
 open var selectionDirection: String?
 fun checkValidity(): Boolean
 fun reportValidity(): Boolean
 fun setCustomValidity(error: String)
 fun select()
 fun setRangeText(replacement: String)
 fun setRangeText(replacement: String, start: Int, end: Int, selectionMode: SelectionMode = definedExternally)
 fun setSelectionRange(start: Int, end: Int, direction: String = definedExternally)
 companion object {
 val ELEMENT_NODE: Short
 val ATTRIBUTE_NODE: Short
 val TEXT_NODE: Short
 val CDATA_SECTION_NODE: Short
 val ENTITY_REFERENCE_NODE: Short
 val ENTITY_NODE: Short
 val PROCESSING_INSTRUCTION_NODE: Short
 val COMMENT_NODE: Short
 val DOCUMENT_NODE: Short
 val DOCUMENT_TYPE_NODE: Short
 val DOCUMENT_FRAGMENT_NODE: Short
 val NOTATION_NODE: Short
 val DOCUMENT_POSITION_DISCONNECTED: Short
 val DOCUMENT_POSITION_PRECEDING: Short
 val DOCUMENT_POSITION_FOLLOWING: Short
 val DOCUMENT_POSITION_CONTAINS: Short
 val DOCUMENT_POSITION_CONTAINED_BY: Short
 val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short
 }
}

```

\* Exposes the JavaScript

[HTMLKeygenElement](https://developer.mozilla.org/en/docs/Web/API/HTMLKeygenElement) to Kotlin

```

*^public external abstract class HTMLKeygenElement : HTMLElement {
 open var autofocus: Boolean
 open var challenge: String
 open var disabled: Boolean
 open val form: HTMLFormElement?
 open var keytype: String
 open var name: String
 open val type: String
 open val willValidate: Boolean
 open val validity: ValidityState
 open val validationMessage: String
 open val labels: NodeList
 fun checkValidity(): Boolean
 fun reportValidity(): Boolean
 fun setCustomValidity(error: String)
 companion object {
 val ELEMENT_NODE: Short
 val ATTRIBUTE_NODE: Short
 val TEXT_NODE: Short
 val CDATA_SECTION_NODE: Short
 val ENTITY_REFERENCE_NODE: Short
 val ENTITY_NODE: Short
 val PROCESSING_INSTRUCTION_NODE: Short
 val COMMENT_NODE: Short
 val DOCUMENT_NODE: Short
 val DOCUMENT_TYPE_NODE: Short
 val DOCUMENT_FRAGMENT_NODE: Short
 val NOTATION_NODE: Short
 val DOCUMENT_POSITION_DISCONNECTED: Short
 val DOCUMENT_POSITION_PRECEDING: Short
 val DOCUMENT_POSITION_FOLLOWING: Short
 val DOCUMENT_POSITION_CONTAINS: Short
 val DOCUMENT_POSITION_CONTAINED_BY: Short
 val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short
 }
}

```

\* Exposes the JavaScript

[HTMLOutputElement](https://developer.mozilla.org/en/docs/Web/API/HTMLOutputElement) to Kotlin

```

*^public external abstract class HTMLOutputElement : HTMLElement {
 open val htmlFor: DOMTokenList
 open val form: HTMLFormElement?
 open var name: String
 open val type: String
 open var defaultValue: String
 open var value: String
 open val willValidate: Boolean
 open val validity: ValidityState
 open val validationMessage: String
 open val labels: NodeList
 fun checkValidity(): Boolean
 fun reportValidity(): Boolean
 fun setCustomValidity(error: String)
 companion object {
 val ELEMENT_NODE: Short
 val ATTRIBUTE_NODE: Short
 val TEXT_NODE: Short
 val CDATA_SECTION_NODE: Short
 val ENTITY_REFERENCE_NODE: Short
 }
}

```



```

 val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLProgressElement](https://developer.mozilla.org/en/docs/Web/API/HTMLProgressElement) to Kotlin\n
*\npublic external abstract class HTMLProgressElement : HTMLInputElement {\n open var value: Double\n open
var max: Double\n open val position: Double\n open val labels: NodeList\n\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n
 val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLMeterElement](https://developer.mozilla.org/en/docs/Web/API/HTMLMeterElement) to Kotlin\n
*\npublic external abstract class HTMLMeterElement : HTMLInputElement {\n open var value: Double\n open var min:
Double\n open var max: Double\n open var low: Double\n open
var high: Double\n open var optimum: Double\n open val labels: NodeList\n\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLFieldSetElement](https://developer.mozilla.org/en/docs/Web/API/HTMLFieldSetElement) to Kotlin\n
*\npublic external abstract class HTMLFieldSetElement : HTMLInputElement {\n open var disabled: Boolean\n
open val form: HTMLFormElement?\n open var name: String\n open val type: String\n open val elements:
HTMLCollection\n open val willValidate: Boolean\n open val validity: ValidityState\n open val
validationMessage: String\n fun checkValidity(): Boolean\n fun reportValidity(): Boolean\n fun
setCustomValidity(error: String)\n\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING:
Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val
DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n
 val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the

```

JavaScript [HTMLLegendElement](https://developer.mozilla.org/en/docs/Web/API/HTMLLegendElement) to Kotlin

```

public external abstract class HTMLLegendElement : HTMLElement {
 open val form: HTMLFormElement?
 open var align: String
 companion object {
 val ELEMENT_NODE: Short
 val ATTRIBUTE_NODE: Short
 val TEXT_NODE: Short
 val CDATA_SECTION_NODE: Short
 val ENTITY_REFERENCE_NODE: Short
 val ENTITY_NODE: Short
 val PROCESSING_INSTRUCTION_NODE: Short
 val COMMENT_NODE: Short
 val DOCUMENT_NODE: Short
 val DOCUMENT_TYPE_NODE: Short
 val DOCUMENT_FRAGMENT_NODE: Short
 val NOTATION_NODE: Short
 val DOCUMENT_POSITION_DISCONNECTED: Short
 val DOCUMENT_POSITION_PRECEDING: Short
 val DOCUMENT_POSITION_FOLLOWING: Short
 val DOCUMENT_POSITION_CONTAINS: Short
 val DOCUMENT_POSITION_CONTAINED_BY: Short
 val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short
 }
}

```

\* Exposes the JavaScript [ValidityState](https://developer.mozilla.org/en/docs/Web/API/ValidityState) to Kotlin

```

public external abstract class ValidityState {
 open val valueMissing: Boolean
 open val typeMismatch: Boolean
 open val patternMismatch: Boolean
 open val tooLong: Boolean
 open val tooShort: Boolean
 open val rangeUnderflow: Boolean
 open val rangeOverflow: Boolean
 open val stepMismatch: Boolean
 open val badInput: Boolean
 open val customError: Boolean
 open val valid: Boolean
}

```

\* Exposes the JavaScript [HTMLDetailsElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDetailsElement) to Kotlin

```

public external abstract class HTMLDetailsElement : HTMLElement {
 open var open: Boolean
 companion object {
 val ELEMENT_NODE: Short
 val ATTRIBUTE_NODE: Short
 val TEXT_NODE: Short
 val CDATA_SECTION_NODE: Short
 val ENTITY_REFERENCE_NODE: Short
 val ENTITY_NODE: Short
 val PROCESSING_INSTRUCTION_NODE: Short
 val COMMENT_NODE: Short
 val DOCUMENT_NODE: Short
 val DOCUMENT_TYPE_NODE: Short
 val DOCUMENT_FRAGMENT_NODE: Short
 val NOTATION_NODE: Short
 val DOCUMENT_POSITION_DISCONNECTED: Short
 val DOCUMENT_POSITION_PRECEDING: Short
 val DOCUMENT_POSITION_FOLLOWING: Short
 val DOCUMENT_POSITION_CONTAINS: Short
 val DOCUMENT_POSITION_CONTAINED_BY: Short
 val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short
 }
}

```

public external abstract class HTMLMenuElement : HTMLElement {

```

 open var type: String
 open var label: String
 open var compact: Boolean
 companion object {
 val ELEMENT_NODE: Short
 val ATTRIBUTE_NODE: Short
 val TEXT_NODE: Short
 val CDATA_SECTION_NODE: Short
 val ENTITY_REFERENCE_NODE: Short
 val ENTITY_NODE: Short
 val PROCESSING_INSTRUCTION_NODE: Short
 val COMMENT_NODE: Short
 val DOCUMENT_NODE: Short
 val DOCUMENT_TYPE_NODE: Short
 val DOCUMENT_FRAGMENT_NODE: Short
 val NOTATION_NODE: Short
 val DOCUMENT_POSITION_DISCONNECTED: Short
 val DOCUMENT_POSITION_PRECEDING: Short
 val DOCUMENT_POSITION_FOLLOWING: Short
 val DOCUMENT_POSITION_CONTAINS: Short
 val DOCUMENT_POSITION_CONTAINED_BY: Short
 val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short
 }
}

```

public external abstract class HTMLMenuItemElement : HTMLElement {

```

 open var type: String
 open var label: String
 open var icon: String
 open var disabled: Boolean
 open var checked: Boolean
 open var radiogroup: String
 open var default: Boolean
 companion object {
 val ELEMENT_NODE: Short
 val ATTRIBUTE_NODE: Short
 val TEXT_NODE: Short
 val CDATA_SECTION_NODE: Short
 val ENTITY_REFERENCE_NODE: Short
 val ENTITY_NODE: Short
 val PROCESSING_INSTRUCTION_NODE: Short
 val COMMENT_NODE: Short
 val DOCUMENT_NODE: Short
 val DOCUMENT_TYPE_NODE: Short
 }
}

```

```

DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external open class
RelatedEvent(type: String, eventInitDict: RelatedEventInit = definedExternally) : Event {\n open val
 relatedTarget: EventTarget?\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE:
Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface
RelatedEventInit : EventInit {\n var relatedTarget: EventTarget? /* = null */\n get() = definedExternally\n
set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\n\npublic inline fun RelatedEventInit(relatedTarget:
EventTarget? = null, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false):
RelatedEventInit {\n val o = js("{}")\n o["relatedTarget"] = relatedTarget\n o["bubbles"] = bubbles\n
o["cancelable"] = cancelable\n o["composed"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript
[HTMLDialogElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDialogElement) to Kotlin\n
*/\n\npublic external abstract class HTMLDialogElement
: HTMLElement {\n open var open: Boolean\n open var returnValue: String\n fun show(anchor:
UnionElementOrMouseEvent = definedExternally)\n fun showModal(anchor: UnionElementOrMouseEvent =
definedExternally)\n fun close(returnValue: String = definedExternally)\n\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n
 val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the
JavaScript [HTMLScriptElement](https://developer.mozilla.org/en/docs/Web/API/HTMLScriptElement) to Kotlin\n
*/\n\npublic external abstract class HTMLScriptElement : HTMLElement, HTMLORSVGScriptElement {\n open
var src: String\n open var type: String\n open var charset: String\n open var async: Boolean\n open var defer:
Boolean\n open var crossOrigin: String?\n open var text: String\n open var nonce: String\n open var event:
String\n open var htmlFor: String\n\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE:
Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n
 val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n
 val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY:
Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes
the JavaScript [HTMLTemplateElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTemplateElement)
to Kotlin\n
*/\n\npublic external abstract class HTMLTemplateElement : HTMLElement {\n open val content:
DocumentFragment\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE:
Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val

```

```

DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE:
Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLSlotElement](https://developer.mozilla.org/en/docs/Web/API/HTMLSlotElement) to Kotlin\n *\npublic
external abstract class HTMLSlotElement : HTMLInputElement {\n open var name: String\n fun
assignedNodes(options: AssignedNodesOptions = definedExternally): Array<Node>\n\n companion object {\n
val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n
 val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE:
Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external interface
AssignedNodesOptions {\n var flatten: Boolean? /* = false */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun AssignedNodesOptions(flatten:
Boolean? = false): AssignedNodesOptions {\n val o = js(\"({})\")\n o[\"flatten\"] = flatten\n return
o\n}\n\n/**\n * Exposes the JavaScript
[HTMLCanvasElement](https://developer.mozilla.org/en/docs/Web/API/HTMLCanvasElement)
to Kotlin\n *\npublic external abstract class HTMLCanvasElement : HTMLInputElement, CanvasImageSource,
TexImageSource {\n open var width: Int\n open var height: Int\n fun getContext(contextId: String, vararg
arguments: Any?): RenderingContext?\n fun toDataURL(type: String = definedExternally, quality: Any? =
definedExternally): String\n fun toBlob(_callback: (Blob?) -> Unit, type: String = definedExternally, quality:
Any? = definedExternally)\n\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED:
Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val
DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external interface
CanvasRenderingContext2DSettings {\n var alpha: Boolean? /* = true */\n get() = definedExternally\n
set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun
CanvasRenderingContext2DSettings(alpha: Boolean? = true): CanvasRenderingContext2DSettings {\n val o =
js(\"({})\")\n o[\"alpha\"] = alpha\n return o\n}\n\n/**\n * Exposes the JavaScript
[CanvasRenderingContext2D](https://developer.mozilla.org/en/docs/Web/API/CanvasRenderingContext2D) to
Kotlin\n *\npublic external abstract class CanvasRenderingContext2D : CanvasState, CanvasTransform,
CanvasCompositing, CanvasImageSmoothing,

```

```

CanvasFillStrokeStyles, CanvasShadowStyles, CanvasFilters, CanvasRect, CanvasDrawPath, CanvasUserInterface,
CanvasText, CanvasDrawImage, CanvasHitRegion, CanvasImageData, CanvasPathDrawingStyles,
CanvasTextDrawingStyles, CanvasPath, RenderingContext {\n open val canvas:
HTMLCanvasElement\n}\n\npublic external interface CanvasState {\n fun save()\n fun restore()\n}\n\npublic
external interface CanvasTransform {\n fun scale(x: Double, y: Double)\n fun rotate(angle: Double)\n fun
translate(x: Double, y: Double)\n fun transform(a: Double, b: Double, c: Double, d: Double, e: Double, f:
Double)\n fun getTransform(): DOMMatrix\n fun setTransform(a: Double, b: Double, c: Double, d: Double, e:
Double, f: Double)\n fun setTransform(transform: dynamic = definedExternally)\n fun
resetTransform()\n}\n\npublic external interface CanvasCompositing {\n var globalAlpha: Double\n var
globalCompositeOperation: String\n}\n\npublic external interface CanvasImageSmoothing
{\n var imageSmoothingEnabled: Boolean\n var imageSmoothingQuality:
ImageSmoothingQuality\n}\n\npublic external interface CanvasFillStrokeStyles {\n var strokeStyle: dynamic\n
get() = definedExternally\n set(value) = definedExternally\n var fillStyle: dynamic\n get() =
definedExternally\n set(value) = definedExternally\n fun createLinearGradient(x0: Double, y0: Double, x1:
Double, y1: Double): CanvasGradient\n fun createRadialGradient(x0: Double, y0: Double, r0: Double, x1:
Double, y1: Double, r1: Double): CanvasGradient\n fun createPattern(image: CanvasImageSource, repetition:
String): CanvasPattern?\n}\n\npublic external interface CanvasShadowStyles {\n var shadowOffsetX: Double\n
var shadowOffsetY: Double\n var shadowBlur: Double\n var shadowColor: String\n}\n\npublic external
interface CanvasFilters {\n var filter: String\n}\n\npublic external interface CanvasRect {\n fun clearRect(x:
Double, y: Double,
w: Double, h: Double)\n fun fillRect(x: Double, y: Double, w: Double, h: Double)\n fun strokeRect(x: Double,
y: Double, w: Double, h: Double)\n}\n\npublic external interface CanvasDrawPath {\n fun beginPath()\n fun
fill(fillRule: CanvasFillRule = definedExternally)\n fun fill(path: Path2D, fillRule: CanvasFillRule =
definedExternally)\n fun stroke()\n fun stroke(path: Path2D)\n fun clip(fillRule: CanvasFillRule =
definedExternally)\n fun clip(path: Path2D, fillRule: CanvasFillRule = definedExternally)\n fun resetClip()\n
fun isPointInPath(x: Double, y: Double, fillRule: CanvasFillRule = definedExternally): Boolean\n fun
isPointInPath(path: Path2D, x: Double, y: Double, fillRule: CanvasFillRule = definedExternally): Boolean\n fun
isPointInStroke(x: Double, y: Double): Boolean\n fun isPointInStroke(path: Path2D, x: Double, y: Double):
Boolean\n}\n\npublic external interface CanvasUserInterface {\n fun drawFocusIfNeeded(element: Element)\n
fun drawFocusIfNeeded(path: Path2D, element: Element)\n fun scrollPathIntoView()\n fun
scrollPathIntoView(path: Path2D)\n}\n\npublic external interface CanvasText {\n fun fillText(text: String, x:
Double, y: Double, maxWidth: Double = definedExternally)\n fun strokeText(text: String, x: Double, y: Double,
maxWidth: Double = definedExternally)\n fun measureText(text: String): TextMetrics\n}\n\npublic external
interface CanvasDrawImage {\n fun drawImage(image: CanvasImageSource, dx: Double, dy: Double)\n fun
drawImage(image: CanvasImageSource, dx: Double, dy: Double, dw: Double, dh: Double)\n fun
drawImage(image: CanvasImageSource, sx: Double, sy: Double, sw: Double, sh: Double, dx: Double, dy: Double,
dw: Double, dh: Double)\n}\n\npublic external interface CanvasHitRegion {\n fun addHitRegion(options:
HitRegionOptions = definedExternally)\n fun removeHitRegion(id: String)\n fun clearHitRegions()\n}\n\npublic
external interface CanvasImageData {\n fun
createImageData(sw: Double, sh: Double): ImageData\n fun createImageData(imagedata: ImageData):
ImageData\n fun getImageData(sx: Double, sy: Double, sw: Double, sh: Double): ImageData\n fun
putImageData(imagedata: ImageData, dx: Double, dy: Double)\n fun putImageData(imagedata: ImageData, dx:
Double, dy: Double, dirtyX: Double, dirtyY: Double, dirtyWidth: Double, dirtyHeight: Double)\n}\n\npublic
external interface CanvasPathDrawingStyles {\n var lineWidth: Double\n var lineCap: CanvasLineCap\n var
lineJoin: CanvasLineJoin\n var miterLimit: Double\n var lineDashOffset: Double\n fun setLineDash(segments:
Array<Double>)\n fun getLineDash(): Array<Double>\n}\n\npublic external interface CanvasTextDrawingStyles
{\n var font: String\n var textAlign: CanvasTextAlign\n var textBaseline: CanvasTextBaseline\n var
direction: CanvasDirection\n}\n\npublic external interface CanvasPath {\n fun closePath()\n fun moveTo(x:

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Double, y: Double)\n fun
lineTo(x: Double, y: Double)\n fun quadraticCurveTo(cpx: Double, cpy: Double, x: Double, y: Double)\n fun
bezierCurveTo(cp1x: Double, cp1y: Double, cp2x: Double, cp2y: Double, x: Double, y: Double)\n fun arcTo(x1:
Double, y1: Double, x2: Double, y2: Double, radius: Double)\n fun arcTo(x1: Double, y1: Double, x2: Double,
y2: Double, radiusX: Double, radiusY: Double, rotation: Double)\n fun rect(x: Double, y: Double, w: Double, h:
Double)\n fun arc(x: Double, y: Double, radius: Double, startAngle: Double, endAngle: Double, anticlockwise:
Boolean = definedExternally)\n fun ellipse(x: Double, y: Double, radiusX: Double, radiusY: Double, rotation:
Double, startAngle: Double, endAngle: Double, anticlockwise: Boolean = definedExternally)\n\n/**\n * Exposes
the JavaScript [CanvasGradient](https://developer.mozilla.org/en/docs/Web/API/CanvasGradient) to Kotlin\n
*/\n\npublic external abstract class CanvasGradient {\n fun addColorStop(offset: Double, color: String)\n}\n\n/**\n
* Exposes the JavaScript [CanvasPattern](https://developer.mozilla.org/en/docs/Web/API/CanvasPattern) to
Kotlin\n */\n\npublic external abstract class CanvasPattern {\n fun setTransform(transform: dynamic =
definedExternally)\n}\n\n/**\n * Exposes the JavaScript
[TextMetrics](https://developer.mozilla.org/en/docs/Web/API/TextMetrics) to Kotlin\n */\n\npublic external abstract
class TextMetrics {\n open val width: Double\n open val actualBoundingBoxLeft: Double\n open val
actualBoundingBoxRight: Double\n open val fontBoundingBoxAscent: Double\n open val
fontBoundingBoxDescent: Double\n open val actualBoundingBoxAscent: Double\n open val
actualBoundingBoxDescent: Double\n open val emHeightAscent: Double\n open val emHeightDescent:
Double\n open val hangingBaseline: Double\n open val alphabeticBaseline: Double\n open val
ideographicBaseline: Double\n}\n\npublic external interface HitRegionOptions {\n var path: Path2D? /* = null
*/\n get()
= definedExternally\n set(value) = definedExternally\n var fillRule: CanvasFillRule? /* =
CanvasFillRule.NONZERO */\n get() = definedExternally\n set(value) = definedExternally\n var id:
String? /* = \"\" */\n get() = definedExternally\n set(value) = definedExternally\n var parentID: String? /*
= null */\n get() = definedExternally\n set(value) = definedExternally\n var cursor: String? /* = \"inherit\"
/\n get() = definedExternally\n set(value) = definedExternally\n var control: Element? / = null */\n
get() = definedExternally\n set(value) = definedExternally\n var label: String? /* = null */\n get() =
definedExternally\n set(value) = definedExternally\n var role: String? /* = null */\n get() =
definedExternally\n set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun HitRegionOptions(path:
Path2D? = null, fillRule: CanvasFillRule? = CanvasFillRule.NONZERO, id: String? = \"\", parentID: String? =
null, cursor: String? = \"inherit\", control: Element? = null, label: String? = null, role: String? = null):
HitRegionOptions {\n val o = js(\"({})\")\n o[\"path\"] = path\n o[\"fillRule\"] = fillRule\n o[\"id\"] = id\n
o[\"parentID\"] = parentID\n o[\"cursor\"] = cursor\n o[\"control\"] = control\n o[\"label\"] = label\n
o[\"role\"] = role\n return o\n}\n\n/**\n * Exposes the JavaScript
[ImageData](https://developer.mozilla.org/en/docs/Web/API/ImageData) to Kotlin\n */\n\npublic external open class
ImageData : ImageBitmapSource, TexImageSource {\n constructor(sw: Int, sh: Int)\n constructor(data:
Uint8ClampedArray, sw: Int, sh: Int = definedExternally)\n open val width: Int\n open val height: Int\n open
val data: Uint8ClampedArray\n}\n\n/**\n * Exposes the JavaScript
[Path2D](https://developer.mozilla.org/en/docs/Web/API/Path2D)
to Kotlin\n */\n\npublic external open class Path2D() : CanvasPath {\n constructor(path: Path2D)\n
constructor(paths: Array<Path2D>, fillRule: CanvasFillRule = definedExternally)\n constructor(d: String)\n fun
addPath(path: Path2D, transform: dynamic = definedExternally)\n override fun closePath()\n override fun
moveTo(x: Double, y: Double)\n override fun lineTo(x: Double, y: Double)\n override fun
quadraticCurveTo(cpx: Double, cpy: Double, x: Double, y: Double)\n override fun bezierCurveTo(cp1x: Double,
cp1y: Double, cp2x: Double, cp2y: Double, x: Double, y: Double)\n override fun arcTo(x1: Double, y1: Double,
x2: Double, y2: Double, radius: Double)\n override fun arcTo(x1: Double, y1: Double, x2: Double, y2: Double,
radiusX: Double, radiusY: Double, rotation: Double)\n override fun rect(x: Double, y: Double, w: Double, h:

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Double)\n override fun arc(x: Double, y: Double, radius: Double, startAngle: Double, endAngle: Double,
anticlockwise:
 Boolean /* = definedExternally */) \n override fun ellipse(x: Double, y: Double, radiusX: Double, radiusY:
Double, rotation: Double, startAngle: Double, endAngle: Double, anticlockwise: Boolean /* = definedExternally
*/)\n}\n\n/**\n * Exposes the JavaScript
[ImageBitmapRenderingContext](https://developer.mozilla.org/en/docs/Web/API/ImageBitmapRenderingContext)
to Kotlin\n * \npublic external abstract class ImageBitmapRenderingContext {\n open val canvas:
HTMLCanvasElement\n fun transferFromImageBitmap(bitmap: ImageBitmap?)\n}\n\npublic external interface
ImageBitmapRenderingContextSettings {\n var alpha: Boolean? /* = true */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun
ImageBitmapRenderingContextSettings(alpha: Boolean? = true): ImageBitmapRenderingContextSettings {\n val o
= js("{}")\n o["alpha"] = alpha\n return o\n}\n\n/**\n * Exposes the JavaScript
[CustomElementRegistry](https://developer.mozilla.org/en/docs/Web/API/CustomElementRegistry) to Kotlin\n
* \npublic external abstract class CustomElementRegistry {\n fun define(name: String, constructor: () -> dynamic,
options: ElementDefinitionOptions = definedExternally)\n fun get(name: String): Any?\n fun
whenDefined(name: String): Promise<Unit>\n}\n\npublic external interface ElementDefinitionOptions {\n var
extends: String?\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun ElementDefinitionOptions(extends:
String? = undefined): ElementDefinitionOptions {\n val o = js("{}")\n o["extends"] = extends\n return
o\n}\n\npublic external interface ElementContentEditable {\n var contentEditable: String\n val
isContentEditable: Boolean\n}\n\n/**\n * Exposes the JavaScript
[DataTransfer](https://developer.mozilla.org/en/docs/Web/API/DataTransfer)
to Kotlin\n * \npublic external abstract class DataTransfer {\n open var dropEffect: String\n open var
effectAllowed: String\n open val items: DataTransferItemList\n open val types: Array<out String>\n open val
files: FileList\n fun setDragImage(image: Element, x: Int, y: Int)\n fun getData(format: String): String\n fun
setData(format: String, data: String)\n fun clearData(format: String = definedExternally)\n}\n\n/**\n * Exposes
the JavaScript [DataTransferItemList](https://developer.mozilla.org/en/docs/Web/API/DataTransferItemList) to
Kotlin\n * \npublic external abstract class DataTransferItemList {\n open val length: Int\n fun add(data: String,
type: String): DataTransferItem?\n fun add(data: File): DataTransferItem?\n fun remove(index: Int)\n fun
clear()\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun
DataTransferItemList.get(index:
Int): DataTransferItem? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript
[DataTransferItem](https://developer.mozilla.org/en/docs/Web/API/DataTransferItem) to Kotlin\n * \npublic
external abstract class DataTransferItem {\n open val kind: String\n open val type: String\n fun
getAsString(_callback: ((String) -> Unit)?)\n fun getAsFile(): File?\n}\n\n/**\n * Exposes the JavaScript
[DragEvent](https://developer.mozilla.org/en/docs/Web/API/TouchEvent) to Kotlin\n * \npublic external open class
DragEvent(type: String, eventInitDict: DragEventInit = definedExternally) : MouseEvent {\n open val
dataTransfer: DataTransfer?\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE:
Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface
DragEventInit : MouseEventInit {\n var dataTransfer: DataTransfer? /* = null */\n get() = definedExternally\n
set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun DragEventInit(dataTransfer:
DataTransfer? = null, screenX: Int? = 0, screenY: Int? = 0, clientX: Int? = 0, clientY: Int? = 0, button: Short? = 0,
buttons: Short? = 0, relatedTarget: EventTarget? = null, region: String? = null, ctrlKey: Boolean? = false, shiftKey:

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forward()\n fun pushState(data: Any?, title: String, url: String? = definedExternally)\n fun replaceState(data:
Any?, title: String, url: String? = definedExternally)\n}\n\n/**\n * Exposes the JavaScript
[Location](https://developer.mozilla.org/en/docs/Web/API/Location) to Kotlin\n */\npublic external abstract class
Location {\n open var href: String\n open val origin: String\n open var protocol: String\n open var host:
String\n open var hostname: String\n open var port: String\n open var pathname: String\n open var search:
String\n open var hash: String\n open val ancestorOrigins: Array<out String>\n fun assign(url:
String)\n fun replace(url: String)\n fun reload()\n}\n\n/**\n * Exposes the JavaScript
[PopStateEvent](https://developer.mozilla.org/en/docs/Web/API/PopStateEvent) to Kotlin\n */\npublic external
open class PopStateEvent(type: String, eventInitDict: PopStateEventInit = definedExternally) : Event {\n open val
state: Any?\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val
AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface PopStateEventInit
: EventInit {\n var state: Any? /* = null */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun PopStateEventInit(state: Any? = null,
bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): PopStateEventInit {\n val o
= js(\"({})\")\n o[\"state\"] = state\n o[\"bubbles\"] = bubbles\n
o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript
[HashChangeEvent](https://developer.mozilla.org/en/docs/Web/API/HashChangeEvent) to Kotlin\n */\npublic
external open class HashChangeEvent(type: String, eventInitDict: HashChangeEventInit = definedExternally) :
Event {\n open val oldURL: String\n open val newURL: String\n\n companion object {\n val NONE:
Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE:
Short\n }\n}\n\npublic external interface HashChangeEventInit : EventInit {\n var oldURL: String? /* = \"\" */\n
get() = definedExternally\n set(value) = definedExternally\n var newURL: String? /* = \"\" */\n get() =
definedExternally\n set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun HashChangeEventInit(oldURL:
String?
= \"\", newURL: String? = \"\", bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? =
false): HashChangeEventInit {\n val o = js(\"({})\")\n o[\"oldURL\"] = oldURL\n o[\"newURL\"] =
newURL\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return
o\n}\n\n/**\n * Exposes the JavaScript
[PageTransitionEvent](https://developer.mozilla.org/en/docs/Web/API/PageTransitionEvent) to Kotlin\n */\npublic
external open class PageTransitionEvent(type: String, eventInitDict: PageTransitionEventInit = definedExternally) :
Event {\n open val persisted: Boolean\n\n companion object {\n val NONE: Short\n val
CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n
}\n}\n\npublic external interface PageTransitionEventInit : EventInit {\n var persisted: Boolean? /* = false */\n
get() = definedExternally\n set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun PageTransitionEventInit(persisted:
Boolean? = false, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false):
PageTransitionEventInit {\n val o = js(\"({})\")\n o[\"persisted\"] = persisted\n o[\"bubbles\"] = bubbles\n
o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript
[BeforeUnloadEvent](https://developer.mozilla.org/en/docs/Web/API/BeforeUnloadEvent) to Kotlin\n */\npublic
external open class BeforeUnloadEvent : Event {\n var returnValue: String\n\n companion object {\n val
NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val
BUBBLING_PHASE: Short\n }\n}\n\npublic external abstract class ApplicationCache : EventTarget {\n open
val status: Short\n open var onchecking: ((Event) -> dynamic)?\n open var onerror: ((Event) -> dynamic)?\n
open var onnoupdate: ((Event) -> dynamic)?\n open var ondownloading: ((Event) -> dynamic)?\n open var
onprogress: ((ProgressEvent) -> dynamic)?\n open var onupdateready: ((Event) -> dynamic)?\n open var
oncached: ((Event) -> dynamic)?\n open var onobsolete: ((Event) -> dynamic)?\n fun update()\n fun abort()\n

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((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var ondblclick:
((MouseEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var ondrag:
((DragEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var ondragend:
((DragEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var
ondragenter: ((DragEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n
var ondragexit: ((DragEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n
var ondragleave: ((DragEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n
var ondragover: ((DragEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n
var ondragstart: ((DragEvent) -> dynamic)?\n
 get() = definedExternally\n set(value) = definedExternally\n var ondrop: ((DragEvent) -> dynamic)?\n
get() = definedExternally\n set(value) = definedExternally\n var ondurationchange: ((Event) -> dynamic)?\n
 get() = definedExternally\n set(value) = definedExternally\n var onemptied: ((Event) -> dynamic)?\n
get() = definedExternally\n set(value) = definedExternally\n var onended: ((Event) -> dynamic)?\n get() =
definedExternally\n set(value) = definedExternally\n var onerror: ((dynamic, String, Int, Int, Any?) ->
dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var onfocus: ((FocusEvent) ->
dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var oninput: ((InputEvent) ->
dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var oninvalid: ((Event) ->
dynamic)?\n get() = definedExternally\n
 set(value) = definedExternally\n var onkeydown: ((KeyboardEvent) -> dynamic)?\n get() =
definedExternally\n set(value) = definedExternally\n var onkeypress: ((KeyboardEvent) -> dynamic)?\n
get() = definedExternally\n set(value) = definedExternally\n var onkeyup: ((KeyboardEvent) -> dynamic)?\n
 get() = definedExternally\n set(value) = definedExternally\n var onload: ((Event) -> dynamic)?\n get()
= definedExternally\n set(value) = definedExternally\n var onloadeddata: ((Event) -> dynamic)?\n get() =
definedExternally\n set(value) = definedExternally\n var onloadedmetadata: ((Event) -> dynamic)?\n
get() = definedExternally\n set(value) = definedExternally\n var onloadend: ((Event) -> dynamic)?\n get()
= definedExternally\n set(value) = definedExternally\n var onloadstart: ((ProgressEvent) -> dynamic)?\n
get() = definedExternally\n set(value)
= definedExternally\n var onmousedown: ((MouseEvent) -> dynamic)?\n get() = definedExternally\n
set(value) = definedExternally\n var onmouseenter: ((MouseEvent) -> dynamic)?\n get() =
definedExternally\n set(value) = definedExternally\n var onmouseleave: ((MouseEvent) -> dynamic)?\n
get() = definedExternally\n set(value) = definedExternally\n var onmousemove: ((MouseEvent) ->
dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var onmouseout:
((MouseEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var
onmouseover: ((MouseEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n
var onmouseup: ((MouseEvent) -> dynamic)?\n get() = definedExternally\n set(value) =
definedExternally\n var onwheel: ((WheelEvent) -> dynamic)?\n get() = definedExternally\n set(value) =
definedExternally\n
 var onpause: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var
onplay: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var
onplaying: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var
onprogress: ((ProgressEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n
var onratechange: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n
var onreset: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var
onresize: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var
onscroll: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var
onseeked: ((Event) -> dynamic)?\n get()
= definedExternally\n set(value) = definedExternally\n var onseeking: ((Event) -> dynamic)?\n get() =
definedExternally\n set(value) = definedExternally\n var onselect: ((Event) -> dynamic)?\n get() =

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definedExternally\n set(value) = definedExternally\n var onshow: ((Event) -> dynamic)?\n get() =
definedExternally\n set(value) = definedExternally\n var onstalled: ((Event) -> dynamic)?\n get() =
definedExternally\n set(value) = definedExternally\n var onsubmit: ((Event) -> dynamic)?\n get() =
definedExternally\n set(value) = definedExternally\n var onsuspend: ((Event) -> dynamic)?\n get() =
definedExternally\n set(value) = definedExternally\n var ontimeupdate: ((Event) -> dynamic)?\n get() =
definedExternally\n set(value) = definedExternally\n var ontoggle: ((Event) -> dynamic)?\n get() =
definedExternally\n set(value) = definedExternally\n
 var onvolumechange: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) =
definedExternally\n var onwaiting: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) =
definedExternally\n var ongotpointercapture: ((PointerEvent) -> dynamic)?\n get() = definedExternally\n
set(value) = definedExternally\n var onlostpointercapture: ((PointerEvent) -> dynamic)?\n get() =
definedExternally\n set(value) = definedExternally\n var onpointerdown: ((PointerEvent) -> dynamic)?\n
get() = definedExternally\n set(value) = definedExternally\n var onpointermove: ((PointerEvent) ->
dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var onpointerup:
((PointerEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var
onpointercancel: ((PointerEvent) -> dynamic)?\n get() = definedExternally\n set(value) =
definedExternally\n
 var onpointerover: ((PointerEvent) -> dynamic)?\n get() = definedExternally\n set(value) =
definedExternally\n var onpointerout: ((PointerEvent) -> dynamic)?\n get() = definedExternally\n
set(value) = definedExternally\n var onpointerenter: ((PointerEvent) -> dynamic)?\n get() =
definedExternally\n set(value) = definedExternally\n var onpointerleave: ((PointerEvent) -> dynamic)?\n
get() = definedExternally\n set(value) = definedExternally\n}\n\n/**\n * Exposes the JavaScript
[WindowEventHandlers](https://developer.mozilla.org/en/docs/Web/API/WindowEventHandlers) to Kotlin\n
*/\npublic external interface WindowEventHandlers {\n var onafterprint: ((Event) -> dynamic)?\n get() =
definedExternally\n set(value) = definedExternally\n var onbeforeprint: ((Event) -> dynamic)?\n get() =
definedExternally\n set(value) = definedExternally\n var onbeforeunload: ((BeforeUnloadEvent)
-> String)?\n get() = definedExternally\n set(value) = definedExternally\n var onhashchange:
((HashChangeEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var
onlanguagechange: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n
var onmessage: ((MessageEvent) -> dynamic)?\n get() = definedExternally\n set(value) =
definedExternally\n var onoffline: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) =
definedExternally\n var ononline: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) =
definedExternally\n var onpagehide: ((PageTransitionEvent) -> dynamic)?\n get() = definedExternally\n
set(value) = definedExternally\n var onpageshow: ((PageTransitionEvent) -> dynamic)?\n get() =
definedExternally\n set(value) = definedExternally\n var onpopstate: ((PopStateEvent)
-> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var onrejectionhandled:
((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var onstorage:
((StorageEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var
onunhandledrejection: ((PromiseRejectionEvent) -> dynamic)?\n get() = definedExternally\n set(value) =
definedExternally\n var onunload: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) =
definedExternally\n}\n\npublic external interface DocumentAndElementEventHandlers {\n var oncopy:
((ClipboardEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var oncut:
((ClipboardEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var
onpaste: ((ClipboardEvent) -> dynamic)?\n get() = definedExternally\n
 set(value) = definedExternally\n}\n\n/**\n * Exposes the JavaScript
[WindowOrWorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/WindowOrWorkerGlobalScope)
to Kotlin\n
*/\npublic external interface WindowOrWorkerGlobalScope {\n val origin: String\n val caches:
CacheStorage\n fun btoa(data: String): String\n fun atob(data: String): String\n fun setTimeout(handler:

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dynamic, timeout: Int = definedExternally, vararg arguments: Any?): Int\n fun clearTimeout(handle: Int =
definedExternally)\n fun setInterval(handler: dynamic, timeout: Int = definedExternally, vararg arguments: Any?):
Int\n fun clearInterval(handle: Int = definedExternally)\n fun createImageBitmap(image: ImageBitmapSource,
options: ImageBitmapOptions = definedExternally): Promise<ImageBitmap>\n fun createImageBitmap(image:
ImageBitmapSource, sx: Int, sy: Int, sw: Int, sh: Int, options: ImageBitmapOptions = definedExternally):
Promise<ImageBitmap>\n fun fetch(input: dynamic,
init: RequestInit = definedExternally): Promise<Response>\n}\n\n/**\n * Exposes the JavaScript
[Navigator](https://developer.mozilla.org/en/docs/Web/API/Navigator) to Kotlin\n */\npublic external abstract class
Navigator : NavigatorID, NavigatorLanguage, NavigatorOnLine, NavigatorContentUtils, NavigatorCookies,
NavigatorPlugins, NavigatorConcurrentHardware {\n open val clipboard: Clipboard\n open val mediaDevices:
MediaDevices\n open val maxTouchPoints: Int\n open val serviceWorker: ServiceWorkerContainer\n fun
requestMediaKeySystemAccess(keySystem: String, supportedConfigurations:
Array<MediaKeySystemConfiguration>): Promise<MediaKeySystemAccess>\n fun getUserMedia(constraints:
MediaStreamConstraints, successCallback: (MediaStream) -> Unit, errorCallback: (dynamic) -> Unit)\n fun
vibrate(pattern: dynamic): Boolean\n}\n\n/**\n * Exposes the JavaScript
[NavigatorID](https://developer.mozilla.org/en/docs/Web/API/NavigatorID) to Kotlin\n */\npublic external interface
NavigatorID {\n val appCodeName: String\n val appName: String\n val appVersion: String\n val platform:
String\n val product: String\n val productSub: String\n val userAgent: String\n val vendor: String\n val
vendorSub: String\n val oscpu: String\n fun taintEnabled(): Boolean\n}\n\n/**\n * Exposes the JavaScript
[NavigatorLanguage](https://developer.mozilla.org/en/docs/Web/API/NavigatorLanguage) to Kotlin\n */\npublic
external interface NavigatorLanguage {\n val language: String\n val languages: Array<out String>\n}\n\npublic
external interface NavigatorContentUtils {\n fun registerProtocolHandler(scheme: String, url: String, title:
String)\n fun registerContentHandler(mimeType: String, url: String, title: String)\n fun
isProtocolHandlerRegistered(scheme: String, url: String): String\n fun isContentHandlerRegistered(mimeType:
String, url: String): String\n fun unregisterProtocolHandler(scheme: String, url: String)\n fun
unregisterContentHandler(mimeType:
String, url: String)\n}\n\npublic external interface NavigatorCookies {\n val cookieEnabled: Boolean\n}\n\n/**\n
* Exposes the JavaScript [NavigatorPlugins](https://developer.mozilla.org/en/docs/Web/API/NavigatorPlugins) to
Kotlin\n */\npublic external interface NavigatorPlugins {\n val plugins: PluginArray\n val mimeTypes:
MimeTypeArray\n fun javaEnabled(): Boolean\n}\n\n/**\n * Exposes the JavaScript
[PluginArray](https://developer.mozilla.org/en/docs/Web/API/PluginArray) to Kotlin\n */\npublic external abstract
class PluginArray : ItemArrayLike<Plugin> {\n fun refresh(reload: Boolean = definedExternally)\n override fun
item(index: Int): Plugin?\n fun namedItem(name: String):
Plugin?\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun PluginArray.get(index: Int):
Plugin? = asDynamic()[index]\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic
inline operator fun PluginArray.get(name: String): Plugin? = asDynamic()[name]\n\n/**\n * Exposes the JavaScript
[MimeTypeArray](https://developer.mozilla.org/en/docs/Web/API/MimeTypeArray) to Kotlin\n */\npublic external
abstract class MimeTypeArray : ItemArrayLike<MimeType> {\n override fun item(index: Int): MimeType?\n
fun namedItem(name: String): MimeType?\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun MimeTypeArray.get(index:
Int): MimeType? = asDynamic()[index]\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun MimeTypeArray.get(name:
String): MimeType? = asDynamic()[name]\n\n/**\n * Exposes the JavaScript
[Plugin](https://developer.mozilla.org/en/docs/Web/API/Plugin) to Kotlin\n */\npublic external abstract class Plugin
: ItemArrayLike<MimeType> {\n open val name: String\n open val description: String\n open

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val filename: String\n override fun item(index: Int): MimeTypes?\n fun namedItem(name: String):
MimeTypes?\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun Plugin.get(index: Int):
MimeTypes? = asDynamic()[index]\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun Plugin.get(name: String):
MimeTypes? = asDynamic()[name]\n\n/**\n * Exposes the JavaScript
[MimeType](https://developer.mozilla.org/en/docs/Web/API/MimeType) to Kotlin\n *\npublic external abstract
class MimeType {\n open val type: String\n open val description: String\n open val suffixes: String\n open
val enabledPlugin: Plugin\n}\n\n/**\n * Exposes the JavaScript
[ImageBitmap](https://developer.mozilla.org/en/docs/Web/API/ImageBitmap) to Kotlin\n *\npublic external
abstract class ImageBitmap : CanvasImageSource, TexImageSource {\n open val width: Int\n open val height:
Int\n fun close()\n}\n\npublic external interface ImageBitmapOptions {\n var imageOrientation:
ImageOrientation? /* = ImageOrientation.NONE */\n get() = definedExternally\n set(value) =
definedExternally\n var premultiplyAlpha: PremultiplyAlpha? /* = PremultiplyAlpha.DEFAULT */\n get() =
definedExternally\n set(value) = definedExternally\n var colorSpaceConversion: ColorSpaceConversion? /* =
ColorSpaceConversion.DEFAULT */\n get() = definedExternally\n set(value) = definedExternally\n var
resizeWidth: Int?\n get() = definedExternally\n set(value) = definedExternally\n var resizeHeight: Int?\n
get() = definedExternally\n set(value) = definedExternally\n var resizeQuality: ResizeQuality? /* =
ResizeQuality.LOW */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun
ImageBitmapOptions(imageOrientation:
ImageOrientation? = ImageOrientation.NONE, premultiplyAlpha: PremultiplyAlpha? =
PremultiplyAlpha.DEFAULT, colorSpaceConversion: ColorSpaceConversion? =
ColorSpaceConversion.DEFAULT, resizeWidth: Int? = undefined, resizeHeight: Int? = undefined, resizeQuality:
ResizeQuality? = ResizeQuality.LOW): ImageBitmapOptions {\n val o = js(\"({})\")\n o[\"imageOrientation\"]
= imageOrientation\n o[\"premultiplyAlpha\"] = premultiplyAlpha\n o[\"colorSpaceConversion\"] =
colorSpaceConversion\n o[\"resizeWidth\"] = resizeWidth\n o[\"resizeHeight\"] = resizeHeight\n
o[\"resizeQuality\"] = resizeQuality\n return o\n}\n\n/**\n * Exposes the JavaScript
[MessageEvent](https://developer.mozilla.org/en/docs/Web/API/MessageEvent) to Kotlin\n *\npublic external open
class MessageEvent(type: String, eventInitDict: MessageEventInit = definedExternally) : Event {\n open val data:
Any?\n open val origin: String\n open val lastEventId: String\n
 open val source: UnionMessagePortOrWindowProxy?\n open val ports: Array<out MessagePort>\n fun
initMessageEvent(type: String, bubbles: Boolean, cancelable: Boolean, data: Any?, origin: String, lastEventId:
String, source: UnionMessagePortOrWindowProxy?, ports: Array<MessagePort>)\n\n companion object {\n
val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val
BUBBLING_PHASE: Short\n }\n}\n\npublic external interface MessageEventInit : EventInit {\n var data: Any?
/* = null */\n get() = definedExternally\n set(value) = definedExternally\n var origin: String? /* = \"\" */\n
get() = definedExternally\n set(value) = definedExternally\n var lastEventId: String? /* = \"\" */\n
get() = definedExternally\n set(value) = definedExternally\n var source: UnionMessagePortOrWindowProxy?
/* = null */\n get() = definedExternally\n set(value) = definedExternally\n var ports:
Array<MessagePort>? /* = arrayOf() */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun MessageEventInit(data: Any? = null,
origin: String? = \"\", lastEventId: String? = \"\", source: UnionMessagePortOrWindowProxy? = null, ports:
Array<MessagePort>? = arrayOf(), bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? =
false): MessageEventInit {\n val o = js(\"({})\")\n o[\"data\"] = data\n o[\"origin\"] = origin\n
o[\"lastEventId\"] = lastEventId\n o[\"source\"] = source\n o[\"ports\"] = ports\n o[\"bubbles\"] = bubbles\n

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o["cancelable"] = cancelable\n o["composed"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript
[EventSource](https://developer.mozilla.org/en/docs/Web/API/EventSource) to Kotlin\n *\npublic external open
class EventSource(url: String, eventSourceInitDict: EventSourceInit
= definedExternally) : EventTarget {\n open val url: String\n open val withCredentials: Boolean\n open val
readyState: Short\n var onopen: ((Event) -> dynamic)?\n var onmessage: ((MessageEvent) -> dynamic)?\n var
onerror: ((Event) -> dynamic)?\n fun close()\n\n companion object {\n val CONNECTING: Short\n val
OPEN: Short\n val CLOSED: Short\n }\n}\n\npublic external interface EventSourceInit {\n var
withCredentials: Boolean? /* = false */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun EventSourceInit(withCredentials:
Boolean? = false): EventSourceInit {\n val o = js("{}")\n o["withCredentials"] = withCredentials\n return
o\n}\n\n/**\n * Exposes the JavaScript [WebSocket](https://developer.mozilla.org/en/docs/Web/API/WebSocket) to
Kotlin\n *\npublic external open class WebSocket(url:
String, protocols: dynamic = definedExternally) : EventTarget {\n open val url: String\n open val readyState:
Short\n open val bufferedAmount: Number\n var onopen: ((Event) -> dynamic)?\n var onerror: ((Event) ->
dynamic)?\n var onclose: ((Event) -> dynamic)?\n open val extensions: String\n open val protocol: String\n
var onmessage: ((MessageEvent) -> dynamic)?\n var binaryType: BinaryType\n fun close(code: Short =
definedExternally, reason: String = definedExternally)\n fun send(data: String)\n fun send(data: Blob)\n fun
send(data: ArrayBuffer)\n fun send(data: ArrayBufferView)\n\n companion object {\n val CONNECTING:
Short\n val OPEN: Short\n val CLOSING: Short\n val CLOSED: Short\n }\n}\n\n/**\n * Exposes the
JavaScript [CloseEvent](https://developer.mozilla.org/en/docs/Web/API/CloseEvent) to Kotlin\n *\npublic external
open class CloseEvent(type: String, eventInitDict: CloseEventInit = definedExternally)
: Event {\n open val wasClean: Boolean\n open val code: Short\n open val reason: String\n\n companion
object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val
BUBBLING_PHASE: Short\n }\n}\n\npublic external interface CloseEventInit : EventInit {\n var wasClean:
Boolean? /* = false */\n get() = definedExternally\n set(value) = definedExternally\n var code: Short? /*
= 0 */\n get() = definedExternally\n set(value) = definedExternally\n var reason: String? /* = "" */\n
get() = definedExternally\n set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun CloseEventInit(wasClean: Boolean? =
false, code: Short? = 0, reason: String? = "", bubbles: Boolean? = false, cancelable: Boolean? = false, composed:
Boolean? = false): CloseEventInit {\n val o = js("{}")\n o["wasClean"]
= wasClean\n o["code"] = code\n o["reason"] = reason\n o["bubbles"] = bubbles\n o["cancelable"] =
cancelable\n o["composed"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript
[MessageChannel](https://developer.mozilla.org/en/docs/Web/API/MessageChannel) to Kotlin\n *\npublic external
open class MessageChannel {\n open val port1: MessagePort\n open val port2: MessagePort\n}\n\n/**\n *
Exposes the JavaScript [MessagePort](https://developer.mozilla.org/en/docs/Web/API/MessagePort) to Kotlin\n
*\npublic external abstract class MessagePort : EventTarget, UnionMessagePortOrWindowProxy,
UnionMessagePortOrServiceWorker, UnionClientOrMessagePortOrServiceWorker {\n open var onmessage:
((MessageEvent) -> dynamic)?\n fun postMessage(message: Any?, transfer: Array<dynamic> =
definedExternally)\n fun start()\n fun close()\n}\n\n/**\n * Exposes the JavaScript
[BroadcastChannel](https://developer.mozilla.org/en/docs/Web/API/BroadcastChannel)
to Kotlin\n *\npublic external open class BroadcastChannel(name: String) : EventTarget {\n open val name:
String\n var onmessage: ((MessageEvent) -> dynamic)?\n fun postMessage(message: Any?)\n fun
close()\n}\n\n/**\n * Exposes the JavaScript
[WorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/WorkerGlobalScope) to Kotlin\n *\npublic
external abstract class WorkerGlobalScope : EventTarget, WindowOrWorkerGlobalScope, GlobalPerformance {\n
open val self: WorkerGlobalScope\n open val location: WorkerLocation\n open val navigator:
WorkerNavigator\n open var onerror: ((dynamic, String, Int, Int, Any?) -> dynamic)?\n open var

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onlanguagechange: ((Event) -> dynamic)?\n open var onoffline: ((Event) -> dynamic)?\n open var ononline:
((Event) -> dynamic)?\n open var onrejectionhandled: ((Event) -> dynamic)?\n open var onunhandledrejection:
((PromiseRejectionEvent) -> dynamic)?\n fun importScripts(vararg urls: String)\n}\n\n/**\n * Exposes
the JavaScript
[DedicatedWorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/DedicatedWorkerGlobalScope) to
Kotlin\n\n */\npublic external abstract class DedicatedWorkerGlobalScope : WorkerGlobalScope {\n open var
onmessage: ((MessageEvent) -> dynamic)?\n fun postMessage(message: Any?, transfer: Array<dynamic> =
definedExternally)\n fun close()\n}\n\n/**\n * Exposes the JavaScript
[SharedWorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/SharedWorkerGlobalScope) to
Kotlin\n\n */\npublic external abstract class SharedWorkerGlobalScope : WorkerGlobalScope {\n open val name:
String\n open val applicationCache: ApplicationCache\n open var onconnect: ((Event) -> dynamic)?\n fun
close()\n}\n\n/**\n * Exposes the JavaScript
[AbstractWorker](https://developer.mozilla.org/en/docs/Web/API/AbstractWorker) to Kotlin\n\n */\npublic external
interface AbstractWorker {\n var onerror: ((Event) -> dynamic)?\n get() = definedExternally\n set(value)
= definedExternally\n}\n\n/**\n * Exposes the JavaScript
[Worker](https://developer.mozilla.org/en/docs/Web/API/Worker) to Kotlin\n\n */\npublic external open class
Worker(scriptURL: String, options: WorkerOptions = definedExternally) : EventTarget, AbstractWorker {\n var
onmessage: ((MessageEvent) -> dynamic)?\n override var onerror: ((Event) -> dynamic)?\n fun terminate()\n
fun postMessage(message: Any?, transfer: Array<dynamic> = definedExternally)\n}\n\npublic external interface
WorkerOptions {\n var type: WorkerType? /* = WorkerType.CLASSIC */\n get() = definedExternally\n
set(value) = definedExternally\n var credentials: RequestCredentials? /* = RequestCredentials.OMIT */\n
get() = definedExternally\n set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun WorkerOptions(type: WorkerType? =
WorkerType.CLASSIC, credentials: RequestCredentials?
= RequestCredentials.OMIT): WorkerOptions {\n val o = js(\"({})\")\n o[\"type\"] = type\n o[\"credentials\"]
= credentials\n return o\n}\n\n/**\n * Exposes the JavaScript
[SharedWorker](https://developer.mozilla.org/en/docs/Web/API/SharedWorker) to Kotlin\n\n */\npublic external open
class SharedWorker(scriptURL: String, name: String = definedExternally, options: WorkerOptions =
definedExternally) : EventTarget, AbstractWorker {\n open val port: MessagePort\n override var onerror:
((Event) -> dynamic)?\n}\n\n/**\n * Exposes the JavaScript
[NavigatorConcurrentHardware](https://developer.mozilla.org/en/docs/Web/API/NavigatorConcurrentHardware) to
Kotlin\n\n */\npublic external interface NavigatorConcurrentHardware {\n val hardwareConcurrency:
Number\n}\n\n/**\n * Exposes the JavaScript
[WorkerNavigator](https://developer.mozilla.org/en/docs/Web/API/WorkerNavigator) to Kotlin\n\n */\npublic
external abstract class WorkerNavigator : NavigatorID, NavigatorLanguage, NavigatorOnLine,
NavigatorConcurrentHardware {\n open val serviceWorker: ServiceWorkerContainer\n}\n\n/**\n * Exposes the
JavaScript [WorkerLocation](https://developer.mozilla.org/en/docs/Web/API/WorkerLocation) to Kotlin\n\n
*/\npublic external abstract class WorkerLocation {\n open val href: String\n open val origin: String\n open val
protocol: String\n open val host: String\n open val hostname: String\n open val port: String\n open val
pathname: String\n open val search: String\n open val hash: String\n}\n\n/**\n * Exposes the JavaScript
[Storage](https://developer.mozilla.org/en/docs/Web/API/Storage) to Kotlin\n\n */\npublic external abstract class
Storage {\n open val length: Int\n fun key(index: Int): String?\n fun removeItem(key: String)\n fun clear()\n
fun getItem(key: String): String?\n fun setItem(key: String, value:
String)\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun
Storage.get(key: String): String? = asDynamic()[key]\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun Storage.set(key: String, value:
String) { asDynamic()[key] = value }\n\n/**\n * Exposes the JavaScript

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[WindowSessionStorage](https://developer.mozilla.org/en/docs/Web/API/WindowSessionStorage) to Kotlin\n
*\npublic external interface WindowSessionStorage {\n val sessionStorage: Storage\n}\n\n**\n * Exposes the
JavaScript [WindowLocalStorage](https://developer.mozilla.org/en/docs/Web/API/WindowLocalStorage) to
Kotlin\n
*\npublic external interface WindowLocalStorage {\n val localStorage: Storage\n}\n\n**\n * Exposes
the JavaScript [StorageEvent](https://developer.mozilla.org/en/docs/Web/API/StorageEvent) to Kotlin\n
*\npublic
external open class StorageEvent(type: String, eventInitDict: StorageEventInit = definedExternally) : Event {\n
 open val key: String?\n open val oldValue: String?\n open val newValue:
 String?\n open val url: String\n open val storageArea: Storage?\n\n companion object {\n val NONE:
 Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE:
 Short\n }\n}\n\npublic external interface StorageEventInit : EventInit {\n var key: String? /* = null */\n get()
 = definedExternally\n set(value) = definedExternally\n var oldValue: String? /* = null */\n get() =
 definedExternally\n set(value) = definedExternally\n var newValue: String? /* = null */\n get() =
 definedExternally\n set(value) = definedExternally\n var url: String? /* = \"\" */\n get() =
 definedExternally\n set(value) = definedExternally\n var storageArea: Storage? /* = null */\n get() =
 definedExternally\n set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
 \"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun StorageEventInit(key:
 String? = null, oldValue: String? = null, newValue: String? = null, url: String? = \"\", storageArea: Storage? = null,
 bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): StorageEventInit {\n val o
 = js(\"({})\")\n o[\"key\"] = key\n o[\"oldValue\"] = oldValue\n o[\"newValue\"] = newValue\n o[\"url\"] =
 url\n o[\"storageArea\"] = storageArea\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n
 o[\"composed\"] = composed\n return o\n}\n\npublic external abstract class HTMLAppletElement :
 HTMLElement {\n open var align: String\n open var alt: String\n open var archive: String\n open var code:
 String\n open var codeBase: String\n open var height: String\n open var hspace: Int\n open var name:
 String\n open var _object: String\n open var vspace: Int\n open var width: String\n\n companion object {\n
 val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE:
 Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val
 ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE:
 Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
 DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
 DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
 DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n**\n * Exposes the JavaScript
[HTMLMarqueeElement](https://developer.mozilla.org/en/docs/Web/API/HTMLMarqueeElement) to Kotlin\n
*\npublic external abstract class HTMLMarqueeElement : HTMLElement {\n open var behavior: String\n open
 var bgColor: String\n open var direction: String\n open var height: String\n
 open var hspace: Int\n open var loop: Int\n open var scrollAmount: Int\n open var scrollDelay: Int\n open
 var trueSpeed: Boolean\n open var vspace: Int\n open var width: String\n open var onbounce: ((Event) ->
 dynamic)?\n open var onfinish: ((Event) -> dynamic)?\n open var onstart: ((Event) -> dynamic)?\n fun
 start()\n fun stop()\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n
 val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
 ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
 PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
 DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
 DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
 DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS:

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Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLFrameSetElement](https://developer.mozilla.org/en/docs/Web/API/HTMLFrameSetElement) to Kotlin\n
*\n\npublic external abstract class HTMLFrameSetElement : HTMLMLElement, WindowEventHandlers {\n open var
cols: String\n open var rows: String\n\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS:
Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external abstract class
HTMLFrameElement : HTMLMLElement {\n open var name: String\n open var scrolling: String\n open var src:
String\n open var frameBorder: String\n open var longDesc: String\n open var noResize: Boolean\n open val
contentDocument: Document?\n open val contentWindow: Window?\n open var marginHeight: String\n open
var marginWidth: String\n\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE:
Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external abstract class
HTMLDirectoryElement : HTMLMLElement {\n open var compact: Boolean\n\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED:
Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val
DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLFontElement](https://developer.mozilla.org/en/docs/Web/API/HTMLFontElement) to Kotlin\n
*\n\npublic external abstract class HTMLFontElement : HTMLMLElement {\n open var color: String\n open var face: String\n
open var size: String\n\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n
 val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val
DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n

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val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY:
Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external
interface External {\n fun AddSearchProvider()\n fun IsSearchProviderInstalled()\n}\n\npublic external interface
EventInit {\n var bubbles: Boolean? /* = false */\n get() = definedExternally\n set(value) =
definedExternally\n var cancelable: Boolean? /* = false */\n get() = definedExternally\n set(value) =
definedExternally\n var composed: Boolean? /* = false */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun EventInit(bubbles: Boolean? = false,
cancelable: Boolean? = false, composed: Boolean? = false): EventInit {\n val o = js(\"({})\")\n o[\"bubbles\"] =
bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n}\n\n/**\n * Exposes the
JavaScript [CustomEvent](https://developer.mozilla.org/en/docs/Web/API/CustomEvent) to Kotlin\n */\n\npublic
external open class CustomEvent(type: String, eventInitDict: CustomEventInit = definedExternally) : Event {\n
open val detail: Any?\n fun initCustomEvent(type: String, bubbles: Boolean, cancelable: Boolean, detail:
Any?)\n}\n\ncompanion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val
AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface CustomEventInit :
EventInit {\n var detail: Any? /* = null */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic
inline fun CustomEventInit(detail: Any? = null, bubbles: Boolean? = false, cancelable: Boolean? = false, composed:
Boolean? = false): CustomEventInit {\n val o = js(\"({})\")\n o[\"detail\"] = detail\n o[\"bubbles\"] = bubbles\n
o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n}\n\npublic external interface
EventListenerOptions {\n var capture: Boolean? /* = false */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun EventListenerOptions(capture:
Boolean? = false): EventListenerOptions {\n val o = js(\"({})\")\n o[\"capture\"] = capture\n return
o\n}\n\npublic external interface AddEventListenerOptions : EventListenerOptions {\n var passive: Boolean? /* =
false */\n get() = definedExternally\n set(value) = definedExternally\n var once: Boolean? /* = false */\n
get() = definedExternally\n
 set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun AddEventListenerOptions(passive:
Boolean? = false, once: Boolean? = false, capture: Boolean? = false): AddEventListenerOptions {\n val o =
js(\"({})\")\n o[\"passive\"] = passive\n o[\"once\"] = once\n o[\"capture\"] = capture\n return o\n}\n\npublic
external interface NonElementParentNode {\n fun getElementById(elementId: String): Element?\n}\n\n/**\n *
Exposes the JavaScript
[DocumentOrShadowRoot](https://developer.mozilla.org/en/docs/Web/API/DocumentOrShadowRoot) to Kotlin\n */\n\npublic
external interface DocumentOrShadowRoot {\n val fullscreenElement: Element?\n get() =
definedExternally\n}\n\n/**\n * Exposes the JavaScript
[ParentNode](https://developer.mozilla.org/en/docs/Web/API/ParentNode) to Kotlin\n */\n\npublic external interface
ParentNode {\n val children: HTMLCollection\n val firstElementChild:
Element?\n get() = definedExternally\n val lastElementChild: Element?\n get() = definedExternally\n
val childElementCount: Int\n fun prepend(vararg nodes: dynamic)\n fun append(vararg nodes: dynamic)\n fun
querySelector(selectors: String): Element?\n fun querySelectorAll(selectors: String): NodeList\n}\n\n/**\n *
Exposes the JavaScript
[NonDocumentTypeChildNode](https://developer.mozilla.org/en/docs/Web/API/NonDocumentTypeChildNode) to
Kotlin\n */\n\npublic external interface NonDocumentTypeChildNode {\n val previousElementSibling: Element?\n
get() = definedExternally\n val nextElementSibling: Element?\n get() = definedExternally\n}\n\n/**\n *
Exposes the JavaScript [ChildNode](https://developer.mozilla.org/en/docs/Web/API/ChildNode) to Kotlin\n */\n\npublic
external interface ChildNode {\n fun before(vararg nodes: dynamic)\n fun after(vararg nodes:

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dynamic)\n fun replaceWith(vararg nodes: dynamic)\n fun remove()\n}\n\n/**\n * Exposes the JavaScript [Slotable](https://developer.mozilla.org/en/docs/Web/API/Slotable) to Kotlin\n */\npublic\nexternal interface Slotable {\n val assignedSlot: HTMLSlotElement?\n get() = definedExternally\n}\n\n/**\n * Exposes the JavaScript [NodeList](https://developer.mozilla.org/en/docs/Web/API/NodeList) to Kotlin\n */\npublic\nexternal abstract class NodeList : ItemArrayLike<Node> {\n override fun item(index: Int):\nNode?\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun NodeList.get(index: Int):
Node? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript
[HTMLCollection](https://developer.mozilla.org/en/docs/Web/API/HTMLCollection) to Kotlin\n */\npublic\nexternal abstract class HTMLCollection : ItemArrayLike<Element>, UnionElementOrHTMLCollection {\n
override fun item(index: Int): Element?\n fun namedItem(name: String):
Element?\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic
inline operator fun HTMLCollection.get(index: Int): Element? =
asDynamic()[index]\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun HTMLCollection.get(name:
String): Element? = asDynamic()[name]\n\n/**\n * Exposes the JavaScript
[MutationObserver](https://developer.mozilla.org/en/docs/Web/API/MutationObserver) to Kotlin\n */\npublic\nexternal open class MutationObserver(callback: (Array<MutationRecord>, MutationObserver) -> Unit) {\n fun
observe(target: Node, options: MutationObserverInit = definedExternally)\n fun disconnect()\n fun
takeRecords(): Array<MutationRecord>\n}\n\n/**\n * Exposes the JavaScript
[MutationObserverInit](https://developer.mozilla.org/en/docs/Web/API/MutationObserverInit) to Kotlin\n */\npublic\nexternal interface MutationObserverInit {\n var childList: Boolean? /* = false */\n get() =
definedExternally\n set(value) = definedExternally\n
var attributes: Boolean?\n get() = definedExternally\n set(value) = definedExternally\n var
characterData: Boolean?\n get() = definedExternally\n set(value) = definedExternally\n var subtree:
Boolean? /* = false */\n get() = definedExternally\n set(value) = definedExternally\n var
attributeOldValue: Boolean?\n get() = definedExternally\n set(value) = definedExternally\n var
characterDataOldValue: Boolean?\n get() = definedExternally\n set(value) = definedExternally\n var
attributeFilter: Array<String>?\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun MutationObserverInit(childList:
Boolean? = false, attributes: Boolean? = undefined, characterData: Boolean? = undefined, subtree: Boolean? = false,
attributeOldValue: Boolean? = undefined, characterDataOldValue:
Boolean? = undefined, attributeFilter: Array<String>? = undefined): MutationObserverInit {\n val o =
js(\"({})\")\n o[\"childList\"] = childList\n o[\"attributes\"] = attributes\n o[\"characterData\"] =
characterData\n o[\"subtree\"] = subtree\n o[\"attributeOldValue\"] = attributeOldValue\n o[\"characterDataOldValue\"] = characterDataOldValue\n o[\"attributeFilter\"] = attributeFilter\n return
o\n}\n\n/**\n * Exposes the JavaScript
[MutationRecord](https://developer.mozilla.org/en/docs/Web/API/MutationRecord) to Kotlin\n */\npublic\nexternal
abstract class MutationRecord {\n open val type: String\n open val target: Node\n open val addedNodes:
NodeList\n open val removedNodes: NodeList\n open val previousSibling: Node?\n open val nextSibling:
Node?\n open val attributeName: String?\n open val attributeNamespace: String?\n open val oldValue:
String?\n}\n\n/**\n * Exposes the JavaScript [Node](https://developer.mozilla.org/en/docs/Web/API/Node)
to Kotlin\n */\npublic\nexternal abstract class Node : EventTarget {\n open val nodeType: Short\n open val
nodeName: String\n open val baseURI: String\n open val isConnected: Boolean\n open val ownerDocument:
Document?\n open val parentNode: Node?\n open val parentElement: Element?\n open val childNodes:
NodeList\n open val firstChild: Node?\n open val lastChild: Node?\n open val previousSibling: Node?\n
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open val nextSibling: Node?
open var nodeValue: String
open var textContent: String
fun
getRootNode(options: GetRootNodeOptions = definedExternally): Node
fun hasChildNodes(): Boolean
fun
normalize()
fun cloneNode(deep: Boolean = definedExternally): Node
fun isEqualNode(otherNode: Node?): Boolean
fun isSameNode(otherNode: Node?): Boolean
fun compareDocumentPosition(other: Node): Short
fun contains(other: Node?): Boolean
fun lookupPrefix(namespace: String?): String
fun
lookupNamespaceURI(prefix: String?): String
fun isDefaultNamespace(namespace: String?): Boolean
fun
insertBefore(node: Node, child: Node?): Node
fun appendChild(node: Node): Node
fun replaceChild(node: Node, child: Node): Node
fun removeChild(child: Node): Node
companion object {
val
ELEMENT_NODE: Short
val ATTRIBUTE_NODE: Short
val TEXT_NODE: Short
val
CDATA_SECTION_NODE: Short
val ENTITY_REFERENCE_NODE: Short
val ENTITY_NODE: Short
val PROCESSING_INSTRUCTION_NODE: Short
val COMMENT_NODE: Short
val
DOCUMENT_NODE: Short
val DOCUMENT_TYPE_NODE: Short
val
DOCUMENT_FRAGMENT_NODE: Short
val NOTATION_NODE: Short
val
DOCUMENT_POSITION_DISCONNECTED: Short
val DOCUMENT_POSITION_PRECEDING: Short
val DOCUMENT_POSITION_FOLLOWING: Short
val DOCUMENT_POSITION_CONTAINS: Short
val DOCUMENT_POSITION_CONTAINED_BY: Short
val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short
}
public external interface
GetRootNodeOptions {
var composed: Boolean? = false
get() = definedExternally
set(value) = definedExternally
}
@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline fun GetRootNodeOptions(composed: Boolean? = false): GetRootNodeOptions {
val o = js("{}")
o["composed"] = composed
return o
}
/**
 * Exposes the JavaScript [Document](https://developer.mozilla.org/en/docs/Web/API/Document) to Kotlin
 */
public external open class Document : Node, GlobalEventHandlers, DocumentAndElementEventHandlers, NonElementParentNode, DocumentOrShadowRoot, ParentNode, GeometryUtils {
open val implementation: DOMImplementation
open val URL: String
open val documentURI: String
open val origin: String
open val compatMode: String
open val characterSet: String
open val charset: String
open val inputEncoding: String
open val contentType: String
open val doctype: DocumentType?
open val documentElement: Element?
open val location: Location?
var domain: String
open val referrer: String
var cookie: String
open val lastModified: String
open val readyState: DocumentReadyState
var title: String
var dir: String
var body: HTMLElement?
open val head: HTMLHeadElement?
open val images: HTMLCollection
open val embeds: HTMLCollection
open val plugins: HTMLCollection
open val links: HTMLCollection
open val forms: HTMLCollection
open val scripts: HTMLCollection
open val currentScript: HTMLScriptElement?
open val defaultView: Window?
open val activeElement: Element?
var designMode: String
var onreadystatechange: ((Event) -> dynamic)?
var fgColor: String
var linkColor: String
var vlinkColor: String
var alinkColor: String
var bgColor: String
open val anchors: HTMLCollection
open val applets: HTMLCollection
open val all: HTMLAllCollection
open val scrollingElement: Element?
open val styleSheets: StyleSheetList
open val rootElement: SVGSVGElement?
open val fullscreenEnabled: Boolean
open val fullscreen: Boolean
var onfullscreenchange: ((Event) -> dynamic)?
var onfullscreenerror: ((Event) -> dynamic)?
override var onabort: ((Event) -> dynamic)?
override var onblur: ((FocusEvent) -> dynamic)?
override var oncancel: ((Event) -> dynamic)?
override var oncanplay: ((Event) -> dynamic)?
override var oncanplaythrough: ((Event) -> dynamic)?
override var onchange: ((Event) -> dynamic)?
override var onclick: ((MouseEvent) -> dynamic)?
override var onclose: ((Event) -> dynamic)?
override var oncontextmenu: ((MouseEvent) -> dynamic)?
override var oncuechange: ((Event) -> dynamic)?
override var ondblclick: ((MouseEvent) -> dynamic)?
override var ondrag: ((DragEvent) -> dynamic)?
override var ondragend: ((DragEvent) -> dynamic)?
override var ondragenter: ((DragEvent) -> dynamic)?
override var ondragexit: ((DragEvent) -> dynamic)?
override var ondragleave: ((DragEvent) -> dynamic)?
override var ondragover: ((DragEvent) ->

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dynamic)?\n override var ondragstart: ((DragEvent) -> dynamic)?\n override var ondrop: ((DragEvent) ->
dynamic)?\n override var ondurationchange: ((Event) -> dynamic)?\n override var onemptied: ((Event) ->
dynamic)?\n override var onended: ((Event) -> dynamic)?\n override var onerror: ((dynamic, String, Int, Int,
Any?) -> dynamic)?\n override var onfocus: ((FocusEvent) -> dynamic)?\n override var oninput: ((InputEvent) -
> dynamic)?\n override var oninvalid: ((Event) -> dynamic)?\n override var onkeydown: ((KeyboardEvent) ->
dynamic)?\n override var onkeypress: ((KeyboardEvent) -> dynamic)?\n override var onkeyup:
((KeyboardEvent) -> dynamic)?\n override var onload: ((Event) -> dynamic)?\n override var onloadeddata:
((Event) -> dynamic)?\n override var onloadedmetadata: ((Event) -> dynamic)?\n override var onloadend:
((Event) -> dynamic)?\n override var onloadstart: ((ProgressEvent) -> dynamic)?\n override var onmousedown:
((MouseEvent) -> dynamic)?\n override var onmouseenter: ((MouseEvent) -> dynamic)?\n override var
onmouseleave: ((MouseEvent) -> dynamic)?\n override var onmousemove: ((MouseEvent) -> dynamic)?\n
override var onmouseout: ((MouseEvent) -> dynamic)?\n override var onmouseover: ((MouseEvent) ->
dynamic)?\n override var onmouseup: ((MouseEvent) -> dynamic)?\n override var onwheel: ((WheelEvent) ->
dynamic)?\n override var onpause: ((Event) -> dynamic)?\n override var onplay: ((Event) -> dynamic)?\n
override var onplaying: ((Event) -> dynamic)?\n override var onprogress: ((ProgressEvent) -> dynamic)?\n
override var onratechange:
((Event) -> dynamic)?\n override var onreset: ((Event) -> dynamic)?\n override var onresize: ((Event) ->
dynamic)?\n override var onscroll: ((Event) -> dynamic)?\n override var onseeked: ((Event) -> dynamic)?\n
override var onseeking: ((Event) -> dynamic)?\n override var onselect: ((Event) -> dynamic)?\n override var
onshow: ((Event) -> dynamic)?\n override var onstalled: ((Event) -> dynamic)?\n override var onsubmit:
((Event) -> dynamic)?\n override var onsuspend: ((Event) -> dynamic)?\n override var ontimeupdate: ((Event) -
> dynamic)?\n override var ontoggle: ((Event) -> dynamic)?\n override var onvolumechange: ((Event) ->
dynamic)?\n override var onwaiting: ((Event) -> dynamic)?\n override var ongotpointercapture: ((PointerEvent)
-> dynamic)?\n override var onlostpointercapture: ((PointerEvent) -> dynamic)?\n override var onpointerdown:
((PointerEvent) -> dynamic)?\n override var onpointermove: ((PointerEvent) -> dynamic)?\n
 override var onpointerup: ((PointerEvent) -> dynamic)?\n override var onpointercancel: ((PointerEvent) ->
dynamic)?\n override var onpointerover: ((PointerEvent) -> dynamic)?\n override var onpointerout:
((PointerEvent) -> dynamic)?\n override var onpointerenter: ((PointerEvent) -> dynamic)?\n override var
onpointerleave: ((PointerEvent) -> dynamic)?\n override var oncopy: ((ClipboardEvent) -> dynamic)?\n override
var oncut: ((ClipboardEvent) -> dynamic)?\n override var onpaste: ((ClipboardEvent) -> dynamic)?\n override
val fullscreenElement: Element?\n override val children: HTMLCollection\n override val firstElementChild:
Element?\n override val lastElementChild: Element?\n override val childElementCount: Int\n fun
getElementsByTagName(qualifiedName: String): HTMLCollection\n fun
getElementsByTagNameNS(namespace: String?, localName: String): HTMLCollection\n fun
getElementsByClassName(classNames: String): HTMLCollection\n fun createElement(localName:
String, options: ElementCreationOptions = definedExternally): Element\n fun createElementNS(namespace:
String?, qualifiedName: String, options: ElementCreationOptions = definedExternally): Element\n fun
createDocumentFragment(): DocumentFragment\n fun createTextNode(data: String): Text\n fun
createCDATASection(data: String): CDATASection\n fun createComment(data: String): Comment\n fun
createProcessingInstruction(target: String, data: String): ProcessingInstruction\n fun importNode(node: Node,
deep: Boolean = definedExternally): Node\n fun adoptNode(node: Node): Node\n fun
createAttribute(localName: String): Attr\n fun createAttributeNS(namespace: String?, qualifiedName: String):
Attr\n fun createEvent(`interface`: String): Event\n fun createRange(): Range\n fun createNodeIterator(root:
Node, whatToShow: Int = definedExternally, filter: NodeFilter? = definedExternally): NodeIterator\n fun
createNodeIterator(root: Node, whatToShow:
Int = definedExternally, filter: ((Node) -> Short)? = definedExternally): NodeIterator\n fun
createTreeWalker(root: Node, whatToShow: Int = definedExternally, filter: NodeFilter? = definedExternally):
TreeWalker\n fun createTreeWalker(root: Node, whatToShow: Int = definedExternally, filter: ((Node) -> Short)?

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= definedExternally): TreeWalker\n fun getElementsByName(elementName: String): NodeList\n fun open(type:
String = definedExternally, replace: String = definedExternally): Document\n fun open(url: String, name: String,
features: String): Window\n fun close()\n fun write(vararg text: String)\n fun writeln(vararg text: String)\n
fun hasFocus(): Boolean\n fun execCommand(commandId: String, showUI: Boolean = definedExternally, value:
String = definedExternally): Boolean\n fun queryCommandEnabled(commandId: String): Boolean\n fun
queryCommandIndeterm(commandId: String): Boolean\n fun queryCommandState(commandId: String):
Boolean\n fun queryCommandSupported(commandId:
String): Boolean\n fun queryCommandValue(commandId: String): String\n fun clear()\n fun
captureEvents()\n fun releaseEvents()\n fun elementFromPoint(x: Double, y: Double): Element?\n fun
elementsFromPoint(x: Double, y: Double): Array<Element>\n fun caretPositionFromPoint(x: Double, y: Double):
CaretPosition?\n fun createTouch(view: Window, target: EventTarget, identifier: Int, pageX: Int, pageY: Int,
screenX: Int, screenY: Int): Touch\n fun createTouchList(vararg touches: Touch): TouchList\n fun
exitFullscreen(): Promise<Unit>\n override fun getElementById(elementId: String): Element?\n override fun
prepend(vararg nodes: dynamic)\n override fun append(vararg nodes: dynamic)\n override fun
querySelector(selectors: String): Element?\n override fun querySelectorAll(selectors: String): NodeList\n
override fun getBoxQuads(options: BoxQuadOptions /* = definedExternally */): Array<DOMQuad>\n override
fun convertQuadFromNode(quad:
dynamic, from: dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n override
fun convertRectFromNode(rect: DOMRectReadOnly, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMQuad\n override fun convertPointFromNode(point: DOMPointInit, from: dynamic,
options: ConvertCoordinateOptions /* = definedExternally */): DOMPoint\n\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING:
Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val
DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n
}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun Document.get(name: String):
dynamic = asDynamic()[name]\n\n/**\n * Exposes the JavaScript
[XMLDocument](https://developer.mozilla.org/en/docs/Web/API/XMLDocument) to Kotlin\n *\npublic external
open class XMLDocument : Document {\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n
val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING:
Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val
DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n
val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external interface
ElementCreationOptions {\n var `is`: String?\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun ElementCreationOptions(`is`: String?

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= undefined): ElementCreationOptions {\n val o = js("{}")\n o["is"] = `is`\n return o}\n\n/**\n * Exposes the JavaScript
[DOMImplementation](https://developer.mozilla.org/en/docs/Web/API/DOMImplementation) to Kotlin\n
*\npublic external abstract class DOMImplementation {\n fun createDocumentType(qualifiedName: String,
publicId: String, systemId: String):
DocumentType\n fun createDocument(namespace: String?, qualifiedName: String, doctype: DocumentType? =
definedExternally): XMLDocument\n fun createHTMLDocument(title: String = definedExternally): Document\n
fun hasFeature(): Boolean\n}\n\n/**\n * Exposes the JavaScript
[DocumentType](https://developer.mozilla.org/en/docs/Web/API/DocumentType) to Kotlin\n
*\npublic external
abstract class DocumentType : Node, ChildNode {\n open val name: String\n open val publicId: String\n open
val systemId: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE:
Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[DocumentFragment](https://developer.mozilla.org/en/docs/Web/API/DocumentFragment) to Kotlin\n
*\npublic
external open class DocumentFragment : Node, NonElementParentNode, ParentNode {\n override val children:
HTMLCollection\n override val firstElementChild: Element?\n override val lastElementChild: Element?\n
override val childElementCount: Int\n override fun getElementById(elementId: String): Element?\n override fun
prepend(vararg nodes: dynamic)\n override fun append(vararg nodes: dynamic)\n override fun
querySelector(selectors: String): Element?\n override fun querySelectorAll(selectors: String): NodeList\n\n
companion
object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE:
Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val
ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE:
Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[ShadowRoot](https://developer.mozilla.org/en/docs/Web/API/ShadowRoot) to Kotlin\n
*\npublic external open
class ShadowRoot : DocumentFragment, DocumentOrShadowRoot {\n open val mode: ShadowRootMode\n open val
host: Element\n override val fullscreenElement: Element?\n\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript

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[Element](https://developer.mozilla.org/en/docs/Web/API/Element) to Kotlin\n *\npublic external abstract
class Element : Node, ParentNode, NonDocumentTypeChildNode, ChildNode, Slotable, GeometryUtils,
UnionElementOrHTMLCollection, UnionElementOrRadioNodeList, UnionElementOrMouseEvent,
UnionElementOrProcessingInstruction {\n open val namespaceURI: String?\n open val prefix: String?\n open
val localName: String\n open val tagName: String\n open var id: String\n open var className: String\n open
val classList: DOMTokenList\n open var slot: String\n open val attributes: NamedNodeMap\n open val
shadowRoot: ShadowRoot?\n open var scrollTop: Double\n open var scrollLeft: Double\n open val
scrollWidth: Int\n open val scrollHeight: Int\n open val clientTop: Int\n open val clientLeft: Int\n open val
clientWidth: Int\n open val clientHeight: Int\n open var innerHTML: String\n open var outerHTML: String\n
fun hasAttributes(): Boolean\n fun getAttributeNames(): Array<String>\n fun getAttribute(qualifiedName:
String): String?\n
fun getAttributeNS(namespace: String?, localName: String): String?\n fun setAttribute(qualifiedName: String,
value: String)\n fun setAttributeNS(namespace: String?, qualifiedName: String, value: String)\n fun
removeAttribute(qualifiedName: String)\n fun removeAttributeNS(namespace: String?, localName: String)\n
fun hasAttribute(qualifiedName: String): Boolean\n fun hasAttributeNS(namespace: String?, localName: String):
Boolean\n fun getAttributeNode(qualifiedName: String): Attr?\n fun getAttributeNodeNS(namespace: String?,
localName: String): Attr?\n fun setAttributeNode(attr: Attr): Attr?\n fun setAttributeNodeNS(attr: Attr): Attr?\n
fun removeAttributeNode(attr: Attr): Attr\n fun attachShadow(init: ShadowRootInit): ShadowRoot\n fun
closest(selectors: String): Element?\n fun matches(selectors: String): Boolean\n fun
webkitMatchesSelector(selectors: String): Boolean\n fun getElementsByTagName(qualifiedName: String):
HTMLCollection\n
fun getElementsByTagNameNS(namespace: String?, localName: String): HTMLCollection\n fun
getElementsByTagName(className: String): HTMLCollection\n fun insertAdjacentElement(where: String,
element: Element): Element?\n fun insertAdjacentText(where: String, data: String)\n fun getClientRects():
Array<DOMRect>\n fun getBoundingClientRect(): DOMRect\n fun scrollIntoView()\n fun
scrollIntoView(arg: dynamic)\n fun scroll(options: ScrollToOptions = definedExternally)\n fun scroll(x: Double,
y: Double)\n fun scrollTo(options: ScrollToOptions = definedExternally)\n fun scrollTo(x: Double, y: Double)\n
fun scrollBy(options: ScrollToOptions = definedExternally)\n fun scrollBy(x: Double, y: Double)\n fun
insertAdjacentHTML(position: String, text: String)\n fun setPointerCapture(pointerId: Int)\n fun
releasePointerCapture(pointerId: Int)\n fun hasPointerCapture(pointerId: Int): Boolean\n fun requestFullscreen():
Promise<Unit>\n\n companion
object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE:
Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val
ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE:
Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external interface
ShadowRootInit {\n var mode: ShadowRootMode?\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun ShadowRootInit(mode:
ShadowRootMode?): ShadowRootInit
{\n val o = js(\"({})\")\n o[\"mode\"] = mode\n return o}\n}\n\n**\n * Exposes the JavaScript
[NamedNodeMap](https://developer.mozilla.org/en/docs/Web/API/NamedNodeMap) to Kotlin\n *\npublic external
abstract class NamedNodeMap : ItemArrayLike<Attr> {\n fun getNamedItemNS(namespace: String?, localName:
String): Attr?\n fun setNamedItem(attr: Attr): Attr?\n fun setNamedItemNS(attr: Attr): Attr?\n fun
removeNamedItem(qualifiedName: String): Attr\n fun removeNamedItemNS(namespace: String?, localName:

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String): Attr\n override fun item(index: Int): Attr?\n fun getNamedItem(qualifiedName: String):
Attr?\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun NamedNodeMap.get(index:
Int): Attr? = asDynamic()[index]\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun
NamedNodeMap.get(qualifiedName: String): Attr? = asDynamic()[qualifiedName]\n\n/**\n * Exposes the JavaScript [Attr](https://developer.mozilla.org/en/docs/Web/API/Attr) to Kotlin\n *\npublic external
abstract class Attr : Node {\n open val namespaceURI: String?\n open val prefix: String?\n open val
localName: String\n open val name: String\n open var value: String\n open val ownerElement: Element?\n
open val specified: Boolean\n\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING:
Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val
DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[CharacterData](https://developer.mozilla.org/en/docs/Web/API/CharacterData) to Kotlin\n *\npublic external
abstract class CharacterData : Node, NonDocumentTypeChildNode, ChildNode {\n open var data: String\n open
val length: Int\n fun substringData(offset: Int, count: Int): String\n fun appendData(data: String)\n fun
insertData(offset: Int, data: String)\n fun deleteData(offset: Int, count: Int)\n fun replaceData(offset: Int, count:
Int, data: String)\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE:
Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE:
Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[Text](https://developer.mozilla.org/en/docs/Web/API/Text) to Kotlin\n *\npublic external open class Text(data:
String = definedExternally) : CharacterData, Slotable, GeometryUtils {\n open val wholeText: String\n override
val assignedSlot: HTMLSlotElement?\n override val previousElementSibling: Element?\n override val
nextElementSibling: Element?\n fun splitText(offset: Int): Text\n override fun getBoxQuads(options:
BoxQuadOptions /* = definedExternally */): Array<DOMQuad>\n
 override fun convertQuadFromNode(quad: dynamic, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMQuad\n override fun convertRectFromNode(rect: DOMRectReadOnly, from:
dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n override fun
convertPointFromNode(point: DOMPointInit, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMPoint\n override fun before(vararg nodes: dynamic)\n override fun after(vararg
nodes: dynamic)\n override fun replaceWith(vararg nodes: dynamic)\n override fun remove()\n\n companion
object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE:
Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val
ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE:

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Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE:
Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[CDATASection](https://developer.mozilla.org/en/docs/Web/API/CDATASection) to Kotlin\n *\npublic external
open class CDATASection : Text {\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE:
Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n
val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n
 val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY:
Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes
the JavaScript [ProcessingInstruction](https://developer.mozilla.org/en/docs/Web/API/ProcessingInstruction) to
Kotlin\n *\npublic external abstract class ProcessingInstruction : CharacterData, LinkStyle,
UnionElementOrProcessingInstruction {\n open val target: String\n\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n
 val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val
NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val
DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n
val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY:
Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes
the JavaScript [Comment](https://developer.mozilla.org/en/docs/Web/API/Comment) to Kotlin\n *\npublic external
open class Comment(data: String = definedExternally) : CharacterData {\n override val previousElementSibling:
Element?\n override val nextElementSibling: Element?\n override fun before(vararg nodes: dynamic)\n
 override fun after(vararg nodes: dynamic)\n override fun replaceWith(vararg nodes: dynamic)\n override fun
remove()\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n
 val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[Range](https://developer.mozilla.org/en/docs/Web/API/Range) to Kotlin\n *\npublic external open class Range {\n
 open val startContainer: Node\n open val startOffset: Int\n open val endContainer: Node\n open val
endOffset: Int\n open val collapsed: Boolean\n
 open val commonAncestorContainer: Node\n fun setStart(node: Node, offset: Int)\n fun setEnd(node: Node,
offset: Int)\n fun setStartBefore(node: Node)\n fun setStartAfter(node: Node)\n fun setEndBefore(node:

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Node)\n fun setEndAfter(node: Node)\n fun collapse(toStart: Boolean = definedExternally)\n fun
selectNode(node: Node)\n fun selectNodeContents(node: Node)\n fun compareBoundaryPoints(how: Short,
sourceRange: Range): Short\n fun deleteContents()\n fun extractContents(): DocumentFragment\n fun
cloneContents(): DocumentFragment\n fun insertNode(node: Node)\n fun surroundContents(newParent: Node)\n
fun cloneRange(): Range\n fun detach()\n fun isPointInRange(node: Node, offset: Int): Boolean\n fun
comparePoint(node: Node, offset: Int): Short\n fun intersectsNode(node: Node): Boolean\n fun getClientRects():
Array<DOMRect>\n fun getBoundingClientRect(): DOMRect\n fun createContextualFragment(fragment:
String): DocumentFragment\n\n
companion object {\n val START_TO_START: Short\n val START_TO_END: Short\n val
END_TO_END: Short\n val END_TO_START: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[NodeIterator](https://developer.mozilla.org/en/docs/Web/API/NodeIterator) to Kotlin\n *\n\npublic external abstract
class NodeIterator {\n open val root: Node\n open val referenceNode: Node\n open val
pointerBeforeReferenceNode: Boolean\n open val whatToShow: Int\n open val filter: NodeFilter?\n fun
nextNode(): Node?\n fun previousNode(): Node?\n fun detach()\n }\n}\n\n/**\n * Exposes the JavaScript
[TreeWalker](https://developer.mozilla.org/en/docs/Web/API/TreeWalker) to Kotlin\n *\n\npublic external abstract
class TreeWalker {\n open val root: Node\n open val whatToShow: Int\n open val filter: NodeFilter?\n open
var currentNode: Node\n fun parentNode(): Node?\n fun firstChild(): Node?\n fun lastChild(): Node?\n fun
previousSibling():
Node?\n fun nextSibling(): Node?\n fun previousNode(): Node?\n fun nextNode(): Node?\n }\n}\n\n/**\n *
Exposes the JavaScript [NodeFilter](https://developer.mozilla.org/en/docs/Web/API/NodeFilter) to Kotlin\n
*\n\n@Suppress(\\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external interface NodeFilter {\n
fun acceptNode(node: Node): Short\n\n companion object {\n val FILTER_ACCEPT: Short\n val
FILTER_REJECT: Short\n val FILTER_SKIP: Short\n val SHOW_ALL: Int\n val
SHOW_ELEMENT: Int\n val SHOW_ATTRIBUTE: Int\n val SHOW_TEXT: Int\n val
SHOW_CDATA_SECTION: Int\n val SHOW_ENTITY_REFERENCE: Int\n val SHOW_ENTITY: Int\n
val SHOW_PROCESSING_INSTRUCTION: Int\n val SHOW_COMMENT: Int\n val
SHOW_DOCUMENT: Int\n val SHOW_DOCUMENT_TYPE: Int\n val
SHOW_DOCUMENT_FRAGMENT: Int\n val SHOW_NOTATION: Int\n }\n}\n\n/**\n * Exposes the
JavaScript [DOMTokenList](https://developer.mozilla.org/en/docs/Web/API/DOMTokenList)
to Kotlin\n *\n\npublic external abstract class DOMTokenList : ItemArrayLike<String> {\n open var value:
String\n fun contains(token: String): Boolean\n fun add(vararg tokens: String)\n fun remove(vararg tokens:
String)\n fun toggle(token: String, force: Boolean = definedExternally): Boolean\n fun replace(token: String,
newToken: String)\n fun supports(token: String): Boolean\n override fun item(index: Int):
String?\n }\n}\n\n@Suppress(\\"INVISIBLE_REFERENCE\",
\\\"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun DOMTokenList.get(index:
Int): String? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript
[DOMPointReadOnly](https://developer.mozilla.org/en/docs/Web/API/DOMPointReadOnly) to Kotlin\n *\n\npublic
external open class DOMPointReadOnly(x: Double, y: Double, z: Double, w: Double) {\n open val x: Double\n
open val y: Double\n open val z: Double\n open val w: Double\n fun matrixTransform(matrix:
DOMMatrixReadOnly): DOMPoint\n }\n}\n\n/**\n * Exposes the JavaScript
[DOMPoint](https://developer.mozilla.org/en/docs/Web/API/DOMPoint) to Kotlin\n *\n\npublic external open class
DOMPoint : DOMPointReadOnly {\n constructor(point: DOMPointInit)\n constructor(x: Double =
definedExternally, y: Double = definedExternally, z: Double = definedExternally, w: Double = definedExternally)\n
override var x: Double\n override var y: Double\n override var z: Double\n override var w:
Double\n }\n}\n\n/**\n * Exposes the JavaScript
[DOMPointInit](https://developer.mozilla.org/en/docs/Web/API/DOMPointInit) to Kotlin\n *\n\npublic external
interface DOMPointInit {\n var x: Double? /* = 0.0 */\n get() = definedExternally\n set(value) =
definedExternally\n var y: Double? /* = 0.0 */\n get() = definedExternally\n set(value) =

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definedExternally\n var z: Double? /* = 0.0 */\n get() = definedExternally\n set(value) =
definedExternally\n
 var w: Double? /* = 1.0 */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun DOMPointInit(x: Double? = 0.0, y:
Double? = 0.0, z: Double? = 0.0, w: Double? = 1.0): DOMPointInit {\n val o = js(\"({})\")\n o[\"x\"] = x\n o[\"y\"] = y\n o[\"z\"] = z\n o[\"w\"] = w\n return o\n}\n\n/**\n * Exposes the JavaScript
[DOMRect](https://developer.mozilla.org/en/docs/Web/API/DOMRect) to Kotlin\n */\npublic external open class
DOMRect(x: Double = definedExternally, y: Double = definedExternally, width: Double = definedExternally,
height: Double = definedExternally) : DOMRectReadOnly {\n override var x: Double\n override var y: Double\n
 override var width: Double\n override var height: Double\n}\n\n/**\n * Exposes the JavaScript
[DOMRectReadOnly](https://developer.mozilla.org/en/docs/Web/API/DOMRectReadOnly) to Kotlin\n */\npublic
external
open class DOMRectReadOnly(x: Double, y: Double, width: Double, height: Double) {\n open val x: Double\n
open val y: Double\n open val width: Double\n open val height: Double\n open val top: Double\n open val
right: Double\n open val bottom: Double\n open val left: Double\n}\n\npublic external interface DOMRectInit
{\n var x: Double? /* = 0.0 */\n get() = definedExternally\n set(value) = definedExternally\n var y:
Double? /* = 0.0 */\n get() = definedExternally\n set(value) = definedExternally\n var width: Double? /*
= 0.0 */\n get() = definedExternally\n set(value) = definedExternally\n var height: Double? /* = 0.0 */\n
 get() = definedExternally\n set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun DOMRectInit(x: Double? = 0.0, y:
Double? = 0.0, width: Double? = 0.0, height: Double? = 0.0): DOMRectInit
{\n val o = js(\"({})\")\n o[\"x\"] = x\n o[\"y\"] = y\n o[\"width\"] = width\n o[\"height\"] = height\n
return o\n}\n\npublic external interface DOMRectList : ItemArrayLike<DOMRect> {\n override fun item(index:
Int): DOMRect?\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun DOMRectList.get(index: Int):
DOMRect? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript
[DOMQuad](https://developer.mozilla.org/en/docs/Web/API/DOMQuad) to Kotlin\n */\npublic external open class
DOMQuad {\n constructor(p1: DOMPointInit = definedExternally, p2: DOMPointInit = definedExternally, p3:
DOMPointInit = definedExternally, p4: DOMPointInit = definedExternally)\n constructor(rect: DOMRectInit)\n
open val p1: DOMPoint\n open val p2: DOMPoint\n open val p3: DOMPoint\n open val p4: DOMPoint\n
open val bounds: DOMRectReadOnly\n}\n\n/**\n * Exposes the JavaScript
[DOMMatrixReadOnly](https://developer.mozilla.org/en/docs/Web/API/DOMMatrixReadOnly)
to Kotlin\n */\npublic external open class DOMMatrixReadOnly(numberSequence: Array<Double>) {\n open val
a: Double\n open val b: Double\n open val c: Double\n open val d: Double\n open val e: Double\n open val
f: Double\n open val m11: Double\n open val m12: Double\n open val m13: Double\n open val m14:
Double\n open val m21: Double\n open val m22: Double\n open val m23: Double\n open val m24: Double\n
open val m31: Double\n open val m32: Double\n open val m33: Double\n open val m34: Double\n open val
m41: Double\n open val m42: Double\n open val m43: Double\n open val m44: Double\n open val is2D:
Boolean\n open val isIdentity: Boolean\n fun translate(tx: Double, ty: Double, tz: Double = definedExternally):
DOMMatrix\n fun scale(scale: Double, originX: Double = definedExternally, originY: Double =
definedExternally): DOMMatrix\n fun scale3d(scale: Double,
originX: Double = definedExternally, originY: Double = definedExternally, originZ: Double = definedExternally):
DOMMatrix\n fun scaleNonUniform(scaleX: Double, scaleY: Double = definedExternally, scaleZ: Double =
definedExternally, originX: Double = definedExternally, originY: Double = definedExternally, originZ: Double =
definedExternally): DOMMatrix\n fun rotate(angle: Double, originX: Double = definedExternally, originY:
Double = definedExternally): DOMMatrix\n fun rotateFromVector(x: Double, y: Double): DOMMatrix\n fun
rotateAxisAngle(x: Double, y: Double, z: Double, angle: Double): DOMMatrix\n fun skewX(sx: Double):

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DOMMatrix\n fun skewY(sy: Double): DOMMatrix\n fun multiply(other: DOMMatrix): DOMMatrix\n fun
flipX(): DOMMatrix\n fun flipY(): DOMMatrix\n fun inverse(): DOMMatrix\n fun transformPoint(point:
DOMPointInit = definedExternally): DOMPoint\n fun toFloat32Array(): Float32Array\n fun toFloat64Array():
Float64Array\n}\n\n/**\n *
Exposes the JavaScript [DOMMatrix](https://developer.mozilla.org/en/docs/Web/API/DOMMatrix) to Kotlin\n
*\n\npublic external open class DOMMatrix(): DOMMatrixReadOnly {\n constructor(transformList: String)\n
constructor(other: DOMMatrixReadOnly)\n constructor(array32: Float32Array)\n constructor(array64:
Float64Array)\n constructor(numberSequence: Array<Double>)\n override var a: Double\n override var b:
Double\n override var c: Double\n override var d: Double\n override var e: Double\n override var f:
Double\n override var m11: Double\n override var m12: Double\n override var m13: Double\n override var
m14: Double\n override var m21: Double\n override var m22: Double\n override var m23: Double\n override
var m24: Double\n override var m31: Double\n override var m32: Double\n override var m33: Double\n
override var m34: Double\n override var m41: Double\n override var m42: Double\n override var m43:
Double\n
override var m44: Double\n fun multiplySelf(other: DOMMatrix): DOMMatrix\n fun preMultiplySelf(other:
DOMMatrix): DOMMatrix\n fun translateSelf(tx: Double, ty: Double, tz: Double = definedExternally):
DOMMatrix\n fun scaleSelf(scale: Double, originX: Double = definedExternally, originY: Double =
definedExternally): DOMMatrix\n fun scale3dSelf(scale: Double, originX: Double = definedExternally, originY:
Double = definedExternally, originZ: Double = definedExternally): DOMMatrix\n fun
scaleNonUniformSelf(scaleX: Double, scaleY: Double = definedExternally, scaleZ: Double = definedExternally,
originX: Double = definedExternally, originY: Double = definedExternally, originZ: Double = definedExternally):
DOMMatrix\n fun rotateSelf(angle: Double, originX: Double = definedExternally, originY: Double =
definedExternally): DOMMatrix\n fun rotateFromVectorSelf(x: Double, y: Double): DOMMatrix\n fun
rotateAxisAngleSelf(x: Double, y: Double, z: Double, angle: Double):
DOMMatrix\n fun skewXSelf(sx: Double): DOMMatrix\n fun skewYSelf(sy: Double): DOMMatrix\n fun
invertSelf(): DOMMatrix\n fun setMatrixValue(transformList: String): DOMMatrix\n}\n\npublic external
interface ScrollOptions {\n var behavior: ScrollBehavior? /* = ScrollBehavior.AUTO */\n get() =
definedExternally\n set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun ScrollOptions(behavior:
ScrollBehavior? = ScrollBehavior.AUTO): ScrollOptions {\n val o = js(\"({})\")\n o[\"behavior\"] = behavior\n
return o\n}\n\n/**\n * Exposes the JavaScript
[ScrollToOptions](https://developer.mozilla.org/en/docs/Web/API/ScrollToOptions) to Kotlin\n
*\n\npublic external interface ScrollToOptions : ScrollOptions {\n var left: Double?\n get() = definedExternally\n set(value) =
definedExternally\n var top: Double?\n get() = definedExternally\n set(value)
= definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun ScrollToOptions(left: Double? =
undefined, top: Double? = undefined, behavior: ScrollBehavior? = ScrollBehavior.AUTO): ScrollToOptions {\n
val o = js(\"({})\")\n o[\"left\"] = left\n o[\"top\"] = top\n o[\"behavior\"] = behavior\n return o\n}\n\n/**\n *
Exposes the JavaScript [MediaQueryList](https://developer.mozilla.org/en/docs/Web/API/MediaQueryList) to
Kotlin\n
*\n\npublic external abstract class MediaQueryList : EventTarget {\n open val media: String\n open val
matches: Boolean\n open var onchange: ((Event) -> dynamic)?\n fun addListener(listener: EventListener?)\n
fun addListener(listener: ((Event) -> Unit)?)\n fun removeListener(listener: EventListener?)\n fun
removeListener(listener: ((Event) -> Unit)?)\n}\n\n/**\n * Exposes the JavaScript
[MediaQueryListEvent](https://developer.mozilla.org/en/docs/Web/API/MediaQueryListEvent)
to Kotlin\n
*\n\npublic external open class MediaQueryListEvent(type: String, eventInitDict:
MediaQueryListEventInit = definedExternally) : Event {\n open val media: String\n open val matches:
Boolean\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val
AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface

```

```

MediaQueryListEventInit : EventInit {
 var media: String? /* = "\" *^
 get() = definedExternally
 set(value) = definedExternally
 var matches: Boolean? /* = false *^
 get() = definedExternally
 set(value) = definedExternally
}
@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline fun MediaQueryListEventInit(media:
String? = "\"", matches: Boolean? = false, bubbles: Boolean? = false, cancelable: Boolean? = false, composed:
Boolean? = false): MediaQueryListEventInit {
 val o = js("{}")
 o["media"] = media
 o["matches"] = matches
 o["bubbles"] = bubbles
 o["cancelable"] =
cancelable
 o["composed"] = composed
 return o
}
/**
 * Exposes the JavaScript
[Screen](https://developer.mozilla.org/en/docs/Web/API/Screen) to Kotlin
*/
public external abstract class
Screen {
 open val availWidth: Int
 open val availHeight: Int
 open val width: Int
 open val height: Int
 open val colorDepth: Int
 open val pixelDepth: Int
}
/**
 * Exposes the JavaScript
[CaretPosition](https://developer.mozilla.org/en/docs/Web/API/CaretPosition) to Kotlin
*/
public external
abstract class CaretPosition {
 open val offsetNode: Node
 open val offset: Int
 fun getClientRect():
DOMRect?
}
public external interface ScrollIntoViewOptions : ScrollOptions {
 var block:
ScrollLogicalPosition? /* = ScrollLogicalPosition.CENTER *^
 get() = definedExternally
 set(value) =
definedExternally
 var inline:
ScrollLogicalPosition? /* = ScrollLogicalPosition.CENTER *^
 get() = definedExternally
 set(value) =
definedExternally
}
@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline fun ScrollIntoViewOptions(block:
ScrollLogicalPosition? = ScrollLogicalPosition.CENTER, inline: ScrollLogicalPosition? =
ScrollLogicalPosition.CENTER, behavior: ScrollBehavior? = ScrollBehavior.AUTO): ScrollIntoViewOptions {
 val o = js("{}")
 o["block"] = block
 o["inline"] = inline
 o["behavior"] = behavior
 return
o
}
public external interface BoxQuadOptions {
 var box: CSSBoxType? /* = CSSBoxType.BORDER *^
 get() = definedExternally
 set(value) = definedExternally
 var relativeTo: dynamic
 get() =
definedExternally
 set(value) = definedExternally
}
@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline fun BoxQuadOptions(box:
CSSBoxType? = CSSBoxType.BORDER, relativeTo: dynamic = undefined): BoxQuadOptions {
 val o =
js("{}")
 o["box"] = box
 o["relativeTo"] = relativeTo
 return o
}
public external interface
ConvertCoordinateOptions {
 var fromBox: CSSBoxType? /* = CSSBoxType.BORDER *^
 get() =
definedExternally
 set(value) = definedExternally
 var toBox: CSSBoxType? /* = CSSBoxType.BORDER
*^
 get() = definedExternally
 set(value) =
definedExternally
}
@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline fun ConvertCoordinateOptions(fromBox:
CSSBoxType? = CSSBoxType.BORDER, toBox: CSSBoxType? = CSSBoxType.BORDER):
ConvertCoordinateOptions {
 val o = js("{}")
 o["fromBox"] = fromBox
 o["toBox"] = toBox
 return o
}
/**
 * Exposes the JavaScript
[GeometryUtils](https://developer.mozilla.org/en/docs/Web/API/GeometryUtils) to Kotlin
*/
public external
interface GeometryUtils {
 fun getBoxQuads(options: BoxQuadOptions = definedExternally):
Array<DOMQuad>
 fun convertQuadFromNode(quad: dynamic, from: dynamic, options:
ConvertCoordinateOptions = definedExternally): DOMQuad
 fun convertRectFromNode(rect:
DOMRectReadOnly, from: dynamic, options: ConvertCoordinateOptions = definedExternally): DOMQuad
 fun
convertPointFromNode(point: DOMPointInit, from: dynamic, options: ConvertCoordinateOptions =
definedExternally): DOMPoint
}
/**
 * Exposes the JavaScript
[Touch](https://developer.mozilla.org/en/docs/Web/API/Touch) to Kotlin
*/
public external abstract class Touch
{
 open val identifier: Int
 open val target: EventTarget
 open val screenX: Int
 open val screenY: Int
 open val clientX: Int
 open val clientY: Int
 open val pageX: Int
 open val pageY: Int
 open val region:
String?
}
public external abstract class TouchList : ItemArrayLike<Touch> {
 override fun item(index:

```

```

Int): Touch? \n} \n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER") \n\n@kotlin.internal.InlineOnly \n\npublic inline operator fun TouchList.get(index: Int):
Touch? = asDynamic()[index] \n\npublic external open class TouchEvent : UIEvent { \n open val touches:
TouchList \n open val targetTouches: TouchList \n open val changedTouches: TouchList \n open val altKey:
Boolean \n open val metaKey: Boolean \n open val ctrlKey: Boolean \n open val shiftKey: Boolean \n\n
companion object { \n val NONE: Short \n val CAPTURING_PHASE: Short \n val AT_TARGET:
Short \n val BUBBLING_PHASE: Short \n } \n} \n\n/** \n * Exposes the JavaScript
[Image](https://developer.mozilla.org/en/docs/Web/API/Image) to Kotlin \n */ \n\npublic external open class
Image(width: Int = definedExternally, height: Int = definedExternally) : HTMLElement { \n override var
onabort: ((Event) -> dynamic)? \n override var onblur: ((FocusEvent) -> dynamic)? \n override var
oncancel: ((Event)
-> dynamic)? \n override var oncanplay: ((Event) -> dynamic)? \n override var oncanplaythrough: ((Event) ->
dynamic)? \n override var onchange: ((Event) -> dynamic)? \n override var onclick: ((MouseEvent) ->
dynamic)? \n override var onclose: ((Event) -> dynamic)? \n override var oncontextmenu: ((MouseEvent) ->
dynamic)? \n override var oncuechange: ((Event) -> dynamic)? \n override var ondblclick: ((MouseEvent) ->
dynamic)? \n override var ondrag: ((DragEvent) -> dynamic)? \n override var ondragend: ((DragEvent) ->
dynamic)? \n override var ondragenter: ((DragEvent) -> dynamic)? \n override var ondragexit: ((DragEvent) ->
dynamic)? \n override var ondragleave: ((DragEvent) -> dynamic)? \n override var ondragover: ((DragEvent) ->
dynamic)? \n override var ondragstart: ((DragEvent) -> dynamic)? \n override var ondrop: ((DragEvent) ->
dynamic)? \n override var ondurationchange: ((Event) -> dynamic)? \n override var onemptied: ((Event) ->
dynamic)? \n\n override var onended: ((Event) -> dynamic)? \n override var onerror: ((dynamic, String, Int, Int, Any?) ->
dynamic)? \n override var onfocus: ((FocusEvent) -> dynamic)? \n override var oninput: ((InputEvent) ->
dynamic)? \n override var oninvalid: ((Event) -> dynamic)? \n override var onkeydown: ((KeyboardEvent) ->
dynamic)? \n override var onkeypress: ((KeyboardEvent) -> dynamic)? \n override var onkeyup:
((KeyboardEvent) -> dynamic)? \n override var onload: ((Event) -> dynamic)? \n override var onloadeddata:
((Event) -> dynamic)? \n override var onloadedmetadata: ((Event) -> dynamic)? \n override var onloadend:
((Event) -> dynamic)? \n override var onloadstart: ((ProgressEvent) -> dynamic)? \n override var onmousedown:
((MouseEvent) -> dynamic)? \n override var onmouseenter: ((MouseEvent) -> dynamic)? \n override var
onmouseleave: ((MouseEvent) -> dynamic)? \n override var onmousemove: ((MouseEvent) -> dynamic)? \n\n
override var onmouseout: ((MouseEvent)
-> dynamic)? \n override var onmouseover: ((MouseEvent) -> dynamic)? \n override var onmouseup:
((MouseEvent) -> dynamic)? \n override var onwheel: ((WheelEvent) -> dynamic)? \n override var onpause:
((Event) -> dynamic)? \n override var onplay: ((Event) -> dynamic)? \n override var onplaying: ((Event) ->
dynamic)? \n override var onprogress: ((ProgressEvent) -> dynamic)? \n override var onratechange: ((Event) ->
dynamic)? \n override var onreset: ((Event) -> dynamic)? \n override var onresize: ((Event) -> dynamic)? \n\n
override var onscroll: ((Event) -> dynamic)? \n override var onseeked: ((Event) -> dynamic)? \n override var
onseeking: ((Event) -> dynamic)? \n override var onselect: ((Event) -> dynamic)? \n override var onshow:
((Event) -> dynamic)? \n override var onstalled: ((Event) -> dynamic)? \n override var onsubmit: ((Event) ->
dynamic)? \n override var onsuspend: ((Event) -> dynamic)? \n override var ontimeupdate: ((Event) ->
dynamic)? \n override var ontoggle: ((Event) -> dynamic)? \n override var onvolumechange: ((Event) ->
dynamic)? \n override var onwaiting: ((Event) -> dynamic)? \n override var ongotpointercapture: ((PointerEvent)
-> dynamic)? \n override var onlostpointercapture: ((PointerEvent) -> dynamic)? \n override var onpointerdown:
((PointerEvent) -> dynamic)? \n override var onpointermove: ((PointerEvent) -> dynamic)? \n override var
onpointerup: ((PointerEvent) -> dynamic)? \n override var onpointercancel: ((PointerEvent) -> dynamic)? \n\n
override var onpointerover: ((PointerEvent) -> dynamic)? \n override var onpointerout: ((PointerEvent) ->
dynamic)? \n override var onpointerenter: ((PointerEvent) -> dynamic)? \n override var onpointerleave:
((PointerEvent) -> dynamic)? \n override var oncopy: ((ClipboardEvent) -> dynamic)? \n override var oncut:

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((ClipboardEvent) -> dynamic)?\n override var onpaste: ((ClipboardEvent) -> dynamic)?\n override var
contentEditable:
String\n override val isContentEditable: Boolean\n override val style: CSSStyleDeclaration\n override val
children: HTMLCollection\n override val firstElementChild: Element?\n override val lastElementChild:
Element?\n override val childElementCount: Int\n override val previousElementSibling: Element?\n override
val nextElementSibling: Element?\n override val assignedSlot: HTMLSlotElement?\n override fun
prepend(vararg nodes: dynamic)\n override fun append(vararg nodes: dynamic)\n override fun
querySelector(selectors: String): Element?\n override fun querySelectorAll(selectors: String): NodeList\n
override fun before(vararg nodes: dynamic)\n override fun after(vararg nodes: dynamic)\n override fun
replaceWith(vararg nodes: dynamic)\n override fun remove()\n override fun getBoxQuads(options:
BoxQuadOptions /* = definedExternally */): Array<DOMQuad>\n override fun convertQuadFromNode(quad:
dynamic, from: dynamic, options: ConvertCoordinateOptions
/* = definedExternally */): DOMQuad\n override fun convertRectFromNode(rect: DOMRectReadOnly, from:
dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n override fun
convertPointFromNode(point: DOMPointInit, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMPoint\n\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS:
Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n\n public external open class
Audio(src: String = definedExternally) : HTMLAudioElement {\n override var onabort: ((Event) -> dynamic)?\n
override var onblur: ((FocusEvent) -> dynamic)?\n override var oncancel: ((Event) -> dynamic)?\n override var
oncanplay: ((Event) -> dynamic)?\n override var oncanplaythrough: ((Event) -> dynamic)?\n override var
onchange: ((Event) -> dynamic)?\n override var onclick: ((MouseEvent) -> dynamic)?\n override var onclose:
((Event) -> dynamic)?\n override var oncontextmenu: ((MouseEvent) -> dynamic)?\n override var oncuechange:
((Event) -> dynamic)?\n override var ondblclick: ((MouseEvent) -> dynamic)?\n override var ondrag:
((DragEvent) -> dynamic)?\n override var ondragend: ((DragEvent) -> dynamic)?\n override var ondragenter:
((DragEvent) -> dynamic)?\n override var ondragexit:
((DragEvent) -> dynamic)?\n override var ondragleave: ((DragEvent) -> dynamic)?\n override var ondragover:
((DragEvent) -> dynamic)?\n override var ondragstart: ((DragEvent) -> dynamic)?\n override var ondrop:
((DragEvent) -> dynamic)?\n override var ondurationchange: ((Event) -> dynamic)?\n override var onemptied:
((Event) -> dynamic)?\n override var onended: ((Event) -> dynamic)?\n override var onerror: ((dynamic, String,
Int, Int, Any?) -> dynamic)?\n override var onfocus: ((FocusEvent) -> dynamic)?\n override var oninput:
((InputEvent) -> dynamic)?\n override var oninvalid: ((Event) -> dynamic)?\n override var onkeydown:
((KeyboardEvent) -> dynamic)?\n override var onkeypress: ((KeyboardEvent) -> dynamic)?\n override var
onkeyup: ((KeyboardEvent) -> dynamic)?\n override var onload: ((Event) -> dynamic)?\n override var
onloadeddata: ((Event) -> dynamic)?\n override var onloadedmetadata: ((Event) -> dynamic)?\n override var
onloadend:
((Event) -> dynamic)?\n override var onloadstart: ((ProgressEvent) -> dynamic)?\n override var onmousedown:
((MouseEvent) -> dynamic)?\n override var onmouseenter: ((MouseEvent) -> dynamic)?\n override var
onmouseleave: ((MouseEvent) -> dynamic)?\n override var onmousemove: ((MouseEvent) -> dynamic)?\n
override var onmouseout: ((MouseEvent) -> dynamic)?\n override var onmouseover: ((MouseEvent) ->
dynamic)?\n override var onmouseup: ((MouseEvent) -> dynamic)?\n override var onwheel: ((WheelEvent) ->

```

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dynamic)?\n override var onpause: ((Event) -> dynamic)?\n override var onplay: ((Event) -> dynamic)?\n
override var onplaying: ((Event) -> dynamic)?\n override var onprogress: ((ProgressEvent) -> dynamic)?\n
override var onratechange: ((Event) -> dynamic)?\n override var onreset: ((Event) -> dynamic)?\n override var
onresize: ((Event) -> dynamic)?\n override var onscroll: ((Event) -> dynamic)?\n override var onseeked:
((Event) ->
dynamic)?\n override var onseeking: ((Event) -> dynamic)?\n override var onselect: ((Event) -> dynamic)?\n
override var onshow: ((Event) -> dynamic)?\n override var onstalled: ((Event) -> dynamic)?\n override var
onsubmit: ((Event) -> dynamic)?\n override var onsuspend: ((Event) -> dynamic)?\n override var ontimeupdate:
((Event) -> dynamic)?\n override var ontoggle: ((Event) -> dynamic)?\n override var onvolumechange: ((Event)
-> dynamic)?\n override var onwaiting: ((Event) -> dynamic)?\n override var ongotpointercapture:
((PointerEvent) -> dynamic)?\n override var onlostpointercapture: ((PointerEvent) -> dynamic)?\n override var
onpointerdown: ((PointerEvent) -> dynamic)?\n override var onpointermove: ((PointerEvent) -> dynamic)?\n
override var onpointerup: ((PointerEvent) -> dynamic)?\n override var onpointercancel: ((PointerEvent) ->
dynamic)?\n override var onpointerover: ((PointerEvent) -> dynamic)?\n override var onpointerout:
((PointerEvent) -> dynamic)?\n override var onpointerenter: ((PointerEvent) -> dynamic)?\n override var
onpointerleave: ((PointerEvent) -> dynamic)?\n override var oncopy: ((ClipboardEvent) -> dynamic)?\n override
var oncut: ((ClipboardEvent) -> dynamic)?\n override var onpaste: ((ClipboardEvent) -> dynamic)?\n override
var contentEditable: String\n override val isContentEditable: Boolean\n override val style:
CSSStyleDeclaration\n override val children: HTMLCollection\n override val firstElementChild: Element?\n
override val lastElementChild: Element?\n override val childElementCount: Int\n override val
previousElementSibling: Element?\n override val nextElementSibling: Element?\n override val assignedSlot:
HTMLSlotElement?\n override fun prepend(vararg nodes: dynamic)\n override fun append(vararg nodes:
dynamic)\n override fun querySelector(selectors: String): Element?\n override fun querySelectorAll(selectors:
String): NodeList\n
 override fun before(vararg nodes: dynamic)\n override fun after(vararg nodes: dynamic)\n override fun
replaceWith(vararg nodes: dynamic)\n override fun remove()\n override fun getBoxQuads(options:
BoxQuadOptions /* = definedExternally */): Array<DOMQuad>\n override fun convertQuadFromNode(quad:
dynamic, from: dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n override
fun convertRectFromNode(rect: DOMRectReadOnly, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMQuad\n override fun convertPointFromNode(point: DOMPointInit, from: dynamic,
options: ConvertCoordinateOptions /* = definedExternally */): DOMPoint\n\n companion object {\n val
NETWORK_EMPTY: Short\n val NETWORK_IDLE: Short\n val NETWORK_LOADING: Short\n
val NETWORK_NO_SOURCE: Short\n val HAVE_NOTHING: Short\n val HAVE_METADATA:
Short\n val HAVE_CURRENT_DATA: Short\n val HAVE_FUTURE_DATA:
Short\n val HAVE_ENOUGH_DATA: Short\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[Option](https://developer.mozilla.org/en/docs/Web/API/Option) to Kotlin\n */\n\npublic external open class
Option(text: String = definedExternally, value: String
= definedExternally, defaultSelected: Boolean = definedExternally, selected: Boolean = definedExternally) :
HTMLOptionElement {\n override var onabort: ((Event) -> dynamic)?\n override var onblur: ((FocusEvent) ->

```

dynamic)?\n override var onCancel: ((Event) -> dynamic)?\n override var oncanplay: ((Event) -> dynamic)?\n
override var oncanplaythrough: ((Event) -> dynamic)?\n override var onChange: ((Event) -> dynamic)?\n
override var onclick: ((MouseEvent) -> dynamic)?\n override var onClose: ((Event) -> dynamic)?\n override var
oncontextmenu: ((MouseEvent) -> dynamic)?\n override var oncuechange: ((Event) -> dynamic)?\n override var
ondblclick: ((MouseEvent) -> dynamic)?\n override var ondrag: ((DragEvent) -> dynamic)?\n override var
ondragend: ((DragEvent) -> dynamic)?\n override var ondragenter: ((DragEvent) -> dynamic)?\n override var
ondragexit: ((DragEvent) -> dynamic)?\n override var ondragleave: ((DragEvent) -> dynamic)?\n
override var ondragover: ((DragEvent) -> dynamic)?\n override var ondragstart: ((DragEvent) -> dynamic)?\n
override var ondrop: ((DragEvent) -> dynamic)?\n override var ondurationchange: ((Event) -> dynamic)?\n
override var onemptied: ((Event) -> dynamic)?\n override var onended: ((Event) -> dynamic)?\n override var
onerror: ((dynamic, String, Int, Int, Any?) -> dynamic)?\n override var onfocus: ((FocusEvent) -> dynamic)?\n
override var oninput: ((InputEvent) -> dynamic)?\n override var oninvalid: ((Event) -> dynamic)?\n override var
onkeydown: ((KeyboardEvent) -> dynamic)?\n override var onkeypress: ((KeyboardEvent) -> dynamic)?\n
override var onkeyup: ((KeyboardEvent) -> dynamic)?\n override var onload: ((Event) -> dynamic)?\n override
var onloadeddata: ((Event) -> dynamic)?\n override var onloadedmetadata: ((Event) -> dynamic)?\n override var
onloadend: ((Event) -> dynamic)?\n override var onloadstart: ((ProgressEvent) -> dynamic)?\n
override var onmousedown: ((MouseEvent) -> dynamic)?\n override var onmouseenter: ((MouseEvent) ->
dynamic)?\n override var onmouseleave: ((MouseEvent) -> dynamic)?\n override var onmousemove:
((MouseEvent) -> dynamic)?\n override var onmouseout: ((MouseEvent) -> dynamic)?\n override var
onmouseover: ((MouseEvent) -> dynamic)?\n override var onmouseup: ((MouseEvent) -> dynamic)?\n override
var onwheel: ((WheelEvent) -> dynamic)?\n override var onpause: ((Event) -> dynamic)?\n override var onplay:
((Event) -> dynamic)?\n override var onplaying: ((Event) -> dynamic)?\n override var onprogress:
((ProgressEvent) -> dynamic)?\n override var onratechange: ((Event) -> dynamic)?\n override var onreset:
((Event) -> dynamic)?\n override var onresize: ((Event) -> dynamic)?\n override var onscroll: ((Event) ->
dynamic)?\n override var onseeked: ((Event) -> dynamic)?\n override var onseeking: ((Event) -> dynamic)?\n
override var onselect: ((Event)
-> dynamic)?\n override var onshow: ((Event) -> dynamic)?\n override var onstalled: ((Event) -> dynamic)?\n
override var onsubmit: ((Event) -> dynamic)?\n override var onsuspend: ((Event) -> dynamic)?\n override var
ontimeupdate: ((Event) -> dynamic)?\n override var ontoggle: ((Event) -> dynamic)?\n override var
onvolumechange: ((Event) -> dynamic)?\n override var onwaiting: ((Event) -> dynamic)?\n override var
ongotpointercapture: ((PointerEvent) -> dynamic)?\n override var onlostpointercapture: ((PointerEvent) ->
dynamic)?\n override var onpointerdown: ((PointerEvent) -> dynamic)?\n override var onpointermove:
((PointerEvent) -> dynamic)?\n override var onpointerup: ((PointerEvent) -> dynamic)?\n override var
onpointercancel: ((PointerEvent) -> dynamic)?\n override var onpointerover: ((PointerEvent) -> dynamic)?\n
override var onpointerout: ((PointerEvent) -> dynamic)?\n override var onpointerenter: ((PointerEvent) ->
dynamic)?\n
override var onpointerleave: ((PointerEvent) -> dynamic)?\n override var oncopy: ((ClipboardEvent) ->
dynamic)?\n override var oncut: ((ClipboardEvent) -> dynamic)?\n override var onpaste: ((ClipboardEvent) ->
dynamic)?\n override var contentEditable: String\n override val isContentEditable: Boolean\n override val
style: CSSStyleDeclaration\n override val children: HTMLCollection\n override val firstElementChild:
Element?\n override val lastElementChild: Element?\n override val childElementCount: Int\n override val
previousElementSibling: Element?\n override val nextElementSibling: Element?\n override val assignedSlot:
HTMLSlotElement?\n override fun prepend(vararg nodes: dynamic)\n override fun append(vararg nodes:
dynamic)\n override fun querySelector(selectors: String): Element?\n override fun querySelectorAll(selectors:
String): NodeList\n override fun before(vararg nodes: dynamic)\n override fun after(vararg nodes: dynamic)\n
override fun replaceWith(vararg nodes: dynamic)\n override fun remove()\n override fun
getBoxQuads(options: BoxQuadOptions /\* = definedExternally \*/): Array<DOMQuad>\n override fun
convertQuadFromNode(quad: dynamic, from: dynamic, options: ConvertCoordinateOptions /\* = definedExternally

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*/): DOMQuad\n override fun convertRectFromNode(rect: DOMRectReadOnly, from: dynamic, options:
ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n override fun convertPointFromNode(point:
DOMPointInit, from: dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMPoint\n\n
companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val
TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE:
Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n\npublic external interface
UnionElementOrHTMLCollection\n\npublic external interface UnionElementOrRadioNodeList\n\npublic external
interface UnionHTMLOptGroupElementOrHTMLOptionElement\n\npublic external interface
UnionAudioTrackOrTextTrackOrVideoTrack\n\npublic external interface UnionElementOrMouseEvent\n\npublic
external interface UnionMessagePortOrWindowProxy\n\npublic external interface MediaProvider\n\npublic
external interface RenderingContext\n\npublic external interface HTMLOrSVGImageElement :
CanvasImageSource\n\npublic external interface CanvasImageSource : ImageBitmapSource\n\npublic
external interface ImageBitmapSource\n\npublic external interface HTMLOrSVGScriptElement\n\n/* please, don't
implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external
interface DocumentReadyState {\n companion object\n}\n\npublic inline val
DocumentReadyState.Companion.LOADING: DocumentReadyState get() =
"loading".asDynamic().unsafeCast<DocumentReadyState>()\n\npublic inline val
DocumentReadyState.Companion.INTERACTIVE: DocumentReadyState get() =
"interactive".asDynamic().unsafeCast<DocumentReadyState>()\n\npublic inline val
DocumentReadyState.Companion.COMPLETE: DocumentReadyState get() =
"complete".asDynamic().unsafeCast<DocumentReadyState>()\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external
interface CanPlayTypeResult {\n companion object\n}\n\npublic inline val
CanPlayTypeResult.Companion.EMPTY: CanPlayTypeResult get() =
"".asDynamic().unsafeCast<CanPlayTypeResult>()\n\npublic
inline val CanPlayTypeResult.Companion.MAYBE: CanPlayTypeResult get() =
"maybe".asDynamic().unsafeCast<CanPlayTypeResult>()\n\npublic inline val
CanPlayTypeResult.Companion.PROBABLY: CanPlayTypeResult get() =
"probably".asDynamic().unsafeCast<CanPlayTypeResult>()\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external
interface TextTrackMode {\n companion object\n}\n\npublic inline val TextTrackMode.Companion.DISABLED:
TextTrackMode get() = "disabled".asDynamic().unsafeCast<TextTrackMode>()\n\npublic inline val
TextTrackMode.Companion.HIDDEN: TextTrackMode get() =
"hidden".asDynamic().unsafeCast<TextTrackMode>()\n\npublic inline val
TextTrackMode.Companion.SHOWING: TextTrackMode get() =
"showing".asDynamic().unsafeCast<TextTrackMode>()\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic
external interface TextTrackKind {\n companion object\n}\n\npublic inline val
TextTrackKind.Companion.SUBTITLES: TextTrackKind get() =
"subtitles".asDynamic().unsafeCast<TextTrackKind>()\n\npublic inline val
TextTrackKind.Companion.CAPTIONS: TextTrackKind get() =

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\"captions\".asDynamic().unsafeCast<TextTrackKind>()\n\npublic inline val
TextTrackKind.Companion.DESCRPTIONS: TextTrackKind get() =
\"descriptions\".asDynamic().unsafeCast<TextTrackKind>()\n\npublic inline val
TextTrackKind.Companion.CHAPTERS: TextTrackKind get() =
\"chapters\".asDynamic().unsafeCast<TextTrackKind>()\n\npublic inline val
TextTrackKind.Companion.METADATA: TextTrackKind get() =
\"metadata\".asDynamic().unsafeCast<TextTrackKind>()\n\n/* please, don't implement this interface!
*\n\n@JsName(\"null\")\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external
interface SelectionMode {\n\n companion object\n\n}\n\n\npublic inline val SelectionMode.Companion.SELECT:
SelectionMode get()
= \"select\".asDynamic().unsafeCast<SelectionMode>()\n\npublic inline val SelectionMode.Companion.START:
SelectionMode get() = \"start\".asDynamic().unsafeCast<SelectionMode>()\n\npublic inline val
SelectionMode.Companion.END: SelectionMode get() =
\"end\".asDynamic().unsafeCast<SelectionMode>()\n\npublic inline val SelectionMode.Companion.PRESERVE:
SelectionMode get() = \"preserve\".asDynamic().unsafeCast<SelectionMode>()\n\n\n/* please, don't implement this
interface! *\n\n@JsName(\"null\")\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic
external interface CanvasFillRule {\n\n companion object\n\n}\n\n\npublic inline val
CanvasFillRule.Companion.NONZERO: CanvasFillRule get() =
\"nonzero\".asDynamic().unsafeCast<CanvasFillRule>()\n\npublic inline val
CanvasFillRule.Companion.EVENODD: CanvasFillRule get() =
\"evenodd\".asDynamic().unsafeCast<CanvasFillRule>()\n\n\n/* please, don't implement this interface!
*\n\n@JsName(\"null\")\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic
external interface ImageSmoothingQuality {\n\n companion object\n\n}\n\n\npublic inline val
ImageSmoothingQuality.Companion.LOW: ImageSmoothingQuality get() =
\"low\".asDynamic().unsafeCast<ImageSmoothingQuality>()\n\npublic inline val
ImageSmoothingQuality.Companion.MEDIUM: ImageSmoothingQuality get() =
\"medium\".asDynamic().unsafeCast<ImageSmoothingQuality>()\n\npublic inline val
ImageSmoothingQuality.Companion.HIGH: ImageSmoothingQuality get() =
\"high\".asDynamic().unsafeCast<ImageSmoothingQuality>()\n\n\n/* please, don't implement this interface!
*\n\n@JsName(\"null\")\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external
interface CanvasLineCap {\n\n companion object\n\n}\n\n\npublic inline val CanvasLineCap.Companion.BUTT:
CanvasLineCap get() = \"butt\".asDynamic().unsafeCast<CanvasLineCap>()\n\npublic inline val
CanvasLineCap.Companion.ROUND: CanvasLineCap get() =
\"round\".asDynamic().unsafeCast<CanvasLineCap>()\n\npublic inline val CanvasLineCap.Companion.SQUARE:
CanvasLineCap get() = \"square\".asDynamic().unsafeCast<CanvasLineCap>()\n\n\n/* please, don't implement this
interface! *\n\n@JsName(\"null\")\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic
external interface CanvasLineJoin {\n\n companion object\n\n}\n\n\npublic inline val
CanvasLineJoin.Companion.ROUND: CanvasLineJoin get() =
\"round\".asDynamic().unsafeCast<CanvasLineJoin>()\n\npublic inline val CanvasLineJoin.Companion.BEVEL:
CanvasLineJoin get() = \"bevel\".asDynamic().unsafeCast<CanvasLineJoin>()\n\npublic inline val
CanvasLineJoin.Companion.MITER: CanvasLineJoin get() =
\"miter\".asDynamic().unsafeCast<CanvasLineJoin>()\n\n\n/* please, don't implement this interface!
*\n\n@JsName(\"null\")\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external
interface CanvasTextAlign {\n\n companion object\n\n}\n\n\npublic inline val CanvasTextAlign.Companion.START:
CanvasTextAlign get() = \"start\".asDynamic().unsafeCast<CanvasTextAlign>()\n\npublic inline val
CanvasTextAlign.Companion.END:
CanvasTextAlign get() = \"end\".asDynamic().unsafeCast<CanvasTextAlign>()\n\npublic inline val
CanvasTextAlign.Companion.LEFT: CanvasTextAlign get() =

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\left\".asDynamic().unsafeCast<CanvasTextAlign>()\n\npublic inline val CanvasTextAlign.Companion.RIGHT:
CanvasTextAlign get() = \right\".asDynamic().unsafeCast<CanvasTextAlign>()\n\npublic inline val
CanvasTextAlign.Companion.CENTER: CanvasTextAlign get() =
\center\".asDynamic().unsafeCast<CanvasTextAlign>()\n\n/* please, don't implement this interface!
*\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external
interface CanvasTextBaseline {\n companion object\n}\n\npublic inline val CanvasTextBaseline.Companion.TOP:
CanvasTextBaseline get() = \top\".asDynamic().unsafeCast<CanvasTextBaseline>()\n\npublic inline val
CanvasTextBaseline.Companion.HANGING: CanvasTextBaseline get() =
\hanging\".asDynamic().unsafeCast<CanvasTextBaseline>()\n\npublic inline val
CanvasTextBaseline.Companion.MIDDLE:
CanvasTextBaseline get() = \middle\".asDynamic().unsafeCast<CanvasTextBaseline>()\n\npublic inline val
CanvasTextBaseline.Companion.ALPHABETIC: CanvasTextBaseline get() =
\alphabetic\".asDynamic().unsafeCast<CanvasTextBaseline>()\n\npublic inline val
CanvasTextBaseline.Companion.IDEOGRAPHIC: CanvasTextBaseline get() =
\ideographic\".asDynamic().unsafeCast<CanvasTextBaseline>()\n\npublic inline val
CanvasTextBaseline.Companion.BOTTOM: CanvasTextBaseline get() =
\bottom\".asDynamic().unsafeCast<CanvasTextBaseline>()\n\n/* please, don't implement this interface!
*\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external
interface CanvasDirection {\n companion object\n}\n\npublic inline val CanvasDirection.Companion.LTR:
CanvasDirection get() = \ltr\".asDynamic().unsafeCast<CanvasDirection>()\n\npublic inline val
CanvasDirection.Companion.RTL: CanvasDirection get() =
\rtl\".asDynamic().unsafeCast<CanvasDirection>()\n\npublic inline val CanvasDirection.Companion.INHERIT:
CanvasDirection get() = \inherit\".asDynamic().unsafeCast<CanvasDirection>()\n\n/* please, don't implement this
interface! *\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic
external interface ScrollRestoration {\n companion object\n}\n\npublic inline val
ScrollRestoration.Companion.AUTO: ScrollRestoration get() =
\auto\".asDynamic().unsafeCast<ScrollRestoration>()\n\npublic inline val
ScrollRestoration.Companion.MANUAL: ScrollRestoration get() =
>manual\".asDynamic().unsafeCast<ScrollRestoration>()\n\n/* please, don't implement this interface!
*\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external
interface ImageOrientation {\n companion object\n}\n\npublic inline val ImageOrientation.Companion.NONE:
ImageOrientation get() = \none\".asDynamic().unsafeCast<ImageOrientation>()\n\npublic inline val
ImageOrientation.Companion.FLIPY: ImageOrientation get() =
\flipY\".asDynamic().unsafeCast<ImageOrientation>()\n\n/*
please, don't implement this interface!
*\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external
interface PremultiplyAlpha {\n companion object\n}\n\npublic inline val PremultiplyAlpha.Companion.NONE:
PremultiplyAlpha get() = \none\".asDynamic().unsafeCast<PremultiplyAlpha>()\n\npublic inline val
PremultiplyAlpha.Companion.PREMULTIPLY: PremultiplyAlpha get() =
\premultiply\".asDynamic().unsafeCast<PremultiplyAlpha>()\n\npublic inline val
PremultiplyAlpha.Companion.DEFAULT: PremultiplyAlpha get() =
\default\".asDynamic().unsafeCast<PremultiplyAlpha>()\n\n/* please, don't implement this interface!
*\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external
interface ColorSpaceConversion {\n companion object\n}\n\npublic inline val
ColorSpaceConversion.Companion.NONE: ColorSpaceConversion get() =
\none\".asDynamic().unsafeCast<ColorSpaceConversion>()\n\npublic inline val
ColorSpaceConversion.Companion.DEFAULT:

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ColorSpaceConversion get() = \"default\".asDynamic().unsafeCast<ColorSpaceConversion>()\n\n/* please, don't
implement this interface!
*/\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface ResizeQuality {\n companion object\n}\n\npublic inline val ResizeQuality.Companion.PIXELATED:
ResizeQuality get() = \"pixelated\".asDynamic().unsafeCast<ResizeQuality>()\n\npublic inline val
ResizeQuality.Companion.LOW: ResizeQuality get() =
\"low\".asDynamic().unsafeCast<ResizeQuality>()\n\npublic inline val ResizeQuality.Companion.MEDIUM:
ResizeQuality get() = \"medium\".asDynamic().unsafeCast<ResizeQuality>()\n\npublic inline val
ResizeQuality.Companion.HIGH: ResizeQuality get() = \"high\".asDynamic().unsafeCast<ResizeQuality>()\n\n/*
please, don't implement this interface!
*/\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface BinaryType {\n companion object\n}\n\npublic inline
val BinaryType.Companion.BLOB: BinaryType get() = \"blob\".asDynamic().unsafeCast<BinaryType>()\n\npublic
inline val BinaryType.Companion.ARRAYBUFFER: BinaryType get() =
\"arraybuffer\".asDynamic().unsafeCast<BinaryType>()\n\n/* please, don't implement this interface!
*/\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface WorkerType {\n companion object\n}\n\npublic inline val WorkerType.Companion.CLASSIC:
WorkerType get() = \"classic\".asDynamic().unsafeCast<WorkerType>()\n\npublic inline val
WorkerType.Companion.MODULE: WorkerType get() =
\"module\".asDynamic().unsafeCast<WorkerType>()\n\n/* please, don't implement this interface!
*/\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface ShadowRootMode {\n companion object\n}\n\npublic inline val ShadowRootMode.Companion.OPEN:
ShadowRootMode get() = \"open\".asDynamic().unsafeCast<ShadowRootMode>()\n\npublic inline val
ShadowRootMode.Companion.CLOSED:
ShadowRootMode get() = \"closed\".asDynamic().unsafeCast<ShadowRootMode>()\n\n/* please, don't implement
this interface! */\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic
external interface ScrollBehavior {\n companion object\n}\n\npublic inline val ScrollBehavior.Companion.AUTO:
ScrollBehavior get() = \"auto\".asDynamic().unsafeCast<ScrollBehavior>()\n\npublic inline val
ScrollBehavior.Companion.INSTANT: ScrollBehavior get() =
\"instant\".asDynamic().unsafeCast<ScrollBehavior>()\n\npublic inline val ScrollBehavior.Companion.SMOOTH:
ScrollBehavior get() = \"smooth\".asDynamic().unsafeCast<ScrollBehavior>()\n\n/* please, don't implement this
interface! */\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic
external interface ScrollLogicalPosition {\n companion object\n}\n\npublic inline val
ScrollLogicalPosition.Companion.START: ScrollLogicalPosition get() =
\"start\".asDynamic().unsafeCast<ScrollLogicalPosition>()\n\npublic
inline val ScrollLogicalPosition.Companion.CENTER: ScrollLogicalPosition get() =
\"center\".asDynamic().unsafeCast<ScrollLogicalPosition>()\n\npublic inline val
ScrollLogicalPosition.Companion.END: ScrollLogicalPosition get() =
\"end\".asDynamic().unsafeCast<ScrollLogicalPosition>()\n\npublic inline val
ScrollLogicalPosition.Companion.NEAREST: ScrollLogicalPosition get() =
\"nearest\".asDynamic().unsafeCast<ScrollLogicalPosition>()\n\n/* please, don't implement this interface!
*/\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface CSSBoxType {\n companion object\n}\n\npublic inline val CSSBoxType.Companion.MARGIN:
CSSBoxType get() = \"margin\".asDynamic().unsafeCast<CSSBoxType>()\n\npublic inline val
CSSBoxType.Companion.BORDER: CSSBoxType get() =
\"border\".asDynamic().unsafeCast<CSSBoxType>()\n\npublic inline val CSSBoxType.Companion.PADDING:
CSSBoxType get() = \"padding\".asDynamic().unsafeCast<CSSBoxType>()\n\npublic inline

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val CSSBoxType.Companion.CONTENT: CSSBoxType get() =
`"content".asDynamic().unsafeCast<CSSBoxType>()"/>*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n *^\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n//
See github.com/kotlin/dukat for details\n\npackage org.w3c.fetch\n\nimport kotlin.js.*\nimport
org.khronos.webgl.*\nimport org.w3c.files.*\nimport org.w3c.xhr.*\n\n/**\n * Exposes the JavaScript
[Headers](https://developer.mozilla.org/en/docs/Web/API/Headers) to Kotlin\n\npublic external open class
Headers(init: dynamic = definedExternally) {\n fun append(name: String, value: String)\n fun delete(name:
String)\n fun get(name: String): String?\n fun has(name: String): Boolean\n fun set(name: String, value:
String)\n}\n\n/**\n * Exposes the JavaScript [Body](https://developer.mozilla.org/en/docs/Web/API/Body)
to Kotlin\n\npublic external interface Body {\n val bodyUsed: Boolean\n fun arrayBuffer():
Promise<ArrayBuffer>\n fun blob(): Promise<Blob>\n fun formData(): Promise<FormData>\n fun json():
Promise<Any?>\n fun text(): Promise<String>\n}\n\n/**\n * Exposes the JavaScript
[Request](https://developer.mozilla.org/en/docs/Web/API/Request) to Kotlin\n\npublic external open class
Request(input: dynamic, init: RequestInit = definedExternally) : Body {\n open val method: String\n open val
url: String\n open val headers: Headers\n open val type: RequestType\n open val destination:
RequestDestination\n open val referrer: String\n open val referrerPolicy: dynamic\n open val mode:
RequestMode\n open val credentials: RequestCredentials\n open val cache: RequestCache\n open val redirect:
RequestRedirect\n open val integrity: String\n open val keepalive: Boolean\n override val bodyUsed:
Boolean\n fun clone(): Request\n override
fun arrayBuffer(): Promise<ArrayBuffer>\n override fun blob(): Promise<Blob>\n override fun formData():
Promise<FormData>\n override fun json(): Promise<Any?>\n override fun text(): Promise<String>\n}\n\npublic
external interface RequestInit {\n var method: String?\n get() = definedExternally\n set(value) =
definedExternally\n var headers: dynamic\n get() = definedExternally\n set(value) = definedExternally\n
var body: dynamic\n get() = definedExternally\n set(value) = definedExternally\n var referrer: String?\n
get() = definedExternally\n set(value) = definedExternally\n var referrerPolicy: dynamic\n get() =
definedExternally\n set(value) = definedExternally\n var mode: RequestMode?\n get() =
definedExternally\n set(value) = definedExternally\n var credentials: RequestCredentials?\n get() =
definedExternally\n set(value) = definedExternally\n var
cache: RequestCache?\n get() = definedExternally\n set(value) = definedExternally\n var redirect:
RequestRedirect?\n get() = definedExternally\n set(value) = definedExternally\n var integrity: String?\n
get() = definedExternally\n set(value) = definedExternally\n var keepalive: Boolean?\n get() =
definedExternally\n set(value) = definedExternally\n var window: Any?\n get() = definedExternally\n
set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun RequestInit(method: String? =
undefined, headers: dynamic = undefined, body: dynamic = undefined, referrer: String? = undefined, referrerPolicy:
dynamic = undefined, mode: RequestMode? = undefined, credentials: RequestCredentials? = undefined, cache:
RequestCache? = undefined, redirect: RequestRedirect? = undefined, integrity: String? = undefined, keepalive:
Boolean? = undefined,
window: Any? = undefined): RequestInit {\n val o = js("{}")\n o["method"] = method\n o["headers"] =
headers\n o["body"] = body\n o["referrer"] = referrer\n o["referrerPolicy"] = referrerPolicy\n
o["mode"] = mode\n o["credentials"] = credentials\n o["cache"] = cache\n o["redirect"] = redirect\n
o["integrity"] = integrity\n o["keepalive"] = keepalive\n o["window"] = window\n return o\n}\n\n/**\n *
Exposes the JavaScript [Response](https://developer.mozilla.org/en/docs/Web/API/Response) to Kotlin\n\npublic
external open class Response(body: dynamic = definedExternally, init: ResponseInit = definedExternally) : Body
{\n open val type: ResponseType\n open val url: String\n open val redirected: Boolean\n open val status:
Short\n open val ok: Boolean\n open val statusText: String\n open val headers: Headers\n open val body:
dynamic\n open val trailer: Promise<Headers>\n override val bodyUsed:

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Boolean\n fun clone(): Response\n override fun arrayBuffer(): Promise<ArrayBuffer>\n override fun blob():
Promise<Blob>\n override fun formData(): Promise<FormData>\n override fun json(): Promise<Any?>\n
override fun text(): Promise<String>\n\n companion object {\n fun error(): Response\n fun redirect(url:
String, status: Short = definedExternally): Response\n }\n\n\npublic external interface ResponseInit {\n var
status: Short? /* = 200 */\n get() = definedExternally\n set(value) = definedExternally\n var statusText:
String? /* = \"OK\" */\n get() = definedExternally\n set(value) = definedExternally\n var headers:
dynamic\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun ResponseInit(status: Short? = 200,
statusText: String? = \"OK\", headers: dynamic = undefined): ResponseInit
{\n val o = js(\"({})\")\n o[\"status\"] = status\n o[\"statusText\"] = statusText\n o[\"headers\"] = headers\n
return o\n}\n\n/* please, don't implement this interface!
*/\n\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface RequestType {\n companion object\n}\n\npublic inline val RequestType.Companion.EMPTY:
RequestType get() = \"\".asDynamic().unsafeCast<RequestType>()\n\npublic inline val
RequestType.Companion.AUDIO: RequestType get() =
\"audio\".asDynamic().unsafeCast<RequestType>()\n\npublic inline val RequestType.Companion.FONT:
RequestType get() = \"font\".asDynamic().unsafeCast<RequestType>()\n\npublic inline val
RequestType.Companion.IMAGE: RequestType get() =
\"image\".asDynamic().unsafeCast<RequestType>()\n\npublic inline val RequestType.Companion.SCRIPT:
RequestType get() = \"script\".asDynamic().unsafeCast<RequestType>()\n\npublic inline val
RequestType.Companion.STYLE: RequestType get() =
\"style\".asDynamic().unsafeCast<RequestType>()\n\npublic
inline val RequestType.Companion.TRACK: RequestType get() =
\"track\".asDynamic().unsafeCast<RequestType>()\n\npublic inline val RequestType.Companion.VIDEO:
RequestType get() = \"video\".asDynamic().unsafeCast<RequestType>()\n\n/* please, don't implement this
interface! */\n\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic
external interface RequestDestination {\n companion object\n}\n\npublic inline val
RequestDestination.Companion.EMPTY: RequestDestination get() =
\"\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.DOCUMENT: RequestDestination get() =
\"document\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.EMBED: RequestDestination get() =
\"embed\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.FONT: RequestDestination get() =
\"font\".asDynamic().unsafeCast<RequestDestination>()\n\npublic
inline val RequestDestination.Companion.IMAGE: RequestDestination get() =
\"image\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.MANIFEST: RequestDestination get() =
\"manifest\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.MEDIA: RequestDestination get() =
\"media\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.OBJECT: RequestDestination get() =
\"object\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.REPORT: RequestDestination get() =
\"report\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.SCRIPT: RequestDestination get() =
\"script\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val

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RequestDestination.Companion.SERVICWORKER: RequestDestination get() =
 `serviceworker`.asDynamic().unsafeCast<RequestDestination>()\n\npublic
 inline val RequestDestination.Companion.SHAREDWORKER: RequestDestination get() =
 `sharedworker`.asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.STYLE: RequestDestination get() =
 `style`.asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.WORKER: RequestDestination get() =
 `worker`.asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.XSLT: RequestDestination get() =
 `xslt`.asDynamic().unsafeCast<RequestDestination>()\n\n/* please, don't implement this interface!
*\n\n@JsName(`null`)\n\n@Suppress(`NESTED_CLASS_IN_EXTERNAL_INTERFACE`)\n\npublic external
interface RequestMode {\n companion object\n}\n\npublic inline val RequestMode.Companion.NAVIGATE:
RequestMode get() = `navigate`.asDynamic().unsafeCast<RequestMode>()\n\npublic inline val
RequestMode.Companion.SAME_ORIGIN: RequestMode get() = `same-
origin`.asDynamic().unsafeCast<RequestMode>()\n\npublic
 inline val RequestMode.Companion.NO_CORS: RequestMode get() = `no-
cors`.asDynamic().unsafeCast<RequestMode>()\n\npublic inline val RequestMode.Companion.CORS:
RequestMode get() = `cors`.asDynamic().unsafeCast<RequestMode>()\n\n/* please, don't implement this
interface! *\n\n@JsName(`null`)\n\n@Suppress(`NESTED_CLASS_IN_EXTERNAL_INTERFACE`)\n\npublic
external interface RequestCredentials {\n companion object\n}\n\npublic inline val
RequestCredentials.Companion.OMIT: RequestCredentials get() =
 `omit`.asDynamic().unsafeCast<RequestCredentials>()\n\npublic inline val
RequestCredentials.Companion.SAME_ORIGIN: RequestCredentials get() = `same-
origin`.asDynamic().unsafeCast<RequestCredentials>()\n\npublic inline val
RequestCredentials.Companion.INCLUDE: RequestCredentials get() =
 `include`.asDynamic().unsafeCast<RequestCredentials>()\n\n/* please, don't implement this interface!
*\n\n@JsName(`null`)\n\n@Suppress(`NESTED_CLASS_IN_EXTERNAL_INTERFACE`)\n\npublic
external interface RequestCache {\n companion object\n}\n\npublic inline val
RequestCache.Companion.DEFAULT: RequestCache get() =
 `default`.asDynamic().unsafeCast<RequestCache>()\n\npublic inline val RequestCache.Companion.NO_STORE:
RequestCache get() = `no-store`.asDynamic().unsafeCast<RequestCache>()\n\npublic inline val
RequestCache.Companion.RELOAD: RequestCache get() =
 `reload`.asDynamic().unsafeCast<RequestCache>()\n\npublic inline val RequestCache.Companion.NO_CACHE:
RequestCache get() = `no-cache`.asDynamic().unsafeCast<RequestCache>()\n\npublic inline val
RequestCache.Companion.FORCE_CACHE: RequestCache get() = `force-
cache`.asDynamic().unsafeCast<RequestCache>()\n\npublic inline val
RequestCache.Companion.ONLY_IF_CACHED: RequestCache get() = `only-if-
cached`.asDynamic().unsafeCast<RequestCache>()\n\n/* please, don't implement this interface!
*\n\n@JsName(`null`)\n\n@Suppress(`NESTED_CLASS_IN_EXTERNAL_INTERFACE`)\n\npublic external
interface RequestRedirect
 {\n companion object\n}\n\npublic inline val RequestRedirect.Companion.FOLLOW: RequestRedirect get() =
 `follow`.asDynamic().unsafeCast<RequestRedirect>()\n\npublic inline val RequestRedirect.Companion.ERROR:
RequestRedirect get() = `error`.asDynamic().unsafeCast<RequestRedirect>()\n\npublic inline val
RequestRedirect.Companion.MANUAL: RequestRedirect get() =
 `manual`.asDynamic().unsafeCast<RequestRedirect>()\n\n/* please, don't implement this interface!
*\n\n@JsName(`null`)\n\n@Suppress(`NESTED_CLASS_IN_EXTERNAL_INTERFACE`)\n\npublic external
interface ResponseType {\n companion object\n}\n\npublic inline val ResponseType.Companion.BASIC:
ResponseType get() = `basic`.asDynamic().unsafeCast<ResponseType>()\n\npublic inline val

```

```

ResponseType.Companion.CORS: ResponseType get() =
`cors`.asDynamic().unsafeCast<ResponseType>()\n\npublic inline val ResponseType.Companion.DEFAULT:
ResponseType get() = `default`.asDynamic().unsafeCast<ResponseType>()\n\npublic inline
val ResponseType.Companion.ERROR: ResponseType get() =
`error`.asDynamic().unsafeCast<ResponseType>()\n\npublic inline val ResponseType.Companion.OPAQUE:
ResponseType get() = `opaque`.asDynamic().unsafeCast<ResponseType>()\n\npublic inline val
ResponseType.Companion.OPAQUEREDIRECT: ResponseType get() =
`opaqueredirect`.asDynamic().unsafeCast<ResponseType>()", /*\n * Copyright 2010-2021 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT
EDIT!\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.dom.mediacapture\n\nimport
kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.dom.*\nimport org.w3c.dom.events.*\n\n/**\n * Exposes
the JavaScript [MediaStream](https://developer.mozilla.org/en/docs/Web/API/MediaStream) to Kotlin\n *\n\npublic
external open class MediaStream() : EventTarget, MediaProvider
{\n constructor(stream: MediaStream)\n constructor(tracks: Array<MediaStreamTrack>)\n open val id:
String\n open val active: Boolean\n var onaddtrack: ((MediaStreamTrackEvent) -> dynamic)?\n var
onremovetrack: ((MediaStreamTrackEvent) -> dynamic)?\n fun getAudioTracks(): Array<MediaStreamTrack>\n
fun getVideoTracks(): Array<MediaStreamTrack>\n fun getTracks(): Array<MediaStreamTrack>\n fun
getTrackById(trackId: String): MediaStreamTrack?\n fun addTrack(track: MediaStreamTrack)\n fun
removeTrack(track: MediaStreamTrack)\n fun clone(): MediaStream\n}\n\n/**\n * Exposes the JavaScript
[MediaStreamTrack](https://developer.mozilla.org/en/docs/Web/API/MediaStreamTrack) to Kotlin\n *\n\npublic
external abstract class MediaStreamTrack : EventTarget {\n open val kind: String\n open val id: String\n open
val label: String\n open var enabled: Boolean\n open val muted: Boolean\n open var onmute: ((Event) ->
dynamic)?\n open var onunmute:
((Event) -> dynamic)?\n open val readyState: MediaStreamTrackState\n open var onended: ((Event) ->
dynamic)?\n open var onoverconstrained: ((Event) -> dynamic)?\n fun clone(): MediaStreamTrack\n fun
stop()\n fun getCapabilities(): MediaTrackCapabilities\n fun getConstraints(): MediaTrackConstraints\n fun
getSettings(): MediaTrackSettings\n fun applyConstraints(constraints: MediaTrackConstraints =
definedExternally): Promise<Unit>\n}\n\n/**\n * Exposes the JavaScript
[MediaTrackSupportedConstraints](https://developer.mozilla.org/en/docs/Web/API/MediaTrackSupportedConstrain
ts) to Kotlin\n *\n\npublic external interface MediaTrackSupportedConstraints {\n var width: Boolean? /* = true
/\n get() = definedExternally\n set(value) = definedExternally\n var height: Boolean? / = true */\n
get() = definedExternally\n set(value) = definedExternally\n var aspectRatio: Boolean? /* = true */\n get()
= definedExternally\n set(value) = definedExternally\n var frameRate: Boolean? /* = true */\n get() =
definedExternally\n set(value) = definedExternally\n var facingMode: Boolean? /* = true */\n get() =
definedExternally\n set(value) = definedExternally\n var resizeMode: Boolean? /* = true */\n get() =
definedExternally\n set(value) = definedExternally\n var volume: Boolean? /* = true */\n get() =
definedExternally\n set(value) = definedExternally\n var sampleRate: Boolean? /* = true */\n get() =
definedExternally\n set(value) = definedExternally\n var sampleSize: Boolean? /* = true */\n get() =
definedExternally\n set(value) = definedExternally\n var echoCancellation: Boolean? /* = true */\n get() =
definedExternally\n set(value) = definedExternally\n var autoGainControl: Boolean? /* = true */\n get() =
definedExternally\n set(value) = definedExternally\n var noiseSuppression:
Boolean? /* = true */\n get() = definedExternally\n set(value) = definedExternally\n var latency:
Boolean? /* = true */\n get() = definedExternally\n set(value) = definedExternally\n var channelCount:
Boolean? /* = true */\n get() = definedExternally\n set(value) = definedExternally\n var deviceId:
Boolean? /* = true */\n get() = definedExternally\n set(value) = definedExternally\n var groupId:
Boolean? /* = true */\n get() = definedExternally\n set(value) =

```

```

definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun
MediaTrackSupportedConstraints(width: Boolean? = true, height: Boolean? = true, aspectRatio: Boolean? = true,
frameRate: Boolean? = true, facingMode: Boolean? = true, resizeMode: Boolean? = true, volume: Boolean? = true,
sampleRate: Boolean? = true, sampleSize: Boolean? = true, echoCancellation: Boolean? = true,
autoGainControl: Boolean? = true, noiseSuppression: Boolean? = true, latency: Boolean? = true, channelCount:
Boolean? = true, deviceId: Boolean? = true, groupId: Boolean? = true): MediaTrackSupportedConstraints {\n val o
= js(\"({})\")\n o[\"width\"] = width\n o[\"height\"] = height\n o[\"aspectRatio\"] = aspectRatio\n
o[\"frameRate\"] = frameRate\n o[\"facingMode\"] = facingMode\n o[\"resizeMode\"] = resizeMode\n
o[\"volume\"] = volume\n o[\"sampleRate\"] = sampleRate\n o[\"sampleSize\"] = sampleSize\n
o[\"echoCancellation\"] = echoCancellation\n o[\"autoGainControl\"] = autoGainControl\n
o[\"noiseSuppression\"] = noiseSuppression\n o[\"latency\"] = latency\n o[\"channelCount\"] = channelCount\n
o[\"deviceId\"] = deviceId\n o[\"groupId\"] = groupId\n return o\n}\n\npublic external interface
MediaTrackCapabilities {\n var width: ULongRange?\n get() = definedExternally\n set(value) =
definedExternally\n var height:
ULongRange?\n get() = definedExternally\n set(value) = definedExternally\n var aspectRatio:
DoubleRange?\n get() = definedExternally\n set(value) = definedExternally\n var frameRate:
DoubleRange?\n get() = definedExternally\n set(value) = definedExternally\n var facingMode:
Array<String>?\n get() = definedExternally\n set(value) = definedExternally\n var resizeMode:
Array<String>?\n get() = definedExternally\n set(value) = definedExternally\n var volume:
DoubleRange?\n get() = definedExternally\n set(value) = definedExternally\n var sampleRate:
ULongRange?\n get() = definedExternally\n set(value) = definedExternally\n var sampleSize:
ULongRange?\n get() = definedExternally\n set(value) = definedExternally\n var echoCancellation:
Array<Boolean>?\n get() = definedExternally\n set(value) = definedExternally\n var autoGainControl:
Array<Boolean>?\n
get() = definedExternally\n set(value) = definedExternally\n var noiseSuppression: Array<Boolean>?\n
get() = definedExternally\n set(value) = definedExternally\n var latency: DoubleRange?\n get() =
definedExternally\n set(value) = definedExternally\n var channelCount: ULongRange?\n get() =
definedExternally\n set(value) = definedExternally\n var deviceId: String?\n get() = definedExternally\n
set(value) = definedExternally\n var groupId: String?\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun MediaTrackCapabilities(width:
ULongRange? = undefined, height: ULongRange? = undefined, aspectRatio: DoubleRange? = undefined,
frameRate: DoubleRange? = undefined, facingMode: Array<String>? = undefined, resizeMode: Array<String>? =
undefined, volume: DoubleRange?
= undefined, sampleRate: ULongRange? = undefined, sampleSize: ULongRange? = undefined, echoCancellation:
Array<Boolean>? = undefined, autoGainControl: Array<Boolean>? = undefined, noiseSuppression:
Array<Boolean>? = undefined, latency: DoubleRange? = undefined, channelCount: ULongRange? = undefined,
deviceId: String? = undefined, groupId: String? = undefined): MediaTrackCapabilities {\n val o = js(\"({})\")\n
o[\"width\"] = width\n o[\"height\"] = height\n o[\"aspectRatio\"] = aspectRatio\n o[\"frameRate\"] =
frameRate\n o[\"facingMode\"] = facingMode\n o[\"resizeMode\"] = resizeMode\n o[\"volume\"] = volume\n
o[\"sampleRate\"] = sampleRate\n o[\"sampleSize\"] = sampleSize\n o[\"echoCancellation\"] =
echoCancellation\n o[\"autoGainControl\"] = autoGainControl\n o[\"noiseSuppression\"] = noiseSuppression\n
o[\"latency\"] = latency\n o[\"channelCount\"] = channelCount\n o[\"deviceId\"] = deviceId\n o[\"groupId\"] =
groupId\n return o\n}\n\n**\n
* Exposes the JavaScript
[MediaTrackConstraints](https://developer.mozilla.org/en/docs/Web/API/MediaTrackConstraints) to Kotlin\n
*\n\npublic external interface MediaTrackConstraints : MediaTrackConstraintSet {\n var advanced:

```

```

Array<MediaTrackConstraintSet>? \n get() = definedExternally \n set(value) =
definedExternally \n} \n \n @Suppress(\\"INVISIBLE_REFERENCE\",
\\"INVISIBLE_MEMBER\") \n @kotlin.internal.InlineOnly \n public inline fun MediaTrackConstraints(advanced:
Array<MediaTrackConstraintSet>? = undefined, width: dynamic = undefined, height: dynamic = undefined,
aspectRatio: dynamic = undefined, frameRate: dynamic = undefined, facingMode: dynamic = undefined,
resizeMode: dynamic = undefined, volume: dynamic = undefined, sampleRate: dynamic = undefined, sampleSize:
dynamic = undefined, echoCancellation: dynamic = undefined, autoGainControl: dynamic = undefined,
noiseSuppression: dynamic = undefined, latency: dynamic = undefined, channelCount: dynamic = undefined,
deviceId: dynamic = undefined, groupId: dynamic = undefined): MediaTrackConstraints { \n val o = js(\\"({})\") \n
o[\\"advanced\\"] = advanced \n o[\\"width\\"] = width \n o[\\"height\\"] = height \n o[\\"aspectRatio\\"] =
aspectRatio \n o[\\"frameRate\\"] = frameRate \n o[\\"facingMode\\"] = facingMode \n o[\\"resizeMode\\"] =
resizeMode \n o[\\"volume\\"] = volume \n o[\\"sampleRate\\"] = sampleRate \n o[\\"sampleSize\\"] = sampleSize \n
o[\\"echoCancellation\\"] = echoCancellation \n o[\\"autoGainControl\\"] = autoGainControl \n
o[\\"noiseSuppression\\"] = noiseSuppression \n o[\\"latency\\"] = latency \n o[\\"channelCount\\"] = channelCount \n
o[\\"deviceId\\"] = deviceId \n o[\\"groupId\\"] = groupId \n return o \n} \n \n public external interface
MediaTrackConstraintSet { \n var width: dynamic \n get() = definedExternally \n set(value) =
definedExternally \n var height: dynamic \n get() = definedExternally \n set(value) = definedExternally \n
var aspectRatio:
dynamic \n get() = definedExternally \n set(value) = definedExternally \n var frameRate: dynamic \n
get() = definedExternally \n set(value) = definedExternally \n var facingMode: dynamic \n get() =
definedExternally \n set(value) = definedExternally \n var resizeMode: dynamic \n get() =
definedExternally \n set(value) = definedExternally \n var volume: dynamic \n get() = definedExternally \n
set(value) = definedExternally \n var sampleRate: dynamic \n get() = definedExternally \n set(value) =
definedExternally \n var sampleSize: dynamic \n get() = definedExternally \n set(value) =
definedExternally \n var echoCancellation: dynamic \n get() = definedExternally \n set(value) =
definedExternally \n var autoGainControl: dynamic \n get() = definedExternally \n set(value) =
definedExternally \n var noiseSuppression: dynamic \n get() = definedExternally \n
set(value) = definedExternally \n var latency: dynamic \n get() = definedExternally \n set(value) =
definedExternally \n var channelCount: dynamic \n get() = definedExternally \n set(value) =
definedExternally \n var deviceId: dynamic \n get() = definedExternally \n set(value) = definedExternally \n
var groupId: dynamic \n get() = definedExternally \n set(value) =
definedExternally \n} \n \n @Suppress(\\"INVISIBLE_REFERENCE\",
\\"INVISIBLE_MEMBER\") \n @kotlin.internal.InlineOnly \n public inline fun MediaTrackConstraintSet(width:
dynamic = undefined, height: dynamic = undefined, aspectRatio: dynamic = undefined, frameRate: dynamic =
undefined, facingMode: dynamic = undefined, resizeMode: dynamic = undefined, volume: dynamic = undefined,
sampleRate: dynamic = undefined, sampleSize: dynamic = undefined, echoCancellation: dynamic = undefined,
autoGainControl: dynamic = undefined, noiseSuppression: dynamic = undefined, latency: dynamic
= undefined, channelCount: dynamic = undefined, deviceId: dynamic = undefined, groupId: dynamic = undefined):
MediaTrackConstraintSet { \n val o = js(\\"({})\") \n o[\\"width\\"] = width \n o[\\"height\\"] = height \n
o[\\"aspectRatio\\"] = aspectRatio \n o[\\"frameRate\\"] = frameRate \n o[\\"facingMode\\"] = facingMode \n
o[\\"resizeMode\\"] = resizeMode \n o[\\"volume\\"] = volume \n o[\\"sampleRate\\"] = sampleRate \n
o[\\"sampleSize\\"] = sampleSize \n o[\\"echoCancellation\\"] = echoCancellation \n o[\\"autoGainControl\\"] =
autoGainControl \n o[\\"noiseSuppression\\"] = noiseSuppression \n o[\\"latency\\"] = latency \n
o[\\"channelCount\\"] = channelCount \n o[\\"deviceId\\"] = deviceId \n o[\\"groupId\\"] = groupId \n return
o \n} \n \n /** \n * Exposes the JavaScript
[MediaTrackSettings](https://developer.mozilla.org/en/docs/Web/API/MediaTrackSettings) to Kotlin \n * \n public
external interface MediaTrackSettings { \n var width: Int? \n get() = definedExternally \n

```

```

set(value) = definedExternally\n var height: Int?\n get() = definedExternally\n set(value) =
definedExternally\n var aspectRatio: Double?\n get() = definedExternally\n set(value) =
definedExternally\n var frameRate: Double?\n get() = definedExternally\n set(value) =
definedExternally\n var facingMode: String?\n get() = definedExternally\n set(value) =
definedExternally\n var resizeMode: String?\n get() = definedExternally\n set(value) =
definedExternally\n var volume: Double?\n get() = definedExternally\n set(value) = definedExternally\n
var sampleRate: Int?\n get() = definedExternally\n set(value) = definedExternally\n var sampleSize:
Int?\n get() = definedExternally\n set(value) = definedExternally\n var echoCancellation: Boolean?\n
get() = definedExternally\n set(value) = definedExternally\n var autoGainControl: Boolean?\n
get() = definedExternally\n set(value) = definedExternally\n var noiseSuppression: Boolean?\n get() =
definedExternally\n set(value) = definedExternally\n var latency: Double?\n get() = definedExternally\n
set(value) = definedExternally\n var channelCount: Int?\n get() = definedExternally\n set(value) =
definedExternally\n var deviceId: String?\n get() = definedExternally\n set(value) = definedExternally\n
var groupId: String?\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun MediaTrackSettings(width: Int? =
undefined, height: Int? = undefined, aspectRatio: Double? = undefined, frameRate: Double? = undefined,
facingMode: String? = undefined, resizeMode: String? = undefined, volume: Double? = undefined, sampleRate: Int?
= undefined, sampleSize: Int? = undefined, echoCancellation:
Boolean? = undefined, autoGainControl: Boolean? = undefined, noiseSuppression: Boolean? = undefined, latency:
Double? = undefined, channelCount: Int? = undefined, deviceId: String? = undefined, groupId: String? =
undefined): MediaTrackSettings {\n val o = js(\"({})\")\n o[\"width\"] = width\n o[\"height\"] = height\n
o[\"aspectRatio\"] = aspectRatio\n o[\"frameRate\"] = frameRate\n o[\"facingMode\"] = facingMode\n
o[\"resizeMode\"] = resizeMode\n o[\"volume\"] = volume\n o[\"sampleRate\"] = sampleRate\n
o[\"sampleSize\"] = sampleSize\n o[\"echoCancellation\"] = echoCancellation\n o[\"autoGainControl\"] =
autoGainControl\n o[\"noiseSuppression\"] = noiseSuppression\n o[\"latency\"] = latency\n
o[\"channelCount\"] = channelCount\n o[\"deviceId\"] = deviceId\n o[\"groupId\"] = groupId\n return
o\n}\n\n/**\n * Exposes the JavaScript
[MediaStreamTrackEvent](https://developer.mozilla.org/en/docs/Web/API/MediaStreamTrackEvent) to Kotlin\n
*/\npublic external open class MediaStreamTrackEvent(type: String, eventInitDict: MediaStreamTrackEventInit) :
Event {\n open val track: MediaStreamTrack\n\n companion object {\n val NONE: Short\n val
CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n
}\n}\n\npublic external interface MediaStreamTrackEventInit : EventInit {\n var track:
MediaStreamTrack?\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun MediaStreamTrackEventInit(track:
MediaStreamTrack?, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false):
MediaStreamTrackEventInit {\n val o = js(\"({})\")\n o[\"track\"] = track\n o[\"bubbles\"] = bubbles\n
o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n}\n\npublic external open class
OverconstrainedErrorEvent(type: String, eventInitDict: OverconstrainedErrorEventInit) : Event {\n
 open val error: dynamic\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE:
Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n
}\n}\n\npublic external interface
OverconstrainedErrorEventInit : EventInit {\n var error: dynamic /* = null */\n get() = definedExternally\n
set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun OverconstrainedErrorEventInit(error:
dynamic = null, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false):
OverconstrainedErrorEventInit {\n val o = js(\"({})\")\n o[\"error\"] = error\n o[\"bubbles\"] = bubbles\n
o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript
[MediaDevices](https://developer.mozilla.org/en/docs/Web/API/MediaDevices) to Kotlin\n
*/\npublic external

```

```

abstract class MediaDevices : EventTarget
{
 open var ondevicechange: ((Event) -> dynamic)?
 fun enumerateDevices():
 Promise<Array<MediaDeviceInfo>>
 fun getSupportedConstraints(): MediaTrackSupportedConstraints
 fun
 getUserMedia(constraints: MediaStreamConstraints = definedExternally): Promise<MediaStream>
}

Exposes the JavaScript [MediaDeviceInfo](https://developer.mozilla.org/en/docs/Web/API/MediaDeviceInfo) to
Kotlin

*public external abstract class MediaDeviceInfo {
 open val deviceId: String
 open val kind:
 MediaDeviceKind
 open val label: String
 open val groupId: String
 fun toJSON(): dynamic
}

public
external abstract class InputDeviceInfo : MediaDeviceInfo {
 fun getCapabilities():
 MediaTrackCapabilities

Exposes the JavaScript
[MediaStreamConstraints](https://developer.mozilla.org/en/docs/Web/API/MediaStreamConstraints) to Kotlin

*public external interface MediaStreamConstraints {
 var video: dynamic /* = false */
 get()
 = definedExternally
 set(value) = definedExternally
 var audio: dynamic /* = false */
 get() =
 definedExternally
 set(value) = definedExternally
}

@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline fun MediaStreamConstraints(video:
dynamic = false, audio: dynamic = false): MediaStreamConstraints {
 val o = js("{}")
 o["video"] =
 video
 o["audio"] = audio
 return o
}

public external interface ConstrainingPattern {
 var
 onoverconstrained: ((Event) -> dynamic)?
 get() = definedExternally
 set(value) = definedExternally
 fun getCapabilities(): Capabilities
 fun getConstraints(): Constraints
 fun getSettings(): Settings
 fun
 applyConstraints(constraints: Constraints = definedExternally): Promise<Unit>
}

Exposes the
JavaScript [DoubleRange](https://developer.mozilla.org/en/docs/Web/API/DoubleRange) to Kotlin

*public
external interface
 DoubleRange {
 var max: Double?
 get() = definedExternally
 set(value) = definedExternally
 var
 min: Double?
 get() = definedExternally
 set(value) =
 definedExternally
 }

@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline fun DoubleRange(max: Double? =
undefined, min: Double? = undefined): DoubleRange {
 val o = js("{}")
 o["max"] = max
 o["min"] =
 min
 return o
}

public external interface ConstrainDoubleRange : DoubleRange {
 var exact: Double?
 get() = definedExternally
 set(value) = definedExternally
 var ideal: Double?
 get() =
 definedExternally
 set(value) = definedExternally
}

@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline fun ConstrainDoubleRange(exact: Double?
= undefined, ideal: Double? = undefined, max: Double? = undefined, min: Double? = undefined):
ConstrainDoubleRange
{
 val o = js("{}")
 o["exact"] = exact
 o["ideal"] = ideal
 o["max"] = max
 o["min"] =
 min
 return o
}

public external interface ULongRange {
 var max: Int?
 get() = definedExternally
 set(value) = definedExternally
 var min: Int?
 get() = definedExternally
 set(value) =
 definedExternally
}

@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline fun ULongRange(max: Int? = undefined,
min: Int? = undefined): ULongRange {
 val o = js("{}")
 o["max"] = max
 o["min"] = min
 return
 o
}

public external interface ConstrainULongRange : ULongRange {
 var exact: Int?
 get() =
 definedExternally
 set(value) = definedExternally
 var ideal: Int?
 get() = definedExternally
 set(value) = definedExternally
}

@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public
 inline fun ConstrainULongRange(exact: Int? = undefined, ideal: Int? = undefined, max: Int? =
 undefined, min: Int?
 = undefined): ConstrainULongRange {
 val o = js("{}")
 o["exact"] = exact
 o["ideal"] = ideal
 o["max"] = max
 o["min"] = min
 return o
 }

Exposes the JavaScript
[ConstrainBooleanParameters](https://developer.mozilla.org/en/docs/Web/API/ConstrainBooleanParameters) to
Kotlin

*public external interface ConstrainBooleanParameters {
 var exact: Boolean?
 get() =
 definedExternally
 set(value) = definedExternally
 var ideal: Boolean?
 get() = definedExternally
}

```

```

set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun ConstrainBooleanParameters(exact:
Boolean? = undefined, ideal: Boolean? = undefined): ConstrainBooleanParameters {\n val o = js("{}")\n}
o["exact"] = exact\n o["ideal"]
= ideal\n return o\n}\n\n/** Exposes the JavaScript
[ConstrainDOMStringParameters](https://developer.mozilla.org/en/docs/Web/API/ConstrainDOMStringParameters)
to Kotlin\n */\npublic external interface ConstrainDOMStringParameters {\n var exact: dynamic\n get() =
definedExternally\n set(value) = definedExternally\n var ideal: dynamic\n get() = definedExternally\n}
set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun
ConstrainDOMStringParameters(exact: dynamic = undefined, ideal: dynamic = undefined):
ConstrainDOMStringParameters {\n val o = js("{}")\n}
o["exact"] = exact\n o["ideal"] = ideal\n return
o\n}\n\npublic external interface Capabilities\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun Capabilities(): Capabilities {\n val o
= js("{}")\n return o\n}\n\npublic
external interface Settings\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun Settings(): Settings {\n val o =
js("{}")\n return o\n}\n\npublic external interface ConstraintSet\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun ConstraintSet(): ConstraintSet {\n
val o = js("{}")\n return o\n}\n\npublic external interface Constraints : ConstraintSet {\n var advanced:
Array<ConstraintSet>?\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun Constraints(advanced:
Array<ConstraintSet>? = undefined): Constraints {\n val o = js("{}")\n o["advanced"] = advanced\n
return o\n}\n\n/* please, don't implement this interface!
*/\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface
MediaStreamTrackState {\n companion object\n}\n\npublic inline val MediaStreamTrackState.Companion.LIVE:
MediaStreamTrackState get() = "live".asDynamic().unsafeCast<MediaStreamTrackState>()\n\npublic inline val
MediaStreamTrackState.Companion.ENDED: MediaStreamTrackState get() =
"ended".asDynamic().unsafeCast<MediaStreamTrackState>()\n\n/* please, don't implement this interface!
*/\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface VideoFacingModeEnum {\n companion object\n}\n\npublic inline val
VideoFacingModeEnum.Companion.USER: VideoFacingModeEnum get() =
"user".asDynamic().unsafeCast<VideoFacingModeEnum>()\n\npublic inline val
VideoFacingModeEnum.Companion.ENVIRONMENT: VideoFacingModeEnum get() =
"environment".asDynamic().unsafeCast<VideoFacingModeEnum>()\n\npublic inline val
VideoFacingModeEnum.Companion.LEFT: VideoFacingModeEnum get() =
"left".asDynamic().unsafeCast<VideoFacingModeEnum>()\n\npublic inline val
VideoFacingModeEnum.Companion.RIGHT: VideoFacingModeEnum get() =
"right".asDynamic().unsafeCast<VideoFacingModeEnum>()\n\n/* please, don't implement this interface!
*/\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface VideoResizeModeEnum {\n companion object\n}\n\npublic inline val
VideoResizeModeEnum.Companion.NONE: VideoResizeModeEnum get() =
"none".asDynamic().unsafeCast<VideoResizeModeEnum>()\n\npublic inline val
VideoResizeModeEnum.Companion.CROP_AND_SCALE: VideoResizeModeEnum get() = "crop-and-
scale".asDynamic().unsafeCast<VideoResizeModeEnum>()\n\n/* please, don't implement this interface!
*/\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external

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interface MediaDeviceKind {\n companion object\n}\n\npublic inline val
MediaDeviceKind.Companion.AUDIOINPUT: MediaDeviceKind get() =
\"audioinput\".asDynamic().unsafeCast<MediaDeviceKind>()\n\npublic inline val
MediaDeviceKind.Companion.AUDIOOUTPUT:
 MediaDeviceKind get() = \"audiooutput\".asDynamic().unsafeCast<MediaDeviceKind>()\n\npublic inline val
MediaDeviceKind.Companion.VIDEOINPUT: MediaDeviceKind get() =
\"videoinput\".asDynamic().unsafeCast<MediaDeviceKind>()),/*\n * Copyright 2010-2021 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT
EDIT!\n\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.dom.mediasource\n\nimport
kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.dom.*\nimport org.w3c.dom.events.*\n\n/**\n * Exposes
the JavaScript [MediaSource](https://developer.mozilla.org/en/docs/Web/API/MediaSource) to Kotlin\n */\n\npublic
external open class MediaSource : EventTarget, MediaProvider {\n open val sourceBuffers: SourceBufferList\n
open val activeSourceBuffers: SourceBufferList\n open val readyState: ReadyState\n
 var duration: Double\n var onsourceopen: ((Event) -> dynamic)?\n var onsourceended: ((Event) ->
dynamic)?\n var onsourceclose: ((Event) -> dynamic)?\n fun addSourceBuffer(type: String): SourceBuffer\n
fun removeSourceBuffer(sourceBuffer: SourceBuffer)\n fun endOfStream(error: EndOfStreamError =
definedExternally)\n fun setLiveSeekableRange(start: Double, end: Double)\n fun clearLiveSeekableRange()\n\n
 companion object {\n fun isTypeSupported(type: String): Boolean\n }\n\n/**\n * Exposes the JavaScript
[SourceBuffer](https://developer.mozilla.org/en/docs/Web/API/SourceBuffer) to Kotlin\n */\n\npublic external
abstract class SourceBuffer : EventTarget {\n open var mode: AppendMode\n open val updating: Boolean\n
open val buffered: TimeRanges\n open var timestampOffset: Double\n open val audioTracks: AudioTrackList\n
open val videoTracks: VideoTrackList\n open val textTracks: TextTrackList\n open var appendWindowStart:
Double\n
 open var appendWindowEnd: Double\n open var onupdatestart: ((Event) -> dynamic)?\n open var onupdate:
((Event) -> dynamic)?\n open var onupdateend: ((Event) -> dynamic)?\n open var onerror: ((Event) ->
dynamic)?\n open var onabort: ((Event) -> dynamic)?\n fun appendBuffer(data: dynamic)\n fun abort()\n fun
remove(start: Double, end: Double)\n}\n\n/**\n * Exposes the JavaScript
[SourceBufferList](https://developer.mozilla.org/en/docs/Web/API/SourceBufferList) to Kotlin\n */\n\npublic
external abstract class SourceBufferList : EventTarget {\n open val length: Int\n open var onaddsourcebuffer:
((Event) -> dynamic)?\n open var onremovesourcebuffer: ((Event) ->
dynamic)?\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun SourceBufferList.get(index:
Int): SourceBuffer? = asDynamic()[index]\n\n/* please, don't implement this interface!
*\n\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic
external interface ReadyState {\n companion object\n}\n\npublic inline val ReadyState.Companion.CLOSED:
ReadyState get() = \"closed\".asDynamic().unsafeCast<ReadyState>()\n\npublic inline val
ReadyState.Companion.OPEN: ReadyState get() = \"open\".asDynamic().unsafeCast<ReadyState>()\n\npublic
inline val ReadyState.Companion.ENDED: ReadyState get() =
\"ended\".asDynamic().unsafeCast<ReadyState>()\n\n/* please, don't implement this interface!
*\n\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external
interface EndOfStreamError {\n companion object\n}\n\npublic inline val
EndOfStreamError.Companion.NETWORK: EndOfStreamError get() =
\"network\".asDynamic().unsafeCast<EndOfStreamError>()\n\npublic inline val
EndOfStreamError.Companion.DECODE: EndOfStreamError get() =
\"decode\".asDynamic().unsafeCast<EndOfStreamError>()\n\n/* please, don't implement this interface!
*\n\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic

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external interface AppendMode {\n companion object\n}\n\npublic inline val
AppendMode.Companion.SEGMENTS: AppendMode get() =
\"segments\".asDynamic().unsafeCast<AppendMode>()\n\npublic inline val
AppendMode.Companion.SEQUENCE: AppendMode get() =
\"sequence\".asDynamic().unsafeCast<AppendMode>()\"/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n *^\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n//
See github.com/kotlin/dukat for details\n\npackage org.w3c.dom.pointerevents\n\nimport kotlin.js.*\nimport
org.khronos.webgl.*\nimport org.w3c.dom.*\nimport org.w3c.dom.events.*\n\npublic external interface
PointerEventInit : MouseEventInit {\n var pointerId: Int? /* = 0 */\n get() = definedExternally\n
set(value) = definedExternally\n var width: Double? /* = 1.0 */\n get() = definedExternally\n
set(value) = definedExternally\n var height: Double? /* = 1.0 */\n get() = definedExternally\n
set(value) = definedExternally\n var pressure: Float? /* = 0f */\n get() = definedExternally\n
set(value) = definedExternally\n var tangentialPressure: Float? /* = 0f */\n get() = definedExternally\n
set(value) = definedExternally\n var tiltX: Int? /* = 0 */\n get() = definedExternally\n
set(value) = definedExternally\n var tiltY: Int? /* = 0 */\n get() = definedExternally\n
set(value) = definedExternally\n var twist: Int? /* =
0 */\n get() = definedExternally\n
set(value) = definedExternally\n var pointerType: String? /* = \"\" */\n
get() = definedExternally\n
set(value) = definedExternally\n var isPrimary: Boolean? /* = false */\n
get() = definedExternally\n
set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic
inline fun PointerEventInit(pointerId: Int? = 0, width: Double? = 1.0, height: Double? = 1.0, pressure: Float? = 0f,
tangentialPressure: Float? = 0f, tiltX: Int? = 0, tiltY: Int? = 0, twist: Int? = 0, pointerType: String? = \"\", isPrimary:
Boolean? = false, screenX: Int? = 0, screenY: Int? = 0, clientX: Int? = 0, clientY: Int? = 0, button: Short? = 0,
buttons: Short? = 0, relatedTarget: EventTarget? = null, region: String? = null, ctrlKey: Boolean? = false, shiftKey:
Boolean? = false, altKey: Boolean? = false, metaKey: Boolean? = false, modifierAltGraph: Boolean? = false,
modifierCapsLock: Boolean? = false, modifierFn: Boolean? = false, modifierFnLock: Boolean? = false,
modifierHyper: Boolean? = false, modifierNumLock: Boolean? = false, modifierScrollLock: Boolean? = false,
modifierSuper: Boolean? = false, modifierSymbol: Boolean? = false, modifierSymbolLock: Boolean? = false, view:
Window? = null, detail: Int? = 0, bubbles: Boolean?
= false, cancelable: Boolean? = false, composed: Boolean? = false): PointerEventInit {\n val o = js(\"({})\")\n
o[\"pointerId\"] = pointerId\n o[\"width\"] = width\n o[\"height\"] = height\n o[\"pressure\"] = pressure\n
o[\"tangentialPressure\"] = tangentialPressure\n o[\"tiltX\"] = tiltX\n o[\"tiltY\"] = tiltY\n o[\"twist\"] = twist\n
o[\"pointerType\"] = pointerType\n o[\"isPrimary\"] = isPrimary\n o[\"screenX\"] = screenX\n o[\"screenY\"]
= screenY\n o[\"clientX\"] = clientX\n o[\"clientY\"] = clientY\n o[\"button\"] = button\n o[\"buttons\"] =
buttons\n o[\"relatedTarget\"] = relatedTarget\n o[\"region\"] = region\n o[\"ctrlKey\"] = ctrlKey\n
o[\"shiftKey\"] = shiftKey\n o[\"altKey\"] = altKey\n o[\"metaKey\"] = metaKey\n o[\"modifierAltGraph\"] =
modifierAltGraph\n o[\"modifierCapsLock\"] = modifierCapsLock\n o[\"modifierFn\"] = modifierFn\n
o[\"modifierFnLock\"] = modifierFnLock\n o[\"modifierHyper\"]
= modifierHyper\n o[\"modifierNumLock\"] = modifierNumLock\n o[\"modifierScrollLock\"] =
modifierScrollLock\n o[\"modifierSuper\"] = modifierSuper\n o[\"modifierSymbol\"] = modifierSymbol\n
o[\"modifierSymbolLock\"] = modifierSymbolLock\n o[\"view\"] = view\n o[\"detail\"] = detail\n
o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return
o\n}\n\n/**\n * Exposes the JavaScript
[PointerEvent](https://developer.mozilla.org/en/docs/Web/API/PointerEvent) to Kotlin\n */\n\npublic external open
class PointerEvent(type: String, eventInitDict: PointerEventInit = definedExternally) : MouseEvent {\n open val
pointerId: Int\n open val width: Double\n open val height: Double\n open val pressure: Float\n open val
tangentialPressure: Float\n open val tiltX: Int\n open val tiltY: Int\n open val twist: Int\n open val
pointerType: String\n open val isPrimary: Boolean\n\n companion object {\n

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 val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val
BUBBLING_PHASE: Short\n } \n }", "/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n\n See
github.com/kotlin/dukat for details\n\npackage org.w3c.dom.svg\n\nimport kotlin.js.*\nimport
org.khronos.webgl.*\nimport org.w3c.dom.*\nimport org.w3c.dom.css.*\n\n/**\n * Exposes the JavaScript
[SVGElement](https://developer.mozilla.org/en/docs/Web/API/SVGElement) to Kotlin\n\n\npublic external
abstract class SVGElement : Element, ElementCSSInlineStyle, GlobalEventHandlers, SVGElementInstance {\n
open val dataset: DOMStringMap\n open val ownerSVGElement: SVGSVGElement?\n open val
viewportElement: SVGElement?\n open var tabIndex: Int\n fun focus()\n fun blur()\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val
TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n } \n\npublic external interface
SVGBoundingBoxOptions {\n var fill: Boolean? /* = true */\n get() = definedExternally\n set(value) =
definedExternally\n var stroke: Boolean? /* = false */\n get()
= definedExternally\n set(value) = definedExternally\n var markers: Boolean? /* = false */\n get() =
definedExternally\n set(value) = definedExternally\n var clipped: Boolean? /* = false */\n get() =
definedExternally\n set(value) = definedExternally\n } \n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun SVGBoundingBoxOptions(fill:
Boolean? = true, stroke: Boolean? = false, markers: Boolean? = false, clipped: Boolean? = false):
SVGBoundingBoxOptions {\n val o = js("{}")\n o["fill"] = fill\n o["stroke"] = stroke\n o["markers"]
= markers\n o["clipped"] = clipped\n return o\n } \n\n/**\n * Exposes the JavaScript
[SVGGraphicsElement](https://developer.mozilla.org/en/docs/Web/API/SVGGraphicsElement) to Kotlin\n\n\npublic external abstract class SVGGraphicsElement : SVGElement, SVGTests {\n open val transform:
SVGAnimatedTransformList\n fun getBBox(options:
SVGBoundingBoxOptions = definedExternally): DOMRect\n fun getCTM(): DOMMatrix?\n fun
getScreenCTM(): DOMMatrix?\n\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n } \n\n/**\n * Exposes the JavaScript
[SVGGeometryElement](https://developer.mozilla.org/en/docs/Web/API/SVGGeometryElement)
to Kotlin\n\n\npublic external abstract class SVGGeometryElement : SVGGraphicsElement {\n open val
pathLength: SVGAnimatedNumber\n fun isPointInFill(point: DOMPoint): Boolean\n fun isPointInStroke(point:
DOMPoint): Boolean\n fun getTotalLength(): Float\n fun getPointAtLength(distance: Float): DOMPoint\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val
TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:

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Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n} \n \n /** \n * Exposes the JavaScript
[SVGNumber](https://developer.mozilla.org/en/docs/Web/API/SVGNumber) to Kotlin \n * \n public external
abstract class SVGNumber { \n open var value: Float \n} \n \n /** \n * Exposes the JavaScript
[SVGLength](https://developer.mozilla.org/en/docs/Web/API/SVGLength) to Kotlin \n * \n public external
abstract class SVGLength { \n open val unitType: Short\n open var value: Float\n open var valueInSpecifiedUnits:
Float\n open var valueAsString: String\n fun newValueSpecifiedUnits(unitType: Short, valueInSpecifiedUnits:
Float)\n fun convertToSpecifiedUnits(unitType: Short)\n\n companion object { \n val
SVG_LENGTHTYPE_UNKNOWN: Short\n val SVG_LENGTHTYPE_NUMBER: Short\n val
SVG_LENGTHTYPE_PERCENTAGE: Short\n val SVG_LENGTHTYPE_EMS: Short\n val
SVG_LENGTHTYPE_EXS: Short\n val SVG_LENGTHTYPE_PX:
Short\n val SVG_LENGTHTYPE_CM: Short\n val SVG_LENGTHTYPE_MM: Short\n val
SVG_LENGTHTYPE_IN: Short\n val SVG_LENGTHTYPE_PT: Short\n val SVG_LENGTHTYPE_PC:
Short\n } \n} \n \n /** \n * Exposes the JavaScript
[SVGAngle](https://developer.mozilla.org/en/docs/Web/API/SVGAngle) to Kotlin \n * \n public external
abstract class SVGAngle { \n open val unitType: Short\n open var value: Float\n open var valueInSpecifiedUnits:
Float\n open var valueAsString: String\n fun newValueSpecifiedUnits(unitType: Short, valueInSpecifiedUnits:
Float)\n fun convertToSpecifiedUnits(unitType: Short)\n\n companion object { \n val
SVG_ANGLETYPE_UNKNOWN: Short\n val SVG_ANGLETYPE_UNSPECIFIED: Short\n val
SVG_ANGLETYPE_DEG: Short\n val SVG_ANGLETYPE_RAD: Short\n val
SVG_ANGLETYPE_GRAD: Short\n } \n} \n \n public external abstract class SVGNameList { \n open val length:
Int\n open val numberOfItems: Int\n fun clear()\n
 fun initialize(newItem: dynamic): dynamic\n fun insertItemBefore(newItem: dynamic, index: Int): dynamic\n
 fun replaceItem(newItem: dynamic, index: Int): dynamic\n fun removeItem(index: Int): dynamic\n fun
appendItem(newItem: dynamic): dynamic\n fun getItem(index: Int):
dynamic\n} \n \n @Suppress(\ "INVISIBLE_REFERENCE",
\ "INVISIBLE_MEMBER") \n @kotlin.internal.InlineOnly \n public inline operator fun SVGNameList.get(index: Int):
dynamic = asDynamic()[index] \n \n @Suppress(\ "INVISIBLE_REFERENCE",
\ "INVISIBLE_MEMBER") \n @kotlin.internal.InlineOnly \n public inline operator fun SVGNameList.set(index: Int,
newItem: dynamic) { asDynamic()[index] = newItem } \n \n /** \n * Exposes the JavaScript
[SVGNumberList](https://developer.mozilla.org/en/docs/Web/API/SVGNumberList) to Kotlin \n * \n public external
abstract class SVGNumberList { \n open val length: Int\n open val numberOfItems: Int\n fun clear()\n fun
initialize(newItem: SVGNumber): SVGNumber\n fun insertItemBefore(newItem:
SVGNumber, index: Int): SVGNumber\n fun replaceItem(newItem: SVGNumber, index: Int): SVGNumber\n
 fun removeItem(index: Int): SVGNumber\n fun appendItem(newItem: SVGNumber): SVGNumber\n fun
getItem(index: Int): SVGNumber\n} \n \n @Suppress(\ "INVISIBLE_REFERENCE",
\ "INVISIBLE_MEMBER") \n @kotlin.internal.InlineOnly \n public inline operator fun SVGNumberList.get(index:
Int): SVGNumber? = asDynamic()[index] \n \n @Suppress(\ "INVISIBLE_REFERENCE",
\ "INVISIBLE_MEMBER") \n @kotlin.internal.InlineOnly \n public inline operator fun SVGNumberList.set(index:
Int, newItem: SVGNumber) { asDynamic()[index] = newItem } \n \n /** \n * Exposes the JavaScript
[SVGLengthList](https://developer.mozilla.org/en/docs/Web/API/SVGLengthList) to Kotlin \n * \n public external
abstract class SVGLengthList { \n open val length: Int\n open val numberOfItems: Int\n fun clear()\n fun
initialize(newItem: SVGLength): SVGLength\n fun insertItemBefore(newItem: SVGLength, index: Int):

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SVGLength

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fun replaceItem(newItem: SVGLength, index: Int): SVGLength fun removeItem(index: Int): SVGLength
fun appendItem(newItem: SVGLength): SVGLength fun getItem(index: Int):
SVGLength}
@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline operator fun SVGLengthList.get(index:
Int): SVGLength? = asDynamic()[index]
@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline operator fun SVGLengthList.set(index: Int,
newItem: SVGLength) { asDynamic()[index] = newItem }
** Exposes the JavaScript
[SVGAnimatedBoolean](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedBoolean) to Kotlin
*
public external abstract class SVGAnimatedBoolean {
open var baseVal: Boolean
open val animVal:
Boolean}
** Exposes the JavaScript
[SVGAnimatedEnumeration](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedEnumeration) to
Kotlin
*
public external abstract
class SVGAnimatedEnumeration {
open var baseVal: Short
open val animVal: Short}
** Exposes the JavaScript
[SVGAnimatedInteger](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedInteger) to
Kotlin
*
public external abstract class SVGAnimatedInteger {
open var baseVal: Int
open val animVal:
Int}
** Exposes the JavaScript
[SVGAnimatedNumber](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedNumber) to Kotlin
*
public external abstract class SVGAnimatedNumber {
open var baseVal: Float
open val animVal:
Float}
** Exposes the JavaScript
[SVGAnimatedLength](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedLength) to Kotlin
*
public external abstract class SVGAnimatedLength {
open val baseVal: SVGLength
open val animVal:
SVGLength}
** Exposes the JavaScript
[SVGAnimatedAngle](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedAngle) to Kotlin
*
public external abstract
class SVGAnimatedAngle {
open val baseVal: SVGAngle
open val animVal: SVGAngle}
** Exposes the JavaScript
[SVGAnimatedString](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedString) to Kotlin
*
public external abstract class SVGAnimatedString {
open var baseVal: String
open val animVal: String}
** Exposes the JavaScript
[SVGAnimatedRect](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedRect)
to Kotlin
*
public external abstract class SVGAnimatedRect {
open val baseVal: DOMRect
open val
animVal: DOMRectReadOnly}
** Exposes the JavaScript
[SVGAnimatedNumberList](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedNumberList) to Kotlin
*
public external abstract class SVGAnimatedNumberList {
open val baseVal: SVGNumberList
open val
animVal: SVGNumberList}
** Exposes the JavaScript
[SVGAnimatedLengthList](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedLengthList) to
Kotlin
*
public external abstract class SVGAnimatedLengthList {
open val baseVal: SVGLengthList
open val animVal: SVGLengthList}
** Exposes the JavaScript
[SVGStringList](https://developer.mozilla.org/en/docs/Web/API/SVGStringList) to Kotlin
*
public external
abstract class SVGStringList {
open val length: Int
open val numberOfItems: Int
fun clear()
fun
initialize(newItem: String): String
fun insertItemBefore(newItem: String, index: Int): String
fun
replaceItem(newItem: String, index: Int): String
fun removeItem(index: Int): String
fun
appendItem(newItem: String): String
fun getItem(index: Int):
String}
@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline operator fun SVGStringList.get(index:
Int): String? = asDynamic()[index]
@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline operator fun SVGStringList.set(index:
```

```

Int, newItem: String) { asDynamic()[index] = newItem } \n\n/** \n * Exposes the JavaScript
[SVGUnitTypes](https://developer.mozilla.org/en/docs/Web/API/SVGUnitTypes) to Kotlin \n
*\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE") \npublic external interface SVGUnitTypes
{\n companion object {\n val SVG_UNIT_TYPE_UNKNOWN: Short \n val
SVG_UNIT_TYPE_USERSPACEONUSE: Short \n val SVG_UNIT_TYPE_OBJECTBOUNDINGBOX:
Short \n } \n} \n\n/** \n * Exposes the JavaScript
[SVGTTests](https://developer.mozilla.org/en/docs/Web/API/SVGTTests) to Kotlin \n *\npublic external interface
SVGTTests {\n val requiredExtensions: SVGStringList \n val systemLanguage: SVGStringList \n} \n\npublic
external interface SVGFitToViewBox {\n val viewBox: SVGAnimatedRect \n val preserveAspectRatio:
SVGAnimatedPreserveAspectRatio \n} \n\n/** \n * Exposes the JavaScript
[SVGZoomAndPan](https://developer.mozilla.org/en/docs/Web/API/SVGZoomAndPan) to Kotlin \n
*\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE") \npublic
external interface SVGZoomAndPan {\n var zoomAndPan: Short \n\n companion object {\n val
SVG_ZOOMANDPAN_UNKNOWN: Short \n val SVG_ZOOMANDPAN_DISABLE: Short \n val
SVG_ZOOMANDPAN_MAGNIFY: Short \n } \n} \n\n/** \n * Exposes the JavaScript
[SVGURIReference](https://developer.mozilla.org/en/docs/Web/API/SVGURIReference) to Kotlin \n *\npublic
external interface SVGURIReference {\n val href: SVGAnimatedString \n} \n\n/** \n * Exposes the JavaScript
[SVGSVGElement](https://developer.mozilla.org/en/docs/Web/API/SVGSVGElement) to Kotlin \n *\npublic
external abstract class SVGSVGElement : SVGGraphicsElement, SVGFitToViewBox, SVGZoomAndPan,
WindowEventHandlers {\n open val x: SVGAnimatedLength \n open val y: SVGAnimatedLength \n open val
width: SVGAnimatedLength \n open val height: SVGAnimatedLength \n open var currentScale: Float \n open
val currentTranslate: DOMPointReadOnly \n fun getIntersectionList(rect: DOMRectReadOnly, referenceElement:
SVGElement?): NodeList \n fun getEnclosureList(rect: DOMRectReadOnly, referenceElement: SVGElement?):
NodeList \n fun checkIntersection(element: SVGElement, rect: DOMRectReadOnly): Boolean \n fun
checkEnclosure(element: SVGElement, rect: DOMRectReadOnly): Boolean \n fun deselectAll() \n fun
createSVGNumber(): SVGNumber \n fun createSVGLength(): SVGLength \n fun createSVGAngle():
SVGAngle \n fun createSVGPoint(): DOMPoint \n fun createSVGMatrix(): DOMMatrix \n fun
createSVGRect(): DOMRect \n fun createSVGTransform(): SVGTransform \n fun
createSVGTransformFromMatrix(matrix: DOMMatrixReadOnly): SVGTransform \n fun
getElementById(elementId: String): Element \n fun suspendRedraw(maxWaitMilliseconds: Int): Int \n fun
unsuspendRedraw(suspendHandleID: Int) \n fun unsuspendRedrawAll() \n fun forceRedraw() \n\n companion
object {\n val SVG_ZOOMANDPAN_UNKNOWN: Short \n val SVG_ZOOMANDPAN_DISABLE:
Short \n val SVG_ZOOMANDPAN_MAGNIFY:
Short \n val ELEMENT_NODE: Short \n val ATTRIBUTE_NODE: Short \n val TEXT_NODE: Short \n
 val CDATA_SECTION_NODE: Short \n val ENTITY_REFERENCE_NODE: Short \n val
ENTITY_NODE: Short \n val PROCESSING_INSTRUCTION_NODE: Short \n val COMMENT_NODE:
Short \n val DOCUMENT_NODE: Short \n val DOCUMENT_TYPE_NODE: Short \n val
DOCUMENT_FRAGMENT_NODE: Short \n val NOTATION_NODE: Short \n val
DOCUMENT_POSITION_DISCONNECTED: Short \n val DOCUMENT_POSITION_PRECEDING: Short \n
 val DOCUMENT_POSITION_FOLLOWING: Short \n val DOCUMENT_POSITION_CONTAINS: Short \n
 val DOCUMENT_POSITION_CONTAINED_BY: Short \n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short \n } \n} \n\n/** \n * Exposes the JavaScript
[SVGGElement](https://developer.mozilla.org/en/docs/Web/API/SVGGElement) to Kotlin \n *\npublic external
abstract class SVGGElement : SVGGraphicsElement {\n companion object {\n val ELEMENT_NODE:
Short \n val ATTRIBUTE_NODE: Short \n val TEXT_NODE: Short \n val
CDATA_SECTION_NODE: Short \n val ENTITY_REFERENCE_NODE: Short \n val ENTITY_NODE:
Short \n val PROCESSING_INSTRUCTION_NODE: Short \n val COMMENT_NODE: Short \n val
DOCUMENT_NODE: Short \n val DOCUMENT_TYPE_NODE: Short \n val

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DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val

DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val

DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n }n}n\n\npublic external abstract class SVGUnknownElement : SVGGraphicsElement {\n companion object {\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val

DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val

DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n }n}n\n\n/\*\*\n \* Exposes the JavaScript [SVGDefsElement](https://developer.mozilla.org/en/docs/Web/API/SVGDefsElement) to Kotlin\n \*/\n\npublic external abstract class SVGDefsElement : SVGGraphicsElement {\n companion object {\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val

DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val

DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n }n}n\n\n/\*\*\n \* Exposes the JavaScript [SVGDescElement](https://developer.mozilla.org/en/docs/Web/API/SVGDescElement) to Kotlin\n \*/\n\npublic external abstract class SVGDescElement : SVGElement {\n companion object {\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val

DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val

DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n }n}n\n\n/\*\*\n \* Exposes the JavaScript [SVGMetadataElement](https://developer.mozilla.org/en/docs/Web/API/SVGMetadataElement) to Kotlin\n \*/\n\npublic external abstract class SVGMetadataElement : SVGElement {\n companion object {\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val

DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val





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correspondingUseElement: SVGUseElement? \n get() = definedExternally \n} \n \n public external open class
ShadowAnimation(source: dynamic, newTarget: dynamic) { \n open val sourceAnimation: dynamic \n} \n \n /** \n *
Exposes the JavaScript [SVGSwitchElement](https://developer.mozilla.org/en/docs/Web/API/SVGSwitchElement)
to Kotlin \n * \n public external abstract class SVGSwitchElement : SVGGraphicsElement { \n companion object
{ \n val ELEMENT_NODE: Short \n val ATTRIBUTE_NODE: Short \n val TEXT_NODE: Short \n
val CDATA_SECTION_NODE: Short \n val ENTITY_REFERENCE_NODE: Short \n val
ENTITY_NODE: Short \n val PROCESSING_INSTRUCTION_NODE: Short \n val COMMENT_NODE:
Short \n val DOCUMENT_NODE: Short \n val DOCUMENT_TYPE_NODE: Short \n val
DOCUMENT_FRAGMENT_NODE: Short \n val NOTATION_NODE: Short \n val
DOCUMENT_POSITION_DISCONNECTED: Short \n val DOCUMENT_POSITION_PRECEDING: Short \n
 val DOCUMENT_POSITION_FOLLOWING: Short \n val DOCUMENT_POSITION_CONTAINS: Short \n
 val DOCUMENT_POSITION_CONTAINED_BY: Short \n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short \n } \n} \n \n public external interface
GetSVGDocument { \n fun getSVGDocument():
Document \n} \n \n /** \n * Exposes the JavaScript
[SVGStyleElement](https://developer.mozilla.org/en/docs/Web/API/SVGStyleElement) to Kotlin \n * \n public
external abstract class SVGStyleElement : SVGElement, LinkStyle { \n open var type: String \n open var media:
String \n open var title: String \n \n companion object { \n val ELEMENT_NODE: Short \n val
ATTRIBUTE_NODE: Short \n val TEXT_NODE: Short \n val CDATA_SECTION_NODE: Short \n val
ENTITY_REFERENCE_NODE: Short \n val ENTITY_NODE: Short \n val
PROCESSING_INSTRUCTION_NODE: Short \n val COMMENT_NODE: Short \n val
DOCUMENT_NODE: Short \n val DOCUMENT_TYPE_NODE: Short \n val
DOCUMENT_FRAGMENT_NODE: Short \n val NOTATION_NODE: Short \n val
DOCUMENT_POSITION_DISCONNECTED: Short \n val DOCUMENT_POSITION_PRECEDING: Short \n
 val DOCUMENT_POSITION_FOLLOWING: Short \n val DOCUMENT_POSITION_CONTAINS: Short \n
 val DOCUMENT_POSITION_CONTAINED_BY:
Short \n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short \n } \n} \n \n /** \n * Exposes
the JavaScript [SVGTransform](https://developer.mozilla.org/en/docs/Web/API/SVGTransform) to Kotlin \n * \n
public external abstract class SVGTransform { \n open val type: Short \n open val matrix: DOMMatrix \n
open val angle: Float \n fun setMatrix(matrix: DOMMatrixReadOnly) \n fun setTranslate(tx: Float, ty: Float) \n
fun setScale(sx: Float, sy: Float) \n fun setRotate(angle: Float, cx: Float, cy: Float) \n fun setSkewX(angle:
Float) \n fun setSkewY(angle: Float) \n \n companion object { \n val SVG_TRANSFORM_UNKNOWN:
Short \n val SVG_TRANSFORM_MATRIX: Short \n val SVG_TRANSFORM_TRANSLATE: Short \n
 val SVG_TRANSFORM_SCALE: Short \n val SVG_TRANSFORM_ROTATE: Short \n val
SVG_TRANSFORM_SKEWX: Short \n val SVG_TRANSFORM_SKEWY: Short \n } \n} \n \n /** \n * Exposes
the JavaScript [SVGTransformList](https://developer.mozilla.org/en/docs/Web/API/SVGTransformList)
to Kotlin \n * \n public external abstract class SVGTransformList { \n open val length: Int \n open val
numberOfItems: Int \n fun clear() \n fun initialize(newItem: SVGTransform): SVGTransform \n fun
insertItemBefore(newItem: SVGTransform, index: Int): SVGTransform \n fun replaceItem(newItem:
SVGTransform, index: Int): SVGTransform \n fun removeItem(index: Int): SVGTransform \n fun
appendItem(newItem: SVGTransform): SVGTransform \n fun createSVGTransformFromMatrix(matrix:
DOMMatrixReadOnly): SVGTransform \n fun consolidate(): SVGTransform? \n fun getItem(index: Int):
SVGTransform \n} \n \n @Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER") \n @kotlin.internal.InlineOnly \n public inline operator fun SVGTransformList.get(index:
Int): SVGTransform? = asDynamic()[index] \n \n @Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER") \n @kotlin.internal.InlineOnly \n public inline operator fun SVGTransformList.set(index:
Int, newItem: SVGTransform)

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{ asDynamic()[index] = newItem } \n\n/** \n * Exposes the JavaScript
[SVGAnimatedTransformList](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedTransformList) to
Kotlin \n * \npublic external abstract class SVGAnimatedTransformList { \n open val baseVal:
SVGTransformList \n open val animVal: SVGTransformList \n} \n\n/** \n * Exposes the JavaScript
[SVGPreserveAspectRatio](https://developer.mozilla.org/en/docs/Web/API/SVGPreserveAspectRatio) to Kotlin \n
* \npublic external abstract class SVGPreserveAspectRatio { \n open var align: Short \n open var meetOrSlice:
Short \n \n companion object { \n val SVG_PRESERVEASPECTRATIO_UNKNOWN: Short \n val
SVG_PRESERVEASPECTRATIO_NONE: Short \n val SVG_PRESERVEASPECTRATIO_XMINYMIN:
Short \n val SVG_PRESERVEASPECTRATIO_XMIDYMIN: Short \n val
SVG_PRESERVEASPECTRATIO_XMAXYMIN: Short \n val
SVG_PRESERVEASPECTRATIO_XMINYMID: Short \n val
SVG_PRESERVEASPECTRATIO_XMIDYMID: Short \n val
SVG_PRESERVEASPECTRATIO_XMAXYMID:
Short \n val SVG_PRESERVEASPECTRATIO_XMINYMAX: Short \n val
SVG_PRESERVEASPECTRATIO_XMIDYMAX: Short \n val
SVG_PRESERVEASPECTRATIO_XMAXYMAX: Short \n val SVG_MEETORSLICE_UNKNOWN: Short \n
 val SVG_MEETORSLICE_MEET: Short \n val SVG_MEETORSLICE_SLICE: Short \n } \n} \n\n/** \n *
Exposes the JavaScript
[SVGAnimatedPreserveAspectRatio](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedPreserveAspect
Ratio) to Kotlin \n * \npublic external abstract class SVGAnimatedPreserveAspectRatio { \n open val baseVal:
SVGPreserveAspectRatio \n open val animVal: SVGPreserveAspectRatio \n} \n\n/** \n * Exposes the JavaScript
[SVGPathElement](https://developer.mozilla.org/en/docs/Web/API/SVGPathElement) to Kotlin \n * \npublic
external abstract class SVGPathElement : SVGGeometryElement { \n companion object { \n val
ELEMENT_NODE: Short \n val ATTRIBUTE_NODE: Short \n val TEXT_NODE: Short \n val
CDATA_SECTION_NODE:
Short \n val ENTITY_REFERENCE_NODE: Short \n val ENTITY_NODE: Short \n val
PROCESSING_INSTRUCTION_NODE: Short \n val COMMENT_NODE: Short \n val
DOCUMENT_NODE: Short \n val DOCUMENT_TYPE_NODE: Short \n val
DOCUMENT_FRAGMENT_NODE: Short \n val NOTATION_NODE: Short \n val
DOCUMENT_POSITION_DISCONNECTED: Short \n val DOCUMENT_POSITION_PRECEDING: Short \n
 val DOCUMENT_POSITION_FOLLOWING: Short \n val DOCUMENT_POSITION_CONTAINS: Short \n
 val DOCUMENT_POSITION_CONTAINED_BY: Short \n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short \n } \n} \n\n/** \n * Exposes the JavaScript
[SVGRectElement](https://developer.mozilla.org/en/docs/Web/API/SVGRectElement) to Kotlin \n * \npublic
external abstract class SVGRectElement : SVGGeometryElement { \n open val x: SVGAnimatedLength \n open
val y: SVGAnimatedLength \n open val width: SVGAnimatedLength \n open val height: SVGAnimatedLength \n
open val rx: SVGAnimatedLength \n
open val ry: SVGAnimatedLength \n \n companion object { \n val ELEMENT_NODE: Short \n val
ATTRIBUTE_NODE: Short \n val TEXT_NODE: Short \n val CDATA_SECTION_NODE: Short \n val
ENTITY_REFERENCE_NODE: Short \n val ENTITY_NODE: Short \n val
PROCESSING_INSTRUCTION_NODE: Short \n val COMMENT_NODE: Short \n val
DOCUMENT_NODE: Short \n val DOCUMENT_TYPE_NODE: Short \n val
DOCUMENT_FRAGMENT_NODE: Short \n val NOTATION_NODE: Short \n val
DOCUMENT_POSITION_DISCONNECTED: Short \n val DOCUMENT_POSITION_PRECEDING: Short \n
 val DOCUMENT_POSITION_FOLLOWING: Short \n val DOCUMENT_POSITION_CONTAINS: Short \n
 val DOCUMENT_POSITION_CONTAINED_BY: Short \n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short \n } \n} \n\n/** \n * Exposes the JavaScript
[SVGCircleElement](https://developer.mozilla.org/en/docs/Web/API/SVGCircleElement) to Kotlin \n * \npublic

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external abstract class SVGCircleElement
: SVGGeometryElement {
 open val cx: SVGAnimatedLength
 open val cy: SVGAnimatedLength
 open val r: SVGAnimatedLength
 companion object {
 val ELEMENT_NODE: Short
 val ATTRIBUTE_NODE: Short
 val TEXT_NODE: Short
 val CDATA_SECTION_NODE: Short
 val ENTITY_REFERENCE_NODE: Short
 val ENTITY_NODE: Short
 val PROCESSING_INSTRUCTION_NODE: Short
 val COMMENT_NODE: Short
 val DOCUMENT_NODE: Short
 val DOCUMENT_TYPE_NODE: Short
 val DOCUMENT_FRAGMENT_NODE: Short
 val NOTATION_NODE: Short
 val DOCUMENT_POSITION_DISCONNECTED: Short
 val DOCUMENT_POSITION_PRECEDING: Short
 val DOCUMENT_POSITION_FOLLOWING: Short
 val DOCUMENT_POSITION_CONTAINS: Short
 val DOCUMENT_POSITION_CONTAINED_BY: Short
 val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short
 }
}

/** Exposes the JavaScript [SVGEllipseElement](https://developer.mozilla.org/en/docs/Web/API/SVGEllipseElement) to Kotlin */
public external abstract class SVGEllipseElement : SVGGeometryElement {
 open val cx: SVGAnimatedLength
 open val cy: SVGAnimatedLength
 open val rx: SVGAnimatedLength
 open val ry: SVGAnimatedLength
 companion object {
 val ELEMENT_NODE: Short
 val ATTRIBUTE_NODE: Short
 val TEXT_NODE: Short
 val CDATA_SECTION_NODE: Short
 val ENTITY_REFERENCE_NODE: Short
 val ENTITY_NODE: Short
 val PROCESSING_INSTRUCTION_NODE: Short
 val COMMENT_NODE: Short
 val DOCUMENT_NODE: Short
 val DOCUMENT_TYPE_NODE: Short
 val DOCUMENT_FRAGMENT_NODE: Short
 val NOTATION_NODE: Short
 val DOCUMENT_POSITION_DISCONNECTED: Short
 val DOCUMENT_POSITION_PRECEDING: Short
 val DOCUMENT_POSITION_FOLLOWING: Short
 val DOCUMENT_POSITION_CONTAINS: Short
 val DOCUMENT_POSITION_CONTAINED_BY: Short
 val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short
 }
}

/** Exposes the JavaScript [SVGLineElement](https://developer.mozilla.org/en/docs/Web/API/SVGLineElement) to Kotlin */
public external abstract class SVGLineElement : SVGGeometryElement {
 open val x1: SVGAnimatedLength
 open val y1: SVGAnimatedLength
 open val x2: SVGAnimatedLength
 open val y2: SVGAnimatedLength
 companion object {
 val ELEMENT_NODE: Short
 val ATTRIBUTE_NODE: Short
 val TEXT_NODE: Short
 val CDATA_SECTION_NODE: Short
 val ENTITY_REFERENCE_NODE: Short
 val ENTITY_NODE: Short
 val PROCESSING_INSTRUCTION_NODE: Short
 val COMMENT_NODE: Short
 val DOCUMENT_NODE: Short
 val DOCUMENT_TYPE_NODE: Short
 val DOCUMENT_FRAGMENT_NODE: Short
 val NOTATION_NODE: Short
 val DOCUMENT_POSITION_DISCONNECTED: Short
 val DOCUMENT_POSITION_PRECEDING: Short
 val DOCUMENT_POSITION_FOLLOWING: Short
 val DOCUMENT_POSITION_CONTAINS: Short
 val DOCUMENT_POSITION_CONTAINED_BY: Short
 val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short
 }
}

/** Exposes the JavaScript [SVGMeshElement](https://developer.mozilla.org/en/docs/Web/API/SVGMeshElement) to Kotlin */
public external abstract class SVGMeshElement : SVGGeometryElement, SVGURIReference {
 companion object {
 val ELEMENT_NODE: Short
 val ATTRIBUTE_NODE: Short
 val TEXT_NODE: Short
 val CDATA_SECTION_NODE: Short
 val ENTITY_REFERENCE_NODE: Short
 val ENTITY_NODE: Short
 val PROCESSING_INSTRUCTION_NODE: Short
 val COMMENT_NODE: Short
 val DOCUMENT_NODE: Short
 val DOCUMENT_TYPE_NODE: Short
 val DOCUMENT_FRAGMENT_NODE: Short
 val NOTATION_NODE: Short
 val DOCUMENT_POSITION_DISCONNECTED: Short
 val DOCUMENT_POSITION_PRECEDING: Short
 val DOCUMENT_POSITION_FOLLOWING: Short
 }
}

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Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val
DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGAnimatedPoints](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedPoints) to Kotlin\n
*/\npublic external interface SVGAnimatedPoints {\n val points: SVGPointList\n val animatedPoints:
SVGPointList\n}\n\npublic external abstract class SVGPointList {\n open val length: Int\n open val
numberOfItems: Int\n fun clear()\n fun initialize(newItem: DOMPoint): DOMPoint\n fun
insertItemBefore(newItem: DOMPoint, index: Int): DOMPoint\n fun replaceItem(newItem: DOMPoint, index:
Int): DOMPoint\n fun removeItem(index: Int): DOMPoint\n fun appendItem(newItem: DOMPoint):
DOMPoint\n fun getItem(index: Int): DOMPoint\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGPointList.get(index:
Int): DOMPoint? = asDynamic()[index]\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGPointList.set(index: Int,
newItem: DOMPoint) { asDynamic()[index] = newItem }\n\n/**\n * Exposes the JavaScript
[SVGPolylineElement](https://developer.mozilla.org/en/docs/Web/API/SVGPolylineElement) to Kotlin\n
*/\npublic external abstract class SVGPolylineElement : SVGGeometryElement, SVGAnimatedPoints {\n
companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val
TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n
 val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING:
Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val
DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGPolygonElement](https://developer.mozilla.org/en/docs/Web/API/SVGPolygonElement) to Kotlin\n
*/\npublic external abstract class SVGPolygonElement : SVGGeometryElement, SVGAnimatedPoints {\n
companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val
TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED:
Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val
DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val
DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGTextContentElement](https://developer.mozilla.org/en/docs/Web/API/SVGTextContentElement) to Kotlin\n
*/\npublic external abstract class SVGTextContentElement : SVGGraphicsElement {\n open val textLength:
SVGAnimatedLength\n open val lengthAdjust: SVGAnimatedEnumeration\n fun getNumberOfChars(): Int\n
fun getComputedTextLength(): Float\n fun getSubStringLength(charnum: Int, nchars: Int): Float\n fun
getStartPositionOfChar(charnum: Int): DOMPoint\n fun getEndPositionOfChar(charnum: Int): DOMPoint\n fun
getExtentOfChar(charnum: Int): DOMRect\n fun getRotationOfChar(charnum: Int): Float\n fun
getCharNumAtPosition(point: DOMPoint): Int\n fun selectSubString(charnum:
Int, nchars: Int)\n\n companion object {\n val LENGTHADJUST_UNKNOWN: Short\n val
LENGTHADJUST_SPACING: Short\n val LENGTHADJUST_SPACINGANDGLYPHS: Short\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val

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CDATA\_SECTION\_NODE: Short\n     val ENTITY\_REFERENCE\_NODE: Short\n     val ENTITY\_NODE: Short\n     val PROCESSING\_INSTRUCTION\_NODE: Short\n     val COMMENT\_NODE: Short\n     val DOCUMENT\_NODE: Short\n     val DOCUMENT\_TYPE\_NODE: Short\n     val DOCUMENT\_FRAGMENT\_NODE: Short\n     val NOTATION\_NODE: Short\n     val DOCUMENT\_POSITION\_DISCONNECTED: Short\n     val DOCUMENT\_POSITION\_PRECEDING: Short\n     val DOCUMENT\_POSITION\_FOLLOWING: Short\n     val DOCUMENT\_POSITION\_CONTAINS: Short\n     val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n     val DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n     }\n}\n\n/\*\*\n \* Exposes the JavaScript [SVGTextPositioningElement](https://developer.mozilla.org/en/docs/Web/API/SVGTextPositioningElement) to Kotlin\n \*/\npublic external abstract class SVGTextPositioningElement : SVGTextContentElement {\n     open val x: SVGAnimatedLengthList\n     open val y: SVGAnimatedLengthList\n     open val dx: SVGAnimatedLengthList\n     open val dy: SVGAnimatedLengthList\n     open val rotate: SVGAnimatedNumberList\n     companion object {\n     val LENGTHADJUST\_UNKNOWN: Short\n     val LENGTHADJUST\_SPACING: Short\n     val LENGTHADJUST\_SPACINGANDGLYPHS: Short\n     val ELEMENT\_NODE: Short\n     val ATTRIBUTE\_NODE: Short\n     val TEXT\_NODE: Short\n     val CDATA\_SECTION\_NODE: Short\n     val ENTITY\_REFERENCE\_NODE: Short\n     val ENTITY\_NODE: Short\n     val PROCESSING\_INSTRUCTION\_NODE: Short\n     val COMMENT\_NODE: Short\n     val DOCUMENT\_NODE: Short\n     val DOCUMENT\_TYPE\_NODE: Short\n     val DOCUMENT\_FRAGMENT\_NODE: Short\n     val NOTATION\_NODE: Short\n     val DOCUMENT\_POSITION\_DISCONNECTED: Short\n     val DOCUMENT\_POSITION\_PRECEDING: Short\n     val DOCUMENT\_POSITION\_FOLLOWING: Short\n     val DOCUMENT\_POSITION\_CONTAINS: Short\n     val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n     val DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n     }\n}\n\n/\*\*\n \* Exposes the JavaScript [SVGTextElement](https://developer.mozilla.org/en/docs/Web/API/SVGTextElement) to Kotlin\n \*/\npublic external abstract class SVGTextElement : SVGTextPositioningElement {\n     companion object {\n     val LENGTHADJUST\_UNKNOWN: Short\n     val LENGTHADJUST\_SPACING: Short\n     val LENGTHADJUST\_SPACINGANDGLYPHS: Short\n     val ELEMENT\_NODE: Short\n     val ATTRIBUTE\_NODE: Short\n     val TEXT\_NODE: Short\n     val CDATA\_SECTION\_NODE: Short\n     val ENTITY\_REFERENCE\_NODE: Short\n     val ENTITY\_NODE: Short\n     val PROCESSING\_INSTRUCTION\_NODE: Short\n     val COMMENT\_NODE: Short\n     val DOCUMENT\_NODE: Short\n     val DOCUMENT\_TYPE\_NODE: Short\n     val DOCUMENT\_FRAGMENT\_NODE: Short\n     val NOTATION\_NODE: Short\n     val DOCUMENT\_POSITION\_DISCONNECTED: Short\n     val DOCUMENT\_POSITION\_PRECEDING: Short\n     val DOCUMENT\_POSITION\_FOLLOWING: Short\n     val DOCUMENT\_POSITION\_CONTAINS: Short\n     val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n     val DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n     }\n}\n\n/\*\*\n \* Exposes the JavaScript [SVGTSpanElement](https://developer.mozilla.org/en/docs/Web/API/SVGTSpanElement) to Kotlin\n \*/\npublic external abstract class SVGTSpanElement : SVGTextPositioningElement {\n     companion object {\n     val LENGTHADJUST\_UNKNOWN: Short\n     val LENGTHADJUST\_SPACING: Short\n     val LENGTHADJUST\_SPACINGANDGLYPHS: Short\n     val ELEMENT\_NODE: Short\n     val ATTRIBUTE\_NODE: Short\n     val TEXT\_NODE: Short\n     val CDATA\_SECTION\_NODE: Short\n     val ENTITY\_REFERENCE\_NODE: Short\n     val ENTITY\_NODE: Short\n     val PROCESSING\_INSTRUCTION\_NODE: Short\n     val COMMENT\_NODE: Short\n     val DOCUMENT\_NODE: Short\n     val DOCUMENT\_TYPE\_NODE: Short\n     val DOCUMENT\_FRAGMENT\_NODE: Short\n     val NOTATION\_NODE: Short\n     val DOCUMENT\_POSITION\_DISCONNECTED: Short\n     val DOCUMENT\_POSITION\_PRECEDING: Short\n     val DOCUMENT\_POSITION\_FOLLOWING: Short\n     val DOCUMENT\_POSITION\_CONTAINS: Short\n     val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n     val DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n     }\n}\n}

DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n } \n\n\n \* Exposes the JavaScript [SVGTextPathElement](https://developer.mozilla.org/en/docs/Web/API/SVGTextPathElement) to Kotlin\n \* \npublic external abstract class SVGTextPathElement : SVGTextContentElement, SVGURIReference {\n open val startOffset: SVGAnimatedLength\n open val method: SVGAnimatedEnumeration\n open val spacing: SVGAnimatedEnumeration\n\n companion object {\n val TEXTPATH\_METHODTYPE\_UNKNOWN: Short\n val TEXTPATH\_METHODTYPE\_ALIGN: Short\n val TEXTPATH\_METHODTYPE\_STRETCH: Short\n val TEXTPATH\_SPACINGTYPE\_UNKNOWN: Short\n val TEXTPATH\_SPACINGTYPE\_AUTO: Short\n val TEXTPATH\_SPACINGTYPE\_EXACT: Short\n val LENGTHADJUST\_UNKNOWN: Short\n val LENGTHADJUST\_SPACING: Short\n val LENGTHADJUST\_SPACINGANDGLYPHS: Short\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val

DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n } \n\n\n \* Exposes the JavaScript [SVGImageElement](https://developer.mozilla.org/en/docs/Web/API/SVGImageElement) to Kotlin\n \* \npublic external abstract class SVGImageElement : SVGGraphicsElement, SVGURIReference, HTMLorSVGImageElement {\n open val x: SVGAnimatedLength\n open val y: SVGAnimatedLength\n open val width: SVGAnimatedLength\n open val height: SVGAnimatedLength\n open val preserveAspectRatio: SVGAnimatedPreserveAspectRatio\n open var crossOrigin: String?\n\n companion object {\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val

DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n } \n\n\n \* Exposes the JavaScript [SVGForeignObjectElement](https://developer.mozilla.org/en/docs/Web/API/SVGForeignObjectElement) to Kotlin\n \* \npublic external abstract class SVGForeignObjectElement : SVGGraphicsElement {\n open val x: SVGAnimatedLength\n open val y: SVGAnimatedLength\n open val width: SVGAnimatedLength\n open val height: SVGAnimatedLength\n\n companion object {\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val

DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n } \n\n\npublic external abstract class SVGMarkerElement : SVGElement, SVGFitToViewBox {\n open val refX: SVGAnimatedLength\n open val

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refY: SVGAnimatedLength\n open val markerUnits: SVGAnimatedEnumeration\n open val markerWidth:
SVGAnimatedLength\n open val markerHeight: SVGAnimatedLength\n open val orientType:
SVGAnimatedEnumeration\n open val orientAngle: SVGAnimatedAngle\n open var orient: String\n fun
setOrientToAuto()\n
fun setOrientToAngle(angle: SVGAngle)\n\n companion object {\n val
SVG_MARKERUNITS_UNKNOWN: Short\n val SVG_MARKERUNITS_USERSPACEONUSE: Short\n
val SVG_MARKERUNITS_STROKEWIDTH: Short\n val SVG_MARKER_ORIENT_UNKNOWN: Short\n
val SVG_MARKER_ORIENT_AUTO: Short\n val SVG_MARKER_ORIENT_ANGLE: Short\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY:
Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n\n/**\n * Exposes
the JavaScript [SVGSolidcolorElement](https://developer.mozilla.org/en/docs/Web/API/SVGSolidcolorElement) to
Kotlin\n */\npublic external abstract class SVGSolidcolorElement : SVGElement {\n companion object {\n
val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY:
Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes
the JavaScript [SVGGradientElement](https://developer.mozilla.org/en/docs/Web/API/SVGGradientElement) to
Kotlin\n */\npublic external abstract class SVGGradientElement : SVGElement, SVGURIReference,
SVGUnitTypes {\n open val gradientUnits: SVGAnimatedEnumeration\n open val gradientTransform:
SVGAnimatedTransformList\n open val spreadMethod: SVGAnimatedEnumeration\n\n companion object {\n
val SVG_SPREADMETHOD_UNKNOWN: Short\n val SVG_SPREADMETHOD_PAD: Short\n val
SVG_SPREADMETHOD_REFLECT: Short\n val SVG_SPREADMETHOD_REPEAT: Short\n val
SVG_UNIT_TYPE_UNKNOWN: Short\n val SVG_UNIT_TYPE_USERSPACEONUSE: Short\n val
SVG_UNIT_TYPE_OBJECTBOUNDINGBOX: Short\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGLinearGradientElement](https://developer.mozilla.org/en/docs/Web/API/SVGLinearGradientElement) to
Kotlin\n */\npublic external abstract class SVGLinearGradientElement : SVGGradientElement {\n open val x1:
SVGAnimatedLength\n open val y1: SVGAnimatedLength\n open val x2: SVGAnimatedLength\n open val

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y2: SVGAnimatedLength\n\n companion object {\n val
 SVG_SPREADMETHOD_UNKNOWN: Short\n val SVG_SPREADMETHOD_PAD: Short\n val
 SVG_SPREADMETHOD_REFLECT: Short\n val SVG_SPREADMETHOD_REPEAT: Short\n val
 SVG_UNIT_TYPE_UNKNOWN: Short\n val SVG_UNIT_TYPE_USERSPACEONUSE: Short\n val
 SVG_UNIT_TYPE_OBJECTBOUNDINGBOX: Short\n val ELEMENT_NODE: Short\n val
 ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
 ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
 PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
 DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
 DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
 DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n
 val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/*\n * Exposes the
JavaScript
[SVGRadialGradientElement](https://developer.mozilla.org/en/docs/Web/API/SVGRadialGradientElement) to
Kotlin\n *\npublic external abstract class SVGRadialGradientElement : SVGGradientElement {\n open val cx:
SVGAnimatedLength\n open val cy: SVGAnimatedLength\n open val r: SVGAnimatedLength\n open val fx:
SVGAnimatedLength\n open val fy: SVGAnimatedLength\n open val fr: SVGAnimatedLength\n\n companion
object {\n val SVG_SPREADMETHOD_UNKNOWN: Short\n val SVG_SPREADMETHOD_PAD:
Short\n val SVG_SPREADMETHOD_REFLECT: Short\n val SVG_SPREADMETHOD_REPEAT:
Short\n val SVG_UNIT_TYPE_UNKNOWN: Short\n val SVG_UNIT_TYPE_USERSPACEONUSE:
Short\n val SVG_UNIT_TYPE_OBJECTBOUNDINGBOX: Short\n val ELEMENT_NODE: Short\n
 val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n
 val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
 PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
 DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
 DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
 DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
 DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external abstract class
SVGMeshGradientElement : SVGGradientElement {\n companion object {\n val
 SVG_SPREADMETHOD_UNKNOWN: Short\n val SVG_SPREADMETHOD_PAD: Short\n val
 SVG_SPREADMETHOD_REFLECT: Short\n val SVG_SPREADMETHOD_REPEAT: Short\n val
 SVG_UNIT_TYPE_UNKNOWN: Short\n val SVG_UNIT_TYPE_USERSPACEONUSE: Short\n val
 SVG_UNIT_TYPE_OBJECTBOUNDINGBOX:
 Short\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n
 val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val
 ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE:
 Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
 DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
 DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
 DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external abstract class
SVGMeshrowElement : SVGElement {\n companion object {\n val ELEMENT_NODE: Short\n val
 ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE:

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Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external abstract class
SVGMeshpatchElement : SVGElement {\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n
 val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE:
Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGStopElement](https://developer.mozilla.org/en/docs/Web/API/SVGStopElement) to Kotlin\n */\npublic
external abstract class SVGStopElement : SVGElement {\n open val offset: SVGAnimatedNumber\n\n
companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val
TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE:
Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val
DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val
NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val
DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n
 val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY:
Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes
the JavaScript [SVGPatternElement](https://developer.mozilla.org/en/docs/Web/API/SVGPatternElement) to
Kotlin\n */\npublic external abstract class SVGPatternElement : SVGElement, SVGFitToViewBox,
SVGURISreference, SVGUnitTypes {\n open val patternUnits: SVGAnimatedEnumeration\n open val
patternContentUnits: SVGAnimatedEnumeration\n open val patternTransform: SVGAnimatedTransformList\n
 open val x: SVGAnimatedLength\n open val y: SVGAnimatedLength\n open
 val width: SVGAnimatedLength\n open val height: SVGAnimatedLength\n\n companion object {\n
 val SVG_UNIT_TYPE_UNKNOWN: Short\n val SVG_UNIT_TYPE_USERSPACEONUSE: Short\n val
SVG_UNIT_TYPE_OBJECTBOUNDINGBOX: Short\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic
external abstract class SVGHatchElement : SVGElement {\n companion object {\n val ELEMENT_NODE:
Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE:
Short\n

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Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external abstract class
SVGHatchpathElement : SVGElement {\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE:
Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGCursorElement](https://developer.mozilla.org/en/docs/Web/API/SVGCursorElement) to Kotlin\n */\npublic
external abstract class SVGCursorElement : SVGElement, SVGURIReference {\n open val x:
SVGAnimatedLength\n open val y: SVGAnimatedLength\n\n companion
object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE:
Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val
ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE:
Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGScriptElement](https://developer.mozilla.org/en/docs/Web/API/SVGScriptElement) to Kotlin\n */\npublic
external abstract class SVGScriptElement : SVGElement, SVGURIReference, HTMLOrSVGScriptElement
{\n open var type: String\n open var crossOrigin: String?\n\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGAEElement](https://developer.mozilla.org/en/docs/Web/API/SVGAEElement) to Kotlin\n */\npublic external
abstract
class SVGAEElement : SVGGraphicsElement, SVGURIReference {\n open val target: SVGAnimatedString\n
open val download: SVGAnimatedString\n open val rel: SVGAnimatedString\n open val relList:
SVGAnimatedString\n open val hreflang: SVGAnimatedString\n open val type: SVGAnimatedString\n\n

```

```

companion object {
 val ELEMENT_NODE: Short
 val ATTRIBUTE_NODE: Short
 val TEXT_NODE: Short
 val CDATA_SECTION_NODE: Short
 val ENTITY_REFERENCE_NODE: Short
 val ENTITY_NODE: Short
 val PROCESSING_INSTRUCTION_NODE: Short
 val COMMENT_NODE: Short
 val DOCUMENT_NODE: Short
 val DOCUMENT_TYPE_NODE: Short
 val DOCUMENT_FRAGMENT_NODE: Short
 val NOTATION_NODE: Short
 val DOCUMENT_POSITION_DISCONNECTED: Short
 val DOCUMENT_POSITION_PRECEDING: Short
 val DOCUMENT_POSITION_FOLLOWING: Short
 val DOCUMENT_POSITION_CONTAINS: Short
 val DOCUMENT_POSITION_CONTAINED_BY: Short
 val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short
}

/** Exposes the JavaScript [SVGViewElement](https://developer.mozilla.org/en/docs/Web/API/SVGViewElement) to Kotlin
 *
 * public external abstract class SVGViewElement : SVGElement, SVGFitToViewBox, SVGZoomAndPan {
 *
 * companion object {
 * val SVG_ZOOMANDPAN_UNKNOWN: Short
 * val SVG_ZOOMANDPAN_DISABLE: Short
 * val SVG_ZOOMANDPAN_MAGNIFY: Short
 * val ELEMENT_NODE: Short
 * val ATTRIBUTE_NODE: Short
 * val TEXT_NODE: Short
 * val CDATA_SECTION_NODE: Short
 * val ENTITY_REFERENCE_NODE: Short
 * val ENTITY_NODE: Short
 * val PROCESSING_INSTRUCTION_NODE: Short
 * val COMMENT_NODE: Short
 * val DOCUMENT_NODE: Short
 * val DOCUMENT_TYPE_NODE: Short
 * val DOCUMENT_FRAGMENT_NODE: Short
 * val NOTATION_NODE: Short
 * val DOCUMENT_POSITION_DISCONNECTED: Short
 * val DOCUMENT_POSITION_PRECEDING: Short
 * val DOCUMENT_POSITION_FOLLOWING: Short
 * val DOCUMENT_POSITION_CONTAINS: Short
 * val DOCUMENT_POSITION_CONTAINED_BY: Short
 * val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short
 * }
 *
 * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.
 * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.
 *
 * NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!
 * See github.com/kotlin/dukat for details
 *
 * package org.w3c.files
 *
 * import kotlin.js.*
 * import org.khronos.webgl.*
 * import org.w3c.dom.*
 * import org.w3c.dom.events.*
 * import org.w3c.xhr.*
 *
 * /** Exposes the JavaScript [Blob](https://developer.mozilla.org/en/docs/Web/API/Blob) to Kotlin
 *
 * public external open class Blob(blobParts: Array<dynamic> = definedExternally, options: BlobPropertyBag = definedExternally) : MediaProvider, ImageBitmapSource {
 * open val size: Number
 * open val type: String
 * open val isClosed: Boolean
 * fun slice(start: Int = definedExternally, end: Int = definedExternally, contentType: String = definedExternally): Blob
 * fun close()
 *
 * public external interface BlobPropertyBag {
 * var type: String? /* = "" */
 * get() = definedExternally
 * set(value) = definedExternally
 *
 * @Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")
 * @kotlin.internal.InlineOnly
 * public inline fun BlobPropertyBag(type: String? = ""): BlobPropertyBag {
 * val o = js("{}")
 * o["type"] = type
 * return o
 *
 * /** Exposes the JavaScript [File](https://developer.mozilla.org/en/docs/Web/API/File) to Kotlin
 *
 * public external open class File(fileBits: Array<dynamic>, fileName: String, options: FilePropertyBag = definedExternally) : Blob {
 * open val name: String
 * open val lastModified: Int
 *
 * public external interface FilePropertyBag : BlobPropertyBag {
 * var lastModified: Int?
 * get() = definedExternally
 * set(value) = definedExternally
 *
 * @Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")
 * @kotlin.internal.InlineOnly
 * public inline fun FilePropertyBag(lastModified: Int? = undefined, type: String? = ""): FilePropertyBag {
 * val o = js("{}")
 * o["lastModified"] = lastModified
 * o["type"] = type
 * return o
 *
 * /** Exposes the JavaScript [FileList](https://developer.mozilla.org/en/docs/Web/API/FileList) to Kotlin
 *
 * public external abstract class FileList : ItemArrayLike<File> {
 * override fun item(index: Int): File?
 *
 * @Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")
 * @kotlin.internal.InlineOnly
 * public inline operator fun FileList.get(index: Int): File?

```

```

= asDynamic()[index]\n\n/**\n * Exposes the JavaScript
[FileReader](https://developer.mozilla.org/en/docs/Web/API/FileReader) to Kotlin\n */\npublic external open class
FileReader : EventTarget {\n open val readyState: Short\n open val result: dynamic\n open val error:
dynamic\n var onloadstart: ((ProgressEvent) -> dynamic)?\n var onprogress: ((ProgressEvent) -> dynamic)?\n
var onload: ((Event) -> dynamic)?\n var onabort: ((Event) -> dynamic)?\n var onerror: ((Event) -> dynamic)?\n
var onloadend: ((Event) -> dynamic)?\n fun readAsArrayBuffer(blob: Blob)\n fun readAsBinaryString(blob:
Blob)\n fun readAsText(blob: Blob, label: String = definedExternally)\n fun readAsDataURL(blob: Blob)\n
fun abort()\n\n companion object {\n val EMPTY: Short\n val LOADING: Short\n val DONE:
Short\n }\n}\n\n/**\n * Exposes the JavaScript
[FileReaderSync](https://developer.mozilla.org/en/docs/Web/API/FileReaderSync) to Kotlin\n */\npublic external
open class FileReaderSync {\n fun readAsArrayBuffer(blob: Blob): ArrayBuffer\n fun readAsBinaryString(blob:
Blob): String\n fun readAsText(blob: Blob, label: String = definedExternally): String\n fun
readAsDataURL(blob: Blob): String\n}", "/*\n * Copyright
2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS
AUTO-GENERATED, DO NOT EDIT!\n\n// See github.com/kotlin/dukat for details\n\npackage
org.w3c.notifications\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.dom.events.*\nimport
org.w3c.workers.*\n\n/**\n * Exposes the JavaScript
[Notification](https://developer.mozilla.org/en/docs/Web/API/Notification) to Kotlin\n */\npublic external open
class Notification(title: String, options: NotificationOptions = definedExternally) : EventTarget {\n var onclick:
((MouseEvent) -> dynamic)?\n var onerror: ((Event) -> dynamic)?\n open val title: String\n open val dir:
NotificationDirection\n open val lang: String\n open val body: String\n open val tag: String\n open val
image: String\n open val icon: String\n open val badge: String\n
open val sound: String\n open val vibrate: Array<out Int>\n open val timestamp: Number\n open val renotify:
Boolean\n open val silent: Boolean\n open val noscreen: Boolean\n open val requireInteraction: Boolean\n
open val sticky: Boolean\n open val data: Any?\n open val actions: Array<out NotificationAction>\n fun
close()\n\n companion object {\n val permission: NotificationPermission\n val maxActions: Int\n fun
requestPermission(deprecatedCallback: (NotificationPermission) -> Unit = definedExternally):
Promise<NotificationPermission>\n }\n}\n\npublic external interface NotificationOptions {\n var dir:
NotificationDirection? /* = NotificationDirection.AUTO */\n get() = definedExternally\n set(value) =
definedExternally\n var lang: String? /* = "" */\n get() = definedExternally\n set(value) =
definedExternally\n var body: String? /* = "" */\n get() = definedExternally\n set(value) =
definedExternally\n var tag: String? /* = "" */\n get() = definedExternally\n set(value) =
definedExternally\n var image: String?\n get() = definedExternally\n set(value) = definedExternally\n
var icon: String?\n get() = definedExternally\n set(value) = definedExternally\n var badge: String?\n
get() = definedExternally\n set(value) = definedExternally\n var sound: String?\n get() =
definedExternally\n set(value) = definedExternally\n var vibrate: dynamic\n get() = definedExternally\n
set(value) = definedExternally\n var timestamp: Number?\n get() = definedExternally\n set(value) =
definedExternally\n var renotify: Boolean? /* = false */\n get() = definedExternally\n set(value) =
definedExternally\n var silent: Boolean? /* = false */\n get() = definedExternally\n set(value) =
definedExternally\n var noscreen: Boolean? /* = false
/\n get() = definedExternally\n set(value) = definedExternally\n var requireInteraction: Boolean? / =
false */\n get() = definedExternally\n set(value) = definedExternally\n var sticky: Boolean? /* = false
/\n get() = definedExternally\n set(value) = definedExternally\n var data: Any? / = null */\n get() =
definedExternally\n set(value) = definedExternally\n var actions: Array<NotificationAction>? /* = arrayOf()
*/\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n\n@kotlin.internal.InlineOnly\npublic inline fun NotificationOptions(dir:

```

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NotificationDirection? = NotificationDirection.AUTO, lang: String? = "", body: String? = "", tag: String? = "",
image: String? = undefined, icon: String? = undefined, badge: String? = undefined, sound: String? = undefined,
vibrate: dynamic = undefined, timestamp: Number? = undefined, renotify:
Boolean? = false, silent: Boolean? = false, noscreen: Boolean? = false, requireInteraction: Boolean? = false, sticky:
Boolean? = false, data: Any? = null, actions: Array<NotificationAction>? = arrayOf(): NotificationOptions {\n
val o = js("{}")\n o["dir"] = dir\n o["lang"] = lang\n o["body"] = body\n o["tag"] = tag\n
o["image"] = image\n o["icon"] = icon\n o["badge"] = badge\n o["sound"] = sound\n o["vibrate"] =
vibrate\n o["timestamp"] = timestamp\n o["renotify"] = renotify\n o["silent"] = silent\n o["noscreen"] =
noscreen\n o["requireInteraction"] = requireInteraction\n o["sticky"] = sticky\n o["data"] = data\n
o["actions"] = actions\n return o}\n\npublic external interface NotificationAction {\n var action: String?\n
var title: String?\n var icon: String?\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun NotificationAction(action: String?,
title: String?, icon: String? = undefined): NotificationAction {\n val o = js("{}")\n o["action"] = action\n
o["title"] = title\n o["icon"] = icon\n return o}\n\npublic external interface GetNotificationOptions {\n var
tag: String? /* = "" */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun GetNotificationOptions(tag: String? =
 ""): GetNotificationOptions {\n val o = js("{}")\n o["tag"] = tag\n return o}\n\n/**\n * Exposes the
JavaScript [NotificationEvent](https://developer.mozilla.org/en/docs/Web/API/NotificationEvent) to Kotlin\n
*\n\npublic external open class NotificationEvent(type: String, eventInitDict: NotificationEventInit) :
ExtendableEvent {\n open val notification: Notification\n
open val action: String\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n
val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface
NotificationEventInit : ExtendableEventInit {\n var notification: Notification?\n var action: String? /* = "" */\n
get() = definedExternally\n set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun NotificationEventInit(notification:
Notification?, action: String? = "", bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? =
false): NotificationEventInit {\n val o = js("{}")\n o["notification"] = notification\n o["action"] =
action\n o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n o["composed"] = composed\n return
o}\n\n/* please, don't implement this interface!\n
*\n\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic
external interface NotificationPermission {\n companion object\n}\n\npublic inline val
NotificationPermission.Companion.DEFAULT: NotificationPermission get() =
"default".asDynamic().unsafeCast<NotificationPermission>()\n\npublic inline val
NotificationPermission.Companion.DENIED: NotificationPermission get() =
"denied".asDynamic().unsafeCast<NotificationPermission>()\n\npublic inline val
NotificationPermission.Companion.GRANTED: NotificationPermission get() =
"granted".asDynamic().unsafeCast<NotificationPermission>()\n\n/* please, don't implement this interface!\n
*\n\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external
interface NotificationDirection {\n companion object\n}\n\npublic inline val
NotificationDirection.Companion.AUTO: NotificationDirection get() =
"auto".asDynamic().unsafeCast<NotificationDirection>()\n\npublic inline val
NotificationDirection.Companion.LTR: NotificationDirection get()
= "ltr".asDynamic().unsafeCast<NotificationDirection>()\n\npublic inline val
NotificationDirection.Companion.RTL: NotificationDirection get() =
"rtl".asDynamic().unsafeCast<NotificationDirection>()"/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be

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found in the license/LICENSE.txt file.\n \*\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n\n//  
See github.com/kotlin/dukat for details\n\npackage org.w3c.workers\n\nimport kotlin.js.\*\nimport  
org.khronos.webgl.\*\nimport org.w3c.dom.\*\nimport org.w3c.dom.events.\*\nimport org.w3c.fetch.\*\nimport  
org.w3c.notifications.\*\n\n/\*\*\n \* Exposes the JavaScript  
[ServiceWorker](https://developer.mozilla.org/en/docs/Web/API/ServiceWorker) to Kotlin\n \*\n\npublic external  
abstract class ServiceWorker : EventTarget, AbstractWorker, UnionMessagePortOrServiceWorker,  
UnionClientOrMessagePortOrServiceWorker {\n open val scriptURL:  
String\n open val state: ServiceWorkerState\n open var onstatechange: ((Event) -> dynamic)?\n fun  
postMessage(message: Any?, transfer: Array<dynamic> = definedExternally)\n}\n\n/\*\*\n \* Exposes the JavaScript  
[ServiceWorkerRegistration](https://developer.mozilla.org/en/docs/Web/API/ServiceWorkerRegistration) to  
Kotlin\n \*\n\npublic external abstract class ServiceWorkerRegistration : EventTarget {\n open val installing:  
ServiceWorker?\n open val waiting: ServiceWorker?\n open val active: ServiceWorker?\n open val scope:  
String\n open var onupdatefound: ((Event) -> dynamic)?\n open val APISpace: dynamic\n fun update():  
Promise<Unit>\n fun unregister(): Promise<Boolean>\n fun showNotification(title: String, options:  
NotificationOptions = definedExternally): Promise<Unit>\n fun getNotifications(filter: GetNotificationOptions =  
definedExternally): Promise<Array<Notification>>\n fun methodName(): Promise<dynamic>\n}\n\n/\*\*\n \*  
Exposes the JavaScript  
[ServiceWorkerContainer](https://developer.mozilla.org/en/docs/Web/API/ServiceWorkerContainer) to Kotlin\n\n  
\*\n\npublic external abstract class ServiceWorkerContainer : EventTarget {\n open val controller:  
ServiceWorker?\n open val ready: Promise<ServiceWorkerRegistration>\n open var oncontrollerchange:  
((Event) -> dynamic)?\n open var onmessage: ((MessageEvent) -> dynamic)?\n fun register(scriptURL: String,  
options: RegistrationOptions = definedExternally): Promise<ServiceWorkerRegistration>\n fun  
getRegistration(clientURL: String = definedExternally): Promise<Any?>\n fun getRegistrations():  
Promise<Array<ServiceWorkerRegistration>>\n fun startMessages()\n}\n\n\npublic external interface  
RegistrationOptions {\n var scope: String?\n get() = definedExternally\n set(value) = definedExternally\n  
var type: WorkerType? /\* = WorkerType.CLASSIC \*/\n get() = definedExternally\n set(value) =  
definedExternally\n}\n\n\n@Suppress(\"INVISIBLE\_REFERENCE\",  
\"INVISIBLE\_MEMBER\")\n@kotlin.internal.InlineOnly\n\npublic inline fun RegistrationOptions(scope: String? =  
undefined, type: WorkerType? = WorkerType.CLASSIC): RegistrationOptions {\n val o = js(\"({})\")\n  
o[\"scope\"] = scope\n o[\"type\"] = type\n return o\n}\n\n\n/\*\*\n \* Exposes the JavaScript  
[ServiceWorkerMessageEvent](https://developer.mozilla.org/en/docs/Web/API/ServiceWorkerMessageEvent) to  
Kotlin\n\n \*\n\npublic external open class ServiceWorkerMessageEvent(type: String, eventInitDict:  
ServiceWorkerMessageEventInit = definedExternally) : Event {\n open val data: Any?\n open val origin:  
String\n open val lastEventId: String\n open val source: UnionMessagePortOrServiceWorker?\n open val  
ports: Array<out MessagePort>?\n\n companion object {\n val NONE: Short\n val  
CAPTURING\_PHASE: Short\n val AT\_TARGET: Short\n val BUBBLING\_PHASE: Short\n  
}\n}\n\n\npublic external interface ServiceWorkerMessageEventInit : EventInit {\n  
var data: Any?\n get() = definedExternally\n set(value) = definedExternally\n var origin: String?\n  
get() = definedExternally\n set(value) = definedExternally\n var lastEventId: String?\n get() =  
definedExternally\n set(value) = definedExternally\n var source: UnionMessagePortOrServiceWorker?\n  
get() = definedExternally\n set(value) = definedExternally\n var ports: Array<MessagePort>?\n get() =  
definedExternally\n set(value) = definedExternally\n}\n\n\n@Suppress(\"INVISIBLE\_REFERENCE\",  
\"INVISIBLE\_MEMBER\")\n@kotlin.internal.InlineOnly\n\npublic inline fun ServiceWorkerMessageEventInit(data:  
Any? = undefined, origin: String? = undefined, lastEventId: String? = undefined, source:  
UnionMessagePortOrServiceWorker? = undefined, ports: Array<MessagePort>? = undefined, bubbles: Boolean? =  
false, cancelable: Boolean? = false, composed: Boolean? = false): ServiceWorkerMessageEventInit {\n val o =  
js(\"({})\")\n}

```

 o["data"] = data\n o["origin"] = origin\n o["lastEventId"] = lastEventId\n o["source"] = source\n
 o["ports"] = ports\n o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n o["composed"] =
 composed\n return o\n}\n\n/**\n * Exposes the JavaScript
[ServiceWorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/ServiceWorkerGlobalScope) to
Kotlin\n */\npublic external abstract class ServiceWorkerGlobalScope : WorkerGlobalScope {\n open val clients:
Clients\n open val registration: ServiceWorkerRegistration\n open var oninstall: ((Event) -> dynamic)?\n open
var onactivate: ((Event) -> dynamic)?\n open var onfetch: ((FetchEvent) -> dynamic)?\n open var
onforeignfetch: ((Event) -> dynamic)?\n open var onmessage: ((MessageEvent) -> dynamic)?\n open var
onnotificationclick: ((NotificationEvent) -> dynamic)?\n open var onnotificationclose: ((NotificationEvent) ->
dynamic)?\n open var onfunctionalevent: ((Event)
-> dynamic)?\n fun skipWaiting(): Promise<Unit>\n}\n\n/**\n * Exposes the JavaScript
[Client](https://developer.mozilla.org/en/docs/Web/API/Client) to Kotlin\n */\npublic external abstract class Client :
UnionClientOrMessagePortOrServiceWorker {\n open val url: String\n open val frameType: FrameType\n
open val id: String\n fun postMessage(message: Any?, transfer: Array<dynamic> = definedExternally)\n}\n\n/**\n
* Exposes the JavaScript [WindowClient](https://developer.mozilla.org/en/docs/Web/API/WindowClient) to
Kotlin\n */\npublic external abstract class WindowClient : Client {\n open val visibilityState: dynamic\n open
val focused: Boolean\n fun focus(): Promise<WindowClient>\n fun navigate(url: String):
Promise<WindowClient>\n}\n\n/**\n * Exposes the JavaScript
[Clients](https://developer.mozilla.org/en/docs/Web/API/Clients) to Kotlin\n */\npublic external abstract class
Clients {\n fun get(id: String): Promise<Any?>\n fun matchAll(options: ClientQueryOptions
= definedExternally): Promise<Array<Client>>\n fun openWindow(url: String): Promise<WindowClient?>\n
fun claim(): Promise<Unit>\n}\n\npublic external interface ClientQueryOptions {\n var includeUncontrolled:
Boolean? /* = false */\n get() = definedExternally\n set(value) = definedExternally\n var type:
ClientType? /* = ClientType.WINDOW */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun
ClientQueryOptions(includeUncontrolled: Boolean? = false, type: ClientType? = ClientType.WINDOW):
ClientQueryOptions {\n val o = js("{}")\n o["includeUncontrolled"] = includeUncontrolled\n o["type"] =
type\n return o\n}\n\n/**\n * Exposes the JavaScript
[ExtendableEvent](https://developer.mozilla.org/en/docs/Web/API/ExtendableEvent) to Kotlin\n */\npublic external
open class ExtendableEvent(type: String, eventInitDict:
ExtendableEventInit = definedExternally) : Event {\n fun waitUntil(f: Promise<Any?>)\n\n companion object
{\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val
BUBBLING_PHASE: Short\n }\n\n public external interface ExtendableEventInit :
EventInit\n\n @Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n @kotlin.internal.InlineOnly\n public inline fun ExtendableEventInit(bubbles:
Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): ExtendableEventInit {\n val o =
js("{}")\n o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n o["composed"] = composed\n
return o\n}\n\n/**\n * Exposes the JavaScript
[InstallEvent](https://developer.mozilla.org/en/docs/Web/API/InstallEvent) to Kotlin\n */\npublic external open
class InstallEvent(type: String, eventInitDict: ExtendableEventInit = definedExternally) : ExtendableEvent {\n fun
registerForeignFetch(options: ForeignFetchOptions)\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET:
Short\n val BUBBLING_PHASE: Short\n }\n\n public external interface ForeignFetchOptions {\n var
scopes: Array<String>?\n var origins: Array<String>?\n }\n\n @Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n @kotlin.internal.InlineOnly\n public inline fun ForeignFetchOptions(scopes:
Array<String>?, origins: Array<String>?): ForeignFetchOptions {\n val o = js("{}")\n o["scopes"] =
scopes\n o["origins"] = origins\n return o\n}\n\n/**\n * Exposes the JavaScript

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[FetchEvent](https://developer.mozilla.org/en/docs/Web/API/FetchEvent) to Kotlin\n *\npublic external open class
FetchEvent(type: String, eventInitDict: FetchEventInit) : ExtendableEvent {\n open val request: Request\n open
val clientId: String?\n open val isReload: Boolean\n fun respondWith(r: Promise<Response>)\n\n companion
object {\n val NONE:
Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE:
Short\n }\n}\n\npublic external interface FetchEventInit : ExtendableEventInit {\n var request: Request?\n var
clientId: String? /* = null */\n get() = definedExternally\n set(value) = definedExternally\n var isReload:
Boolean? /* = false */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun FetchEventInit(request: Request?,
clientId: String? = null, isReload: Boolean? = false, bubbles: Boolean? = false, cancelable: Boolean? = false,
composed: Boolean? = false): FetchEventInit {\n val o = js(\"({})\")\n o[\"request\"] = request\n o[\"clientId\"]
= clientId\n o[\"isReload\"] = isReload\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n
o[\"composed\"] = composed\n return o\n}\n\npublic external
open class ForeignFetchEvent(type: String, eventInitDict: ForeignFetchEventInit) : ExtendableEvent {\n open val
request: Request\n open val origin: String\n fun respondWith(r: Promise<ForeignFetchResponse>)\n\n companion
object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET:
Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface ForeignFetchEventInit :
ExtendableEventInit {\n var request: Request?\n var origin: String? /* = \"null\" */\n get() =
definedExternally\n set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun ForeignFetchEventInit(request:
Request?, origin: String? = \"null\", bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? =
false): ForeignFetchEventInit {\n val o = js(\"({})\")\n o[\"request\"] = request\n o[\"origin\"] = origin\n
o[\"bubbles\"] = bubbles\n
o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n}\n\npublic external interface
ForeignFetchResponse {\n var response: Response?\n var origin: String?\n get() = definedExternally\n
set(value) = definedExternally\n var headers: Array<String>?\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun ForeignFetchResponse(response:
Response?, origin: String? = undefined, headers: Array<String>? = undefined): ForeignFetchResponse {\n val o =
js(\"({})\")\n o[\"response\"] = response\n o[\"origin\"] = origin\n o[\"headers\"] = headers\n return
o\n}\n\n/**\n * Exposes the JavaScript
[ExtendableMessageEvent](https://developer.mozilla.org/en/docs/Web/API/ExtendableMessageEvent) to Kotlin\n
*\npublic external open class ExtendableMessageEvent(type: String, eventInitDict: ExtendableMessageEventInit
= definedExternally) : ExtendableEvent {\n open val data: Any?\n open val origin: String\n open val
lastEventId: String\n open val source: UnionClientOrMessagePortOrServiceWorker?\n open val ports:
Array<out MessagePort>?\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE:
Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface
ExtendableMessageEventInit : ExtendableEventInit {\n var data: Any?\n get() = definedExternally\n
set(value) = definedExternally\n var origin: String?\n get() = definedExternally\n set(value) =
definedExternally\n var lastEventId: String?\n get() = definedExternally\n set(value) =
definedExternally\n var source: UnionClientOrMessagePortOrServiceWorker?\n get() = definedExternally\n
set(value) = definedExternally\n var ports: Array<MessagePort>?\n get() = definedExternally\n
set(value)
= definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun ExtendableMessageEventInit(data:
Any? = undefined, origin: String? = undefined, lastEventId: String? = undefined, source:
UnionClientOrMessagePortOrServiceWorker? = undefined, ports: Array<MessagePort>? = undefined, bubbles:

```



```

Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): ExtendableMessageEventInit {
 val o = js("{}")
 o["data"] = data
 o["origin"] = origin
 o["lastEventId"] = lastEventId
 o["source"] = source
 o["ports"] = ports
 o["bubbles"] = bubbles
 o["cancelable"] = cancelable
 o["composed"] = composed
 return o
}

/**
 * Exposes the JavaScript
 [Cache](https://developer.mozilla.org/en/docs/Web/API/Cache) to Kotlin
 */
public external abstract class Cache {
 fun match(request: dynamic, options: CacheQueryOptions = definedExternally): Promise<Any?>
 fun matchAll(request: dynamic = definedExternally, options: CacheQueryOptions = definedExternally):
 Promise<Array<Response>>
 fun add(request: dynamic): Promise<Unit>
 fun addAll(requests:
 Array<dynamic>): Promise<Unit>
 fun put(request: dynamic, response: Response): Promise<Unit>
 fun delete(request: dynamic, options: CacheQueryOptions = definedExternally): Promise<Boolean>
 fun keys(request: dynamic = definedExternally, options: CacheQueryOptions = definedExternally):
 Promise<Array<Request>>
}

public external interface CacheQueryOptions {
 var ignoreSearch: Boolean? /*
 = false */
 get() = definedExternally
 set(value) = definedExternally
 var ignoreMethod: Boolean? /*
 = false */
 get() = definedExternally
 set(value) = definedExternally
 var ignoreVary: Boolean? /*
 = false */
 get() = definedExternally
 set(value) = definedExternally
 var cacheName: String?
 get() = definedExternally
 set(value) = definedExternally
}

@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline fun CacheQueryOptions(ignoreSearch:
Boolean? = false, ignoreMethod: Boolean? = false, ignoreVary: Boolean? = false, cacheName: String? = undefined):
CacheQueryOptions {
 val o = js("{}")
 o["ignoreSearch"] = ignoreSearch
 o["ignoreMethod"] =
ignoreMethod
 o["ignoreVary"] = ignoreVary
 o["cacheName"] = cacheName
 return o
}

public external interface CacheBatchOperation {
 var type: String?
 get() = definedExternally
 set(value) =
definedExternally
 var request: Request?
 get() = definedExternally
 set(value) = definedExternally
 var response: Response?
 get() = definedExternally
 set(value) = definedExternally
 var options:
CacheQueryOptions?
 get() = definedExternally
 set(value) =
definedExternally
}

@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline fun CacheBatchOperation(type: String? =
undefined, request: Request? = undefined, response: Response? = undefined, options: CacheQueryOptions? =
undefined): CacheBatchOperation {
 val o = js("{}")
 o["type"] = type
 o["request"] = request
 o["response"] = response
 o["options"] = options
 return o
}

/**
 * Exposes the JavaScript
 [CacheStorage](https://developer.mozilla.org/en/docs/Web/API/CacheStorage) to Kotlin
 */
public external abstract class CacheStorage {
 fun match(request: dynamic, options: CacheQueryOptions = definedExternally):
 Promise<Any?>
 fun has(cacheName: String): Promise<Boolean>
 fun open(cacheName: String):
 Promise<Cache>
 fun delete(cacheName: String): Promise<Boolean>
 fun keys():
 Promise<Array<String>>
}

public external open class FunctionalEvent : ExtendableEvent {
 companion object {
 val NONE: Short
 val CAPTURING_PHASE: Short
 val AT_TARGET: Short
 val BUBBLING_PHASE: Short
 }
}

public external interface UnionMessagePortOrServiceWorker
public external interface
UnionClientOrMessagePortOrServiceWorker

/** please, don't implement this interface!
 */
@JsName("null")
@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")
public external interface ServiceWorkerState {
 companion object
}

public inline val
ServiceWorkerState.Companion.INSTALLING: ServiceWorkerState
get() =
"installing".asDynamic().unsafeCast<ServiceWorkerState>()
public inline val
ServiceWorkerState.Companion.INSTALLED: ServiceWorkerState
get() =
"installed".asDynamic().unsafeCast<ServiceWorkerState>()
public inline val
ServiceWorkerState.Companion.ACTIVATING: ServiceWorkerState
get() =
"activating".asDynamic().unsafeCast<ServiceWorkerState>()
public inline val
ServiceWorkerState.Companion.ACTIVATED: ServiceWorkerState
get() =

```

```

"activated".asDynamic().unsafeCast<ServiceWorkerState>()\n\npublic
inline val ServiceWorkerState.Companion.REDUNDANT: ServiceWorkerState get() =
"redundant".asDynamic().unsafeCast<ServiceWorkerState>()\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external
interface FrameType {\n companion object\n}\n\npublic inline val FrameType.Companion.AUXILIARY:
FrameType get() = "auxiliary".asDynamic().unsafeCast<FrameType>()\n\npublic inline val
FrameType.Companion.TOP_LEVEL: FrameType get() = "top-
level".asDynamic().unsafeCast<FrameType>()\n\npublic inline val FrameType.Companion.NESTED: FrameType
get() = "nested".asDynamic().unsafeCast<FrameType>()\n\npublic inline val FrameType.Companion.NONE:
FrameType get() = "none".asDynamic().unsafeCast<FrameType>()\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external
interface ClientType {\n companion object\n}\n\npublic
inline val ClientType.Companion.WINDOW: ClientType get() =
"window".asDynamic().unsafeCast<ClientType>()\n\npublic inline val ClientType.Companion.WORKER:
ClientType get() = "worker".asDynamic().unsafeCast<ClientType>()\n\npublic inline val
ClientType.Companion.SHAREDWORKER: ClientType get() =
"sharedworker".asDynamic().unsafeCast<ClientType>()\n\npublic inline val ClientType.Companion.ALL:
ClientType get() = "all".asDynamic().unsafeCast<ClientType>()"/*\n * Copyright 2010-2021 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n *\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT
EDIT!\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.xhr\n\nimport kotlin.js.*\nimport
org.khronos.webgl.*\nimport org.w3c.dom.*\nimport org.w3c.dom.events.*\nimport org.w3c.files.*\n\n/*
Exposes the JavaScript
[XMLHttpRequestEventTarget](https://developer.mozilla.org/en/docs/Web/API/XMLHttpRequestEventTarget)
to Kotlin\n\n*\n\npublic external abstract class XMLHttpRequestEventTarget : EventTarget {\n open var
onloadstart: ((ProgressEvent) -> dynamic)?\n open var onprogress: ((ProgressEvent) -> dynamic)?\n open var
onabort: ((Event) -> dynamic)?\n open var onerror: ((Event) -> dynamic)?\n open var onload: ((Event) ->
dynamic)?\n open var ontimeout: ((Event) -> dynamic)?\n open var onloadend: ((Event) ->
dynamic)?\n}\n\n\npublic external abstract class XMLHttpRequestUpload : XMLHttpRequestEventTarget\n\n/**\n *
Exposes the JavaScript [XMLHttpRequest](https://developer.mozilla.org/en/docs/Web/API/XMLHttpRequest) to
Kotlin\n\n*\n\npublic external open class XMLHttpRequest : XMLHttpRequestEventTarget {\n var
onreadystatechange: ((Event) -> dynamic)?\n open val readyState: Short\n var timeout: Int\n var
withCredentials: Boolean\n open val upload: XMLHttpRequestUpload\n open val responseURL: String\n
open val status: Short\n open val statusText: String\n var responseType: XMLHttpRequestResponseType\n
open val response: Any?\n open val responseText: String\n open val responseXML: Document?\n fun
open(method: String, url: String)\n fun open(method: String, url: String, async: Boolean, username: String? =
definedExternally, password: String? = definedExternally)\n fun setRequestHeader(name: String, value: String)\n
fun send(body: dynamic = definedExternally)\n fun abort()\n fun getResponseHeader(name: String): String?\n
fun getAllResponseHeaders(): String\n fun overrideMimeType(mime: String)\n\n companion object {\n val
UNSENT: Short\n val OPENED: Short\n val HEADERS_RECEIVED: Short\n val LOADING:
Short\n val DONE: Short\n }\n}\n\n\n/**\n * Exposes the JavaScript
[FormData](https://developer.mozilla.org/en/docs/Web/API/FormData) to Kotlin\n\n*\n\npublic external open class
FormData(form: HTMLFormElement
= definedExternally) {\n fun append(name: String, value: String)\n fun append(name: String, value: Blob,
filename: String = definedExternally)\n fun delete(name: String)\n fun get(name: String): dynamic\n fun
getAll(name: String): Array<dynamic>\n fun has(name: String): Boolean\n fun set(name: String, value: String)\n
fun set(name: String, value: Blob, filename: String = definedExternally)\n}\n\n\n/**\n * Exposes the JavaScript
[ProgressEvent](https://developer.mozilla.org/en/docs/Web/API/ProgressEvent) to Kotlin\n\n*\n\npublic external open

```

```

class ProgressEvent(type: String, eventInitDict: ProgressEventInit = definedExternally) : Event {
 open val lengthComputable: Boolean
 open val loaded: Number
 open val total: Number
 companion object {
 val NONE: Short
 val CAPTURING_PHASE: Short
 val AT_TARGET: Short
 val BUBBLING_PHASE: Short
 }
}

public external interface ProgressEventInit : EventInit {
 var lengthComputable: Boolean? /* = false */
 get() = definedExternally
 set(value) = definedExternally
 var loaded: Number? /* = 0 */
 get() = definedExternally
 set(value) = definedExternally
 var total: Number? /* = 0 */
 get() = definedExternally
 set(value) = definedExternally
}

@Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline fun ProgressEventInit(lengthComputable: Boolean? = false, loaded: Number? = 0, total: Number? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): ProgressEventInit {
 val o = js("{}")
 o["lengthComputable"] = lengthComputable
 o["loaded"] = loaded
 o["total"] = total
 o["bubbles"] = bubbles
 o["cancelable"] = cancelable
 o["composed"] = composed
 return o
}

/* please, don't implement this interface! */
@JsName("null")
@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")
public external interface XMLHttpRequestResponseType {
 companion object
}

public inline val XMLHttpRequestResponseType.Companion.EMPTY: XMLHttpRequestResponseType get() = ""
public inline val XMLHttpRequestResponseType.Companion.ARRAYBUFFER: XMLHttpRequestResponseType get() = "arraybuffer"
public inline val XMLHttpRequestResponseType.Companion.BLOB: XMLHttpRequestResponseType get() = "blob"
public inline val XMLHttpRequestResponseType.Companion.DOCUMENT: XMLHttpRequestResponseType get() = "document"
public inline val XMLHttpRequestResponseType.Companion.JSON: XMLHttpRequestResponseType get() = "json"
public inline val XMLHttpRequestResponseType.Companion.TEXT: XMLHttpRequestResponseType get() = "text"

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 */
package kotlin
import kotlin.annotation.AnnotationRetention.BINARY
import kotlin.annotation.AnnotationRetention.SOURCE
import kotlin.annotation.AnnotationTarget.*
import kotlin.internal.RequireKotlin
import kotlin.internal.RequireKotlinVersionKind
import kotlin.reflect.KClass

/* Signals that the annotated annotation class is a marker of an experimental API.
 * Any declaration annotated with that marker is considered an experimental declaration
 * and its call sites should accept the experimental aspect of it either by using [UseExperimental],
 * or by being annotated with that marker themselves, effectively causing further propagation of that experimental aspect.
 * This class is deprecated in favor of a more general approach provided by [RequiresOptIn]/[OptIn].
 */
@Target(ANNOTATION_CLASS)
@Retention(BINARY)
@SinceKotlin("1.2")
@RequireKotlin("1.2.50", versionKind = RequireKotlinVersionKind.COMPILER_VERSION)
@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.6")
@Deprecated("Please use RequiresOptIn instead.")
public annotation class Experimental(val level: Level = Level.ERROR) {
 /** Severity of the diagnostic that should be reported on usages of experimental API which did not explicitly accept the experimental aspect
 * of that API either by using [UseExperimental] or by being annotated with the corresponding marker annotation.
 */
 public enum class Level {
 /** Specifies that a warning should be reported on incorrect usages of this experimental API.
 */
 WARNING,
 /** Specifies that an error should be reported on incorrect usages of this experimental API.
 */
 ERROR,
 }
}

```



create(doubleProducer: () -> Double): Double\n \* val newValue = create { 3.14 }\n \* The annotation being applied to one of overloads allows to resolve this ambiguity by analyzing what value is returned from the lambda function.\n \* This annotation is also used to discriminate the annotated overloads in case if overload selection still cannot choose one of them even taking in account the result of lambda parameter analysis. In that case a warning is reported.\n

\* Note: this annotation is experimental, see [ExperimentalTypeInference] on how to opt-in for it.\n

```
 * \n @Target(FUNCTION)\n @Retention(AnnotationRetention.BINARY)\n @SinceKotlin("1.4")\n @ExperimentalTypeInference\n public annotation class OverloadResolutionByLambdaReturnType", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n package kotlin\n\n import kotlin.annotation.AnnotationTarget.*\n import kotlin.internal.RequireKotlin\n import
```

```
 kotlin.internal.RequireKotlinVersionKind\n\n /**\n * The experimental multiplatform support API marker.\n *\n * Any usage of a declaration annotated with `@ExperimentalMultiplatform` must be accepted either by\n * annotating that usage with the [OptIn] annotation, e.g. `@OptIn(ExperimentalMultiplatform::class)`\n * or by using the compiler argument `-opt-in=kotlin.ExperimentalMultiplatform`.\n
```

```
 * \n @RequiresOptIn\n @MustBeDocumented\n @Target(\n CLASS,\n ANNOTATION_CLASS,\n PROPERTY,\n FIELD,\n LOCAL_VARIABLE,\n VALUE_PARAMETER,\n CONSTRUCTOR,\n FUNCTION,\n PROPERTY_GETTER,\n PROPERTY_SETTER,\n TYPEALIAS)\n @Retention(AnnotationRetention.BINARY)\n @RequireKotlin("1.2.50", versionKind = RequireKotlinVersionKind.COMPILER_VERSION)\n public annotation class ExperimentalMultiplatform\n\n /**\n * Marks an expected annotation class that it isn't required to have actual counterparts in all platforms.\n *\n * This annotation is only applicable to `expect` annotation classes in multi-platform projects and marks that class as\n * `optional`.\n * Optional expected class is allowed to have no corresponding actual class on the platform. Optional\n * annotations can only be used\n * to annotate something, not as types in signatures. If an optional annotation has no\n * corresponding actual class on a platform,\n * the annotation entries where it's used are simply erased
```

when compiling code on that platform.\n \* Note: this annotation is experimental, see

[ExperimentalMultiplatform] on how to opt-in for it.\n

```
 * \n @Target(ANNOTATION_CLASS)\n @Retention(AnnotationRetention.BINARY)\n @ExperimentalMultiplatform\n @RequireKotlin("1.2.50", versionKind = RequireKotlinVersionKind.COMPILER_VERSION)\n public\n annotation class OptionalExpectation\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n package kotlin\n\n import
```

```
 kotlin.annotation.AnnotationRetention.BINARY\n import kotlin.annotation.AnnotationRetention.SOURCE\n import\n kotlin.annotation.AnnotationTarget.*\n import kotlin.internal.RequireKotlin\n import
```

```
 kotlin.internal.RequireKotlinVersionKind\n import kotlin.reflect.KClass\n\n /**\n * Signals that the annotated annotation class is a marker of an API that requires an explicit opt-in.\n *\n * Call sites of any declaration annotated with that marker should opt in to the API either by using [OptIn],\n * or by being annotated with that marker themselves, effectively causing further propagation of the opt-in requirement.\n *\n * This class requires opt-in itself and can only be used with the compiler argument\n * -opt-in=kotlin.RequiresOptIn.\n * @property message message to be reported on usages of API without an explicit opt-in, or empty string for the default message.\n * The default message is: `This declaration is experimental and its usage should be marked with 'Marker'` or `@OptIn(Marker::class)`, where `Marker` is the opt-in requirement marker.\n * @property level specifies how usages of API without an explicit opt-in are reported in code.\n
```

```
 * \n @Target(ANNOTATION_CLASS)\n @Retention(BINARY)\n @SinceKotlin("1.3")\n @RequireKotlin("1.3.70", versionKind = RequireKotlinVersionKind.COMPILER_VERSION)\n public annotation class RequiresOptIn(\n val message: String = "",\n val level: Level = Level.ERROR)\n {\n /**\n * Severity of the diagnostic that should be reported on usages which did not explicitly opt into\n * the API either by using [OptIn] or by being
```

```
 * \n @Target(ANNOTATION_CLASS)\n @Retention(BINARY)\n @SinceKotlin("1.3")\n @RequireKotlin("1.3.70", versionKind = RequireKotlinVersionKind.COMPILER_VERSION)\n public annotation class RequiresOptIn(\n val message: String = "",\n val level: Level = Level.ERROR)\n {\n /**\n * Severity of the diagnostic that should be reported on usages which did not explicitly opt into\n * the API either by using [OptIn] or by being
```

```
 * \n @Target(ANNOTATION_CLASS)\n @Retention(BINARY)\n @SinceKotlin("1.3")\n @RequireKotlin("1.3.70", versionKind = RequireKotlinVersionKind.COMPILER_VERSION)\n public annotation class RequiresOptIn(\n val message: String = "",\n val level: Level = Level.ERROR)\n {\n /**\n * Severity of the diagnostic that should be reported on usages which did not explicitly opt into\n * the API either by using [OptIn] or by being
```

```
 * \n @Target(ANNOTATION_CLASS)\n @Retention(BINARY)\n @SinceKotlin("1.3")\n @RequireKotlin("1.3.70", versionKind = RequireKotlinVersionKind.COMPILER_VERSION)\n public annotation class RequiresOptIn(\n val message: String = "",\n val level: Level = Level.ERROR)\n {\n /**\n * Severity of the diagnostic that should be reported on usages which did not explicitly opt into\n * the API either by using [OptIn] or by being
```



```

modification tracking.\n * \n * @param E the type of elements contained in the list. The list is covariant in its
element type.\n * \n @SinceKotlin("1.1")\npublic abstract class AbstractList<out E> protected constructor() :
AbstractCollection<E>(), List<E> {\n abstract override val size: Int\n abstract override fun get(index: Int): E\n\n override fun iterator(): Iterator<E> = IteratorImpl()\n\n override fun indexOf(element: @UnsafeVariance E): Int
= indexOfFirst { it == element }\n\n override fun lastIndexOf(element: @UnsafeVariance E): Int
= indexOfLast { it == element }\n\n override fun listIterator(): ListIterator<E> = ListIteratorImpl(0)\n\n override fun listIterator(index: Int): ListIterator<E> = ListIteratorImpl(index)\n\n override fun subList(fromIndex:
Int, toIndex: Int): List<E> = SubList(this, fromIndex, toIndex)\n\n private class SubList<out E>(private val list:
AbstractList<E>, private val fromIndex: Int, toIndex: Int) : AbstractList<E>(), RandomAccess {\n private var
_size: Int = 0\n\n init {\n checkRangeIndexes(fromIndex, toIndex, list.size)\n this._size = toIndex
- fromIndex\n }\n\n override fun get(index: Int): E {\n checkElementIndex(index, _size)\n\n return list[fromIndex + index]\n }\n\n override val size: Int get() = _size\n }\n\n /**\n * Compares
this list with other list instance with the ordered structural equality.\n * \n * @return true, if [other] instance is a
[List] of the same size,
which contains the same elements in the same order.\n * \n * override fun equals(other: Any?): Boolean {\n
if (other === this) return true\n if (other !is List<*>) return false\n\n return orderedEquals(this, other)\n
}\n\n /**\n * Returns the hash code value for this list.\n * \n * override fun hashCode(): Int =
orderedHashCode(this)\n\n private open inner class IteratorImpl : Iterator<E> {\n /** the index of the item
that will be returned on the next call to [next]`()\n * \n * protected var index = 0\n\n * override fun hasNext():
Boolean = index < size\n\n * override fun next(): E {\n if (!hasNext()) throw NoSuchElementException()\n
\n return get(index++)\n }\n\n * Implementation of [ListIterator] for abstract lists.\n * \n * private open inner class ListIteratorImpl(index: Int) : IteratorImpl(), ListIterator<E> {\n\n init {\n
checkPositionIndex(index,
this@AbstractList.size)\n\n this.index = index\n }\n\n * override fun hasNext(): Boolean = index >
0\n\n * override fun nextIndex(): Int = index\n\n * override fun previous(): E {\n if (!hasPrevious())
throw NoSuchElementException()\n\n return get(--index)\n }\n\n * override fun previousIndex(): Int =
index - 1\n }\n\n * internal companion object {\n internal fun checkElementIndex(index: Int, size: Int) {\n
if (index < 0 || index >= size) {\n throw IndexOutOfBoundsException("\nindex: $index, size: $size")\n }\n }\n\n * internal fun checkPositionIndex(index: Int, size: Int) {\n if (index < 0 || index > size) {\n
throw IndexOutOfBoundsException("\nindex: $index, size: $size")\n }\n }\n\n * internal fun
checkRangeIndexes(fromIndex: Int, toIndex: Int, size: Int) {\n if (fromIndex < 0 || toIndex > size)\n {\n throw IndexOutOfBoundsException("\nfromIndex: $fromIndex, toIndex: $toIndex, size: $size")\n }\n if (fromIndex > toIndex) {\n throw IllegalArgumentException("\nfromIndex: $fromIndex >
toIndex: $toIndex")\n }\n }\n\n * internal fun checkBoundsIndexes(startIndex: Int, endIndex: Int, size:
Int) {\n if (startIndex < 0 || endIndex > size) {\n throw IndexOutOfBoundsException("\nstartIndex:
$startIndex, endIndex: $endIndex, size: $size")\n }\n if (startIndex > endIndex) {\n throw
IllegalArgumentException("\nstartIndex: $startIndex > endIndex: $endIndex")\n }\n }\n\n * internal
fun orderedHashCode(c: Collection<*>): Int {\n var hashCode = 1\n for (e in c) {\n hashCode = 31 * hashCode + (e?.hashCode() ?: 0)\n }\n return hashCode\n }\n\n * internal fun
orderedEquals(c:
Collection<*>, other: Collection<*>): Boolean {\n if (c.size != other.size) return false\n\n val
otherIterator = other.iterator()\n for (elem in c) {\n val elemOther = otherIterator.next()\n if
(elem != elemOther) {\n return false\n }\n return true\n }\n }", /*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code
is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n * \n * Based on
GWT AbstractMap\n * Copyright 2007 Google Inc.\n * \n * package kotlin.collections\n * \n * Provides a skeletal
implementation of the read-only [Map] interface.\n * \n * The implementor is required to implement [entries]
property, which should return read-only set of map entries.\n * \n * @param K the type of map keys. The map is

```

invariant in its key type.\n \* @param

```
V the type of map values. The map is covariant in its value type.\n *^/\n@SinceKotlin("1.1")\npublic abstract class\nAbstractMap<K, out V> protected constructor() : Map<K, V> {\n\n override fun containsKey(key: K): Boolean\n {\n return implFindEntry(key) != null\n }\n\n override fun containsValue(value: @UnsafeVariance V):\n Boolean = entries.any { it.value == value }\n\n internal fun containsEntry(entry: Map.Entry<*, *>): Boolean {\n // since entry comes from @UnsafeVariance parameters it can be virtually anything\n if (entry !is\n Map.Entry<*, *>) return false\n val key = entry.key\n val value = entry.value\n val ourValue =\n get(key)\n if (value != ourValue) {\n return false\n }\n // Perhaps it was null and we don't\n contain the key?\n if (ourValue == null && !containsKey(key)) {\n return false\n }\n return\n true\n }\n\n /**\n * Compares this map with other\n instance with the ordered structural equality.\n *\n * @return true, if [other] instance is a [Map] of the same\n size, all entries of which are contained in the [entries] set of this map.\n */\n override fun equals(other: Any?):\n Boolean {\n if (other === this) return true\n if (other !is Map<*, *>) return false\n if (size != other.size)\n return false\n return other.entries.all { containsEntry(it) }\n }\n\n override operator fun get(key: K): V? =\n implFindEntry(key)?.value\n\n /**\n * Returns the hash code value for this map.\n *\n * It is the same as\n the hashCode of [entries] set.\n */\n override fun hashCode(): Int = entries.hashCode()\n\n override fun\n isEmpty(): Boolean = size == 0\n\n override val size: Int get() = entries.size\n\n /**\n * Returns a read-only\n [Set] of all keys in this map.\n *\n * Accessing this property first time creates a keys view from [entries].\n *\n * All subsequent accesses\n just return the created instance.\n */\n override val keys: Set<K>\n get() {\n if (_keys == null) {\n _keys = object : AbstractSet<K>() {\n override operator fun contains(element: K): Boolean =\n containsKey(element)\n override operator fun iterator(): Iterator<K> {\n val\n entryIterator = entries.iterator()\n return object : Iterator<K> {\n override fun\n hasNext(): Boolean = entryIterator.hasNext()\n override fun next(): K = entryIterator.next().key\n }\n }\n override val size: Int get() = this@AbstractMap.size\n }\n return _keys!!\n }\n @kotlin.jvm.Volatile\n private var _keys: Set<K>? = null\n }\n\n override fun toString(): String = entries.joinToString(", ", "{", "}") { toString(it)\n }\n\n private fun toString(entry: Map.Entry<K, V>): String = toString(entry.key) + "=" +\n toString(entry.value)\n\n private fun toString(o: Any?): String = if (o === this) "(this Map)" else o.toString()\n\n /**\n * Returns a read-only [Collection] of all values in this map.\n *\n * Accessing this property first time\n creates a values view from [entries].\n *\n * All subsequent accesses just return the created instance.\n */\n override val values: Collection<V>\n get() {\n if (_values == null) {\n _values = object :\n AbstractCollection<V>() {\n override operator fun contains(element: @UnsafeVariance V): Boolean =\n containsValue(element)\n override operator fun iterator(): Iterator<V> {\n val\n entryIterator = entries.iterator()\n return object : Iterator<V> {\n override fun\n hasNext(): Boolean = entryIterator.hasNext()\n override fun next(): V = entryIterator.next().value\n }\n }\n }\n return _values!!\n }\n @kotlin.jvm.Volatile\n private var _values: Collection<V>? = null\n private fun implFindEntry(key: K):\n Map.Entry<K, V>? = entries.firstOrNull { it.key == key }\n\n internal companion object {\n internal fun\n entryHashCode(e: Map.Entry<*, *>): Int = with(e) { (key?.hashCode() ?: 0) xor (value?.hashCode() ?: 0) }\n internal fun\n entryToString(e: Map.Entry<*, *>): String = with(e) { "$key=$value" }\n internal fun\n entryEquals(e: Map.Entry<*, *>, other: Any?): Boolean {\n if (other !is Map.Entry<*, *>) return false\n return e.key == other.key && e.value == other.value\n }\n }\n }\n\n /**\n * Copyright 2010-2020 JetBrains\n s.r.o. and Kotlin
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Programming Language contributors.\n \* Use of this source code is governed by the Apache 2.0 license that can be\n found in the license/LICENSE.txt file.\n \*/\npackage kotlin.collections\n\n/\*\*\n \* Provides a skeletal\n implementation of the read-only [Set] interface.\n \*\n \* This class is intended to help implementing read-only sets so



it doesn't support concurrent modification tracking.\n \*\n \* @param E the type of elements contained in the set. The set is covariant in its element type.\n \*\n@SinceKotlin("1.1")\npublic abstract class AbstractSet<out E> protected constructor() : AbstractCollection<E>(), Set<E> {\n\n /\*\*\n \* Compares this set with other set instance with the unordered structural equality.\n \*\n \* @return true, if [other] instance is a [Set] of the same size, all elements of which are contained in this set.\n \*\n override fun equals(other: Any?): Boolean {\n if (other === this) return true\n if (other !is Set<\*>) return false\n\n return setEquals(this, other)\n }\n\n /\*\*\n \* Returns the hash code value for this set.\n \*\n override fun hashCode(): Int = unorderedHashCode(this)\n\n internal companion object {\n internal fun unorderedHashCode(c: Collection<\*>): Int {\n var hashCode = 0\n for (element in c) {\n hashCode += (element?.hashCode() ?: 0)\n }\n return hashCode\n }\n\n internal fun setEquals(c: Set<\*>, other: Set<\*>): Boolean {\n if (c.size != other.size) return false\n return c.containsAll(other)\n }\n\n }\n\n }", "/\*\n \* Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n \* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n \*\npackage kotlin.collections\n\n/\*\*\n \* Resizable-array implementation of the deque data structure.\n \*\n \* The name deque is short for "double ended queue" and is usually pronounced "deck".\n \*\n \* The collection provide methods for convenient access to the both ends.\n \* It also implements [MutableList] interface and supports efficient get/set operations by index.\n \*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic class ArrayDeque<E> : AbstractMutableList<E> {\n private var head: Int = 0\n private var elementData: Array<Any?>\n\n override var size: Int = 0\n private set\n\n /\*\*\n \* Constructs an empty deque with specified [initialCapacity], or throws [IllegalArgumentException] if [initialCapacity] is negative.\n \*\n public constructor(initialCapacity: Int) {\n elementData = when {\n initialCapacity == 0 -> emptyElementData\n initialCapacity > 0 -> arrayOfNulls(initialCapacity)\n else -> throw IllegalArgumentException("Illegal Capacity: \$initialCapacity")\n }\n }\n\n /\*\*\n \* Constructs an empty deque.\n \*\n public constructor() {\n elementData = emptyElementData\n }\n\n /\*\*\n \* Constructs a deque that contains the same elements as the specified [elements] collection in the same order.\n \*\n public constructor(elements: Collection<E>) {\n elementData = elements.toArray()\n size = elementData.size\n if (elementData.isEmpty()) elementData = emptyElementData\n }\n\n /\*\*\n \* Ensures that the capacity of this deque is at least equal to the specified [minCapacity].\n \*\n \* If the current capacity is less than the [minCapacity], a new backing storage is allocated with greater capacity.\n \* Otherwise, this method takes no action and simply returns.\n \*\n private fun ensureCapacity(minCapacity: Int) {\n if (minCapacity < 0) throw IllegalStateException("Deque is too big.") // overflow\n if (minCapacity <= elementData.size) return\n\n if (elementData === emptyElementData) {\n elementData = arrayOfNulls(minCapacity.coerceAtLeast(defaultMinCapacity))\n return\n }\n\n val newCapacity = newCapacity(elementData.size, minCapacity)\n copyElements(newCapacity)\n }\n\n /\*\*\n \* Creates a new array with the specified [newCapacity] size and copies elements in the [elementData] array to it.\n \*\n private fun copyElements(newCapacity: Int) {\n val newElements = arrayOfNulls<Any?>(newCapacity)\n elementData.copyInto(newElements, 0, head, elementData.size)\n elementData.copyInto(newElements, elementData.size - head, 0, head)\n head = 0\n elementData = newElements\n }\n\n @kotlin.internal.InlineOnly\n private inline fun internalGet(internalIndex: Int): E {\n @Suppress("UNCHECKED\_CAST")\n return elementData[internalIndex] as E\n }\n\n private fun positiveMod(index: Int): Int = if (index >= elementData.size) index - elementData.size else index\n\n private fun negativeMod(index: Int): Int = if (index < 0) index + elementData.size else index\n\n @kotlin.internal.InlineOnly\n private inline fun internalIndex(index: Int): Int = positiveMod(head + index)\n\n private fun incremented(index: Int): Int = if (index == elementData.lastIndex) 0 else index + 1\n\n private fun decremented(index: Int): Int = if (index == 0) elementData.lastIndex else index - 1\n\n override fun isEmpty(): Boolean = size == 0\n\n /\*\*\n \* Returns the first element, or throws [NoSuchElementException] if this deque is empty.\n \*\n public fun first(): E = if

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(isEmpty()) throw NoSuchElementException("ArrayDeque is empty.") else internalGet(head)\n\n /**\n *
Returns the first element, or `null` if this deque is empty.\n */\n public fun firstOrNull(): E? = if (isEmpty()) null
else internalGet(head)\n\n /**\n * Returns the last element, or throws [NoSuchElementException] if this deque
is empty.\n */\n public fun last(): E = if
(isEmpty()) throw NoSuchElementException("ArrayDeque is empty.") else
internalGet(internalIndex(lastIndex))\n\n /**\n * Returns the last element, or `null` if this deque is empty.\n
*/\n public fun lastOrNull(): E? = if (isEmpty()) null else internalGet(internalIndex(lastIndex))\n\n /**\n *
Prepends the specified [element] to this deque.\n */\n public fun addFirst(element: E) {\n
ensureCapacity(size + 1)\n\n head = decremented(head)\n\n elementData[head] = element\n\n size += 1\n
}\n\n /**\n * Appends the specified [element] to this deque.\n */\n public fun addLast(element: E) {\n
ensureCapacity(size + 1)\n\n elementData[internalIndex(size)] = element\n\n size += 1\n\n }\n\n /**\n *
Removes the first element from this deque and returns that removed element, or throws [NoSuchElementException]
if this deque is empty.\n */\n public fun removeFirst(): E {\n\n if (isEmpty()) throw
NoSuchElementException("ArrayDeque
is empty.")\n\n val element = internalGet(head)\n\n elementData[head] = null\n\n head =
incremented(head)\n\n size -= 1\n\n return element\n\n }\n\n /**\n * Removes the first element from this
deque and returns that removed element, or returns `null` if this deque is empty.\n */\n public fun
removeFirstOrNull(): E? = if (isEmpty()) null else removeFirst()\n\n /**\n * Removes the last element from this
deque and returns that removed element, or throws [NoSuchElementException] if this deque is empty.\n */\n
public fun removeLast(): E {\n\n if (isEmpty()) throw NoSuchElementException("ArrayDeque is empty.")\n\n
val internalLastIndex = internalIndex(lastIndex)\n\n val element = internalGet(internalLastIndex)\n\n
elementData[internalLastIndex] = null\n\n size -= 1\n\n return element\n\n }\n\n /**\n * Removes the last
element from this deque and returns that removed
element, or returns `null` if this deque is empty.\n */\n public fun removeLastOrNull(): E? = if (isEmpty()) null
else removeLast()\n\n // MutableList, MutableCollection\n public override fun add(element: E): Boolean {\n
addLast(element)\n\n return true\n\n }\n\n public override fun add(index: Int, element: E) {\n
AbstractList.checkPositionIndex(index, size)\n\n if (index == size) {\n\n addLast(element)\n
return\n\n } else if (index == 0) {\n\n addFirst(element)\n\n return\n\n }\n\n ensureCapacity(size
+ 1)\n\n // Elements in circular array lay in 2 ways:\n // 1. `head` is less than `tail`: [#, #, e1, e2, e3,
#]\n // 2. `head` is greater than `tail`: [e3, #, #, #, e1, e2]\n // where head is the index of the first element
in the circular array,\n // and tail is the index following the last element.\n //\n // At this point
the insertion index is not equal to head or tail.\n // Also the circular array can store at least one more element.\n
\n // Depending on where the given element must be inserted the preceding or the succeeding\n //
elements will be shifted to make room for the element to be inserted.\n //\n // In case the preceding elements
are shifted:\n // * if the insertion index is greater than the head (regardless of circular array form)\n // ->
shift the preceding elements\n // * otherwise, the circular array has (2) form and the insertion index is less than
tail\n // -> shift all elements in the back of the array\n // -> shift preceding elements in the front of the
array\n // In case the succeeding elements are shifted:\n // * if the insertion index is less than the tail
(regardless of circular array form)\n // -> shift the succeeding elements\n // * otherwise, the
circular array has (2) form and the insertion index is greater than head\n // -> shift all elements in the front
of the array\n // -> shift succeeding elements in the back of the array\n\n val internalIndex =
internalIndex(index)\n\n if (index < (size + 1) shr 1) {\n\n // closer to the first element -> shift preceding
elements\n\n val decrementedInternalIndex = decremented(internalIndex)\n\n val decrementedHead =
decremented(head)\n\n if (decrementedInternalIndex >= head) {\n\n elementData[decrementedHead]
= elementData[head] // head can be zero\n\n elementData.copyInto(elementData, head, head + 1,
decrementedInternalIndex + 1)\n\n } else { // head > tail\n\n elementData.copyInto(elementData, head -
1, head, elementData.size) // head can't be zero\n\n elementData[elementData.size - 1] = elementData[0]\n
\n elementData.copyInto(elementData,

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0, 1, decrementedInternalIndex + 1)\n }\n elementData[decrementedInternalIndex] = element\n
head = decrementedHead\n } else {\n // closer to the last element -> shift succeeding elements\n
val tail = internalIndex(size)\n if (internalIndex < tail) {\n elementData.copyInto(elementData,\n
internalIndex + 1, internalIndex, tail)\n } else { // head > tail\n elementData.copyInto(elementData,\n
1, 0, tail)\n elementData[0] = elementData[elementData.size - 1]\n
elementData.copyInto(elementData, internalIndex + 1, internalIndex, elementData.size - 1)\n }\n
elementData[internalIndex] = element\n }\n size += 1\n }\n private fun\n
copyCollectionElements(internalIndex: Int, elements: Collection<E>) {\n val iterator = elements.iterator()\n
for (index in internalIndex until elementData.size) {\n
 if (!iterator.hasNext()) break\n elementData[index] = iterator.next()\n }\n for (index in 0 until\n
head) {\n if (!iterator.hasNext()) break\n elementData[index] = iterator.next()\n }\n size +=\n
elements.size\n }\n public override fun addAll(elements: Collection<E>): Boolean {\n if\n
(elements.isEmpty()) return false\n ensureCapacity(this.size + elements.size)\n
copyCollectionElements(internalIndex(size), elements)\n return true\n }\n public override fun\n
addAll(index: Int, elements: Collection<E>): Boolean {\n AbstractList.checkPositionIndex(index, size)\n
if (elements.isEmpty())\n return false\n } else if (index == size) {\n return addAll(elements)\n
}\n ensureCapacity(this.size + elements.size)\n val tail = internalIndex(size)\n val internalIndex =\n
internalIndex(index)\n val elementsSize\n
= elements.size\n if (index < (size + 1) shr 1) {\n // closer to the first element -> shift preceding\n
elements\n var shiftedHead = head - elementsSize\n if (internalIndex >= head) {\n if\n
(shiftedHead >= 0) {\n elementData.copyInto(elementData, shiftedHead, head, internalIndex)\n
}\n } else { // head < tail, insertion leads to head >= tail\n shiftedHead += elementData.size\n val\n
elementsToShift = internalIndex - head\n val shiftToBack = elementData.size - shiftedHead\n }\n
if (shiftToBack >= elementsToShift) {\n elementData.copyInto(elementData, shiftedHead, head,\n
internalIndex)\n } else {\n elementData.copyInto(elementData, shiftedHead, head, head +\n
shiftToBack)\n elementData.copyInto(elementData, 0, head + shiftToBack, internalIndex)\n
 }\n }\n } else { // head > tail, internalIndex < tail\n
elementData.copyInto(elementData, shiftedHead, head, elementData.size)\n if (elementsSize >=\n
internalIndex)\n elementData.copyInto(elementData, elementData.size - elementsSize, 0,\n
internalIndex)\n } else {\n elementData.copyInto(elementData, elementData.size -\n
elementsSize, 0, elementsSize)\n elementData.copyInto(elementData, 0, elementsSize, internalIndex)\n
 }\n }\n head = shiftedHead\n copyCollectionElements(negativeMod(internalIndex -\n
elementsSize), elements)\n } else {\n // closer to the last element -> shift succeeding elements\n
val shiftedInternalIndex = internalIndex + elementsSize\n if (internalIndex < tail) {\n if (tail +\n
elementsSize <= elementData.size) {\n elementData.copyInto(elementData, shiftedInternalIndex, internalIndex, tail)\n
 } else { // head <\n
tail, insertion leads to head >= tail\n if (shiftedInternalIndex >= elementData.size) {\n
elementData.copyInto(elementData, shiftedInternalIndex - elementData.size, internalIndex, tail)\n } else\n
{\n val shiftToFront = tail + elementsSize - elementData.size\n
elementData.copyInto(elementData, 0, tail - shiftToFront, tail)\n elementData.copyInto(elementData,\n
shiftedInternalIndex, internalIndex, tail - shiftToFront)\n }\n }\n } else { // head > tail,\n
internalIndex > head\n elementData.copyInto(elementData, elementsSize, 0, tail)\n if\n
(shiftedInternalIndex >= elementData.size) {\n elementData.copyInto(elementData, shiftedInternalIndex\n
- elementData.size,\n
internalIndex, elementData.size)\n } else {\n elementData.copyInto(elementData, 0,\n
elementData.size - elementsSize, elementData.size)\n elementData.copyInto(elementData,\n
shiftedInternalIndex, internalIndex, elementData.size - elementsSize)\n }\n }\n
copyCollectionElements(internalIndex, elements)\n }\n return true\n }\n public override fun

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get(index: Int): E {\n AbstractList.checkElementIndex(index, size)\n\n return
internalGet(internalIndex(index))\n } \n\n public override fun set(index: Int, element: E): E {\n
AbstractList.checkElementIndex(index, size)\n\n val internalIndex = internalIndex(index)\n val oldElement
= internalGet(internalIndex)\n elementData[internalIndex] = element\n\n return oldElement\n } \n\n
public override fun contains(element: E): Boolean = indexOf(element) != -1\n\n public override
fun indexOf(element: E): Int {\n val tail = internalIndex(size)\n\n if (head < tail) {\n for (index in
head until tail) {\n if (element == elementData[index]) return index - head\n } \n } else if (head
>= tail) {\n for (index in head until elementData.size) {\n if (element == elementData[index]) return
index - head\n } \n } \n\n for (index in 0 until tail) {\n if (element == elementData[index]) return
index + elementData.size - head\n } \n\n return -1\n } \n\n public override fun
lastIndexOf(element: E): Int {\n val tail = internalIndex(size)\n\n if (head < tail) {\n for (index in tail
- 1 downTo head) {\n if (element == elementData[index]) return index - head\n } \n } else if
(head > tail) {\n for (index in tail - 1 downTo 0) {\n if (element == elementData[index])
return index + elementData.size - head\n } \n } \n\n for (index in elementData.lastIndex downTo head) {\n
 if (element == elementData[index]) return index - head\n } \n\n return -1\n } \n\n public
override fun remove(element: E): Boolean {\n val index = indexOf(element)\n if (index == -1) return
false\n removeAt(index)\n return true\n } \n\n public override fun removeAt(index: Int): E {\n
AbstractList.checkElementIndex(index, size)\n\n if (index == lastIndex) {\n return removeLast()\n }
else if (index == 0) {\n return removeFirst()\n } \n\n val internalIndex = internalIndex(index)\n
val element = internalGet(internalIndex)\n\n if (index < size shr 1) {\n // closer to the first element ->
shift preceding elements\n if (internalIndex >= head) {\n elementData.copyInto(elementData, head
+ 1, head, internalIndex)\n } else { // head > tail, internalIndex < head\n
elementData.copyInto(elementData, 1, 0, internalIndex)\n elementData[0] = elementData[elementData.size
- 1]\n elementData.copyInto(elementData, head + 1, head, elementData.size - 1)\n } \n\n
elementData[head] = null\n head = incremented(head)\n } else {\n // closer to the last element ->
shift succeeding elements\n val internalLastIndex = internalIndex(lastIndex)\n\n if (internalIndex <=
internalLastIndex) {\n elementData.copyInto(elementData, internalIndex, internalIndex + 1,
internalLastIndex + 1)\n } else { // head > tail, internalIndex > head\n
elementData.copyInto(elementData, internalIndex, internalIndex + 1, elementData.size)\n
elementData[elementData.size - 1] = elementData[0]\n elementData.copyInto(elementData,
0, 1, internalLastIndex + 1)\n } \n\n elementData[internalLastIndex] = null\n } \n\n size -= 1\n\n
return element\n } \n\n public override fun removeAll(elements: Collection<E>): Boolean = filterInPlace {
!elements.contains(it) } \n\n public override fun retainAll(elements: Collection<E>): Boolean = filterInPlace {
elements.contains(it) } \n\n private inline fun filterInPlace(predicate: (E) -> Boolean): Boolean {\n if
(this.isEmpty() || elementData.isEmpty())\n return false\n\n val tail = internalIndex(size)\n var
newTail = head\n var modified = false\n\n if (head < tail) {\n for (index in head until tail) {\n
val element = elementData[index]\n\n @SuppressWarnings("UNCHECKED_CAST")\n if
(predicate(element as E))\n elementData[newTail++] = element\n else\n modified =
true\n } \n\n elementData.fill(null, newTail, tail)\n } else {\n for (index in head until elementData.size) {\n
val element = elementData[index]\n elementData[index] = null\n\n @SuppressWarnings("UNCHECKED_CAST")\n if (predicate(element as E))\n elementData[newTail++] = element\n else\n modified = true\n } \n\n newTail =
positiveMod(newTail)\n for (index in 0 until tail) {\n val element = elementData[index]\n
elementData[index] = null\n\n @SuppressWarnings("UNCHECKED_CAST")\n if (predicate(element as
E)) {\n elementData[newTail] = element\n newTail = incremented(newTail)\n }
else {\n modified = true\n } \n } \n\n if (modified)\n size =
negativeMod(newTail

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- head)\n\n return modified\n }\n\n public override fun clear() {\n val tail = internalIndex(size)\n if (head < tail) {\n elementData.fill(null, head, tail)\n } else if (isEmpty()) {\n elementData.fill(null, head, elementData.size)\n elementData.fill(null, 0, tail)\n }\n head = 0\n size = 0\n }\n\n @Suppress("NOTHING_TO_OVERRIDE")\n override fun <T> toArray(array: Array<T>):\n Array<T> {\n @Suppress("UNCHECKED_CAST")\n val dest = (if (array.size >= size) array else\n arrayOfNulls(array, size)) as Array<Any?>\n val tail = internalIndex(size)\n if (head < tail) {\n elementData.copyInto(dest, startIndex = head, endIndex = tail)\n } else if (isEmpty()) {\n elementData.copyInto(dest, destinationOffset = 0, startIndex = head, endIndex = elementData.size)\n elementData.copyInto(dest, destinationOffset = elementData.size\n - head, startIndex = 0, endIndex = tail)\n }\n if (dest.size > size) {\n dest[size] = null // null-terminate\n }\n @Suppress("UNCHECKED_CAST")\n return dest as Array<T>\n }\n\n @Suppress("NOTHING_TO_OVERRIDE")\n override fun toArray(): Array<Any?> {\n return\n toArray(arrayOfNulls<Any?>(size))\n }\n\n // for testing\n internal fun <T> testToArray(array: Array<T>):\n Array<T> = toArray(array)\n internal fun testToArray(): Array<Any?> = toArray()\n\n internal companion\n object {\n private val emptyElementData = emptyArray<Any?>()\n private const val maxArraySize =\n Int.MAX_VALUE - 8\n private const val defaultMinCapacity = 10\n internal fun\n newCapacity(oldCapacity: Int, minCapacity: Int): Int {\n // overflow-conscious\n var newCapacity =\n oldCapacity + (oldCapacity shr 1)\n if (newCapacity - minCapacity < 0)\n newCapacity =\n minCapacity\n if (newCapacity - maxArraySize > 0)\n newCapacity = if (minCapacity > maxArraySize)\n Int.MAX_VALUE else maxArraySize\n return newCapacity\n }\n }\n\n // For testing only\n internal fun internalStructure(structure: (head: Int, elements: Array<Any?>) -> Unit) {\n val tail =\n internalIndex(size)\n val head = if (isEmpty() || head < tail) head else head - elementData.size\n structure(head, toArray())\n }\n}"/\n\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language\n contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the\n license/LICENSE.txt file.\n\n*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("ArraysKt")\n\npackage\n kotlin.collections\n\nimport kotlin.contracts.*\n\n/**\n * Returns a single list of all elements from all arrays in the\n given array.\n * @sample samples.collections.Arrays.Transformations.flattenArray\n */\npublic\n fun <T> Array<out Array<out T>>.flatten(): List<T> {\n val result = ArrayList<T>(sumOf { it.size })\n for\n (element in this) {\n result.addAll(element)\n }\n return result\n }\n\n/**\n * Returns a pair of lists, where\n * *first* list is built from the first values of each pair from this array,\n * *second* list is built from the second\n values of each pair from this array.\n * @sample samples.collections.Arrays.Transformations.unzipArray\n */\npublic fun <T, R> Array<out Pair<T, R>>.unzip(): Pair<List<T>, List<R>> {\n val listT =\n ArrayList<T>(size)\n val listR = ArrayList<R>(size)\n for (pair in this) {\n listT.add(pair.first)\n listR.add(pair.second)\n }\n return listT to listR\n}\n\n/**\n * Returns `true` if this nullable array is either null or\n empty.\n * @sample samples.collections.Arrays.Usage.arrayIsNullOrEmpty\n */\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun Array<*>?.isNullOrEmpty(): Boolean\n {\n contract\n {\n returns(false) implies (this@isNullOrEmpty != null)\n }\n return this == null ||\n this.isEmpty()\n }\n\n/**\n * Returns this array if it's not empty\n * or the result of calling [defaultValue] function if\n the array is empty.\n * @sample samples.collections.Arrays.Usage.arrayIfEmpty\n */\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("UPPER_BOUND_CANNOT_BE_ARRAY")\npublic inline fun <C, R> C.ifEmpty(defaultValue: () -> R): R where C : Array<*>, C : R =\n if (isEmpty())\n defaultValue() else\n this\n\n\n@OptIn(ExperimentalUnsignedTypes::class)\n@SinceKotlin("1.3")\n@PublishedApi\n@kotlin.jvm.Jvm\n Name("contentDeepEquals")\n@kotlin.js.JsName("contentDeepEqualsImpl")\ninternal fun <T> Array<out\n T>?.contentDeepEqualsImpl(other: Array<out T>?): Boolean {\n if (this === other) return true\n if (this == null

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|| other == null || this.size != other.size) return false\n\n for (i in indices) {\n val v1 = this[i]\n val v2 = other[i]\n\n if (v1 === v2) {\n continue\n } else if (v1 == null || v2 == null) {\n return false\n }\n\n when {\n v1 is Array<*> && v2 is Array<*> -> if (!v1.contentDeepEquals(v2)) return false\n v1 is ByteArray && v2 is ByteArray -> if (!v1.contentEquals(v2)) return false\n v1 is ShortArray && v2 is ShortArray -> if (!v1.contentEquals(v2)) return false\n v1 is IntArray && v2 is IntArray -> if (!v1.contentEquals(v2)) return false\n v1 is LongArray && v2 is LongArray -> if (!v1.contentEquals(v2)) return false\n v1 is FloatArray && v2 is FloatArray -> if (!v1.contentEquals(v2)) return false\n v1 is DoubleArray && v2 is DoubleArray -> if (!v1.contentEquals(v2)) return false\n v1 is CharArray && v2 is CharArray -> if (!v1.contentEquals(v2)) return false\n v1 is BooleanArray && v2 is BooleanArray -> if (!v1.contentEquals(v2)) return false\n v1 is UByteArray && v2 is UByteArray -> if (!v1.contentEquals(v2)) return false\n v1 is UShortArray && v2 is UShortArray -> if (!v1.contentEquals(v2)) return false\n v1 is UIntArray && v2 is UIntArray -> if (!v1.contentEquals(v2)) return false\n v1 is ULongArray && v2 is ULongArray -> if (!v1.contentEquals(v2)) return false\n } else -> if (v1 != v2) return false\n }\n\n return true\n}\n\n@SinceKotlin("1.3")\n@PublishedApi\n@kotlin.jvm.JvmName("contentDeepToString")\n@kotlin.js.JsName("contentDeepToStringImpl")\ninternal fun <T> Array<out T>?.contentDeepToStringImpl(): String {\n if (this == null) return "null"\n val length = size.coerceAtMost((Int.MAX_VALUE - 2) / 5) * 5 + 2 // in order not to overflow Int.MAX_VALUE\n return buildString(length) {\n contentDeepToStringInternal(this, mutableListOf())\n }\n}\n\n@OptIn(ExperimentalUnsignedTypes::class)\nprivate fun <T> Array<out T>.contentDeepToStringInternal(result: StringBuilder, processed: MutableList<Array<*>>) {\n if (this in processed) {\n result.append("[...]")\n return\n }\n processed.add(this)\n result.append("[")\n for (i in indices) {\n if (i != 0) {\n result.append(", ")\n }\n val element = this[i]\n when (element) {\n null -> result.append("null")\n is Array<*> -> element.contentDeepToStringInternal(result, processed)\n is ByteArray -> result.append(element.contentToString())\n is ShortArray -> result.append(element.contentToString())\n is IntArray -> result.append(element.contentToString())\n is LongArray -> result.append(element.contentToString())\n is FloatArray -> result.append(element.contentToString())\n is DoubleArray -> result.append(element.contentToString())\n is CharArray -> result.append(element.contentToString())\n is BooleanArray -> result.append(element.contentToString())\n is UByteArray -> result.append(element.contentToString())\n is UShortArray -> result.append(element.contentToString())\n is UIntArray -> result.append(element.contentToString())\n is ULongArray -> result.append(element.contentToString())\n }\n else -> result.append(element.toString())\n }\n}\n\nprocessed.removeAt(processed.lastIndex)\n}"/>\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\npackage kotlin.collections\n\n/** Returns true if the brittle contains optimization is enabled. See KT-45438. */\ninternal expect fun brittleContainsOptimizationEnabled(): Boolean\n\n/** Returns true if [brittleContainsOptimizationEnabled] is true and it's safe to convert this collection to a set without changing contains method behavior. */\nprivate fun <T> Collection<T>.safeToConvertToSet() = brittleContainsOptimizationEnabled() && size > 2 && this is ArrayList\n\n/** When [brittleContainsOptimizationEnabled] is true: */\n * - Converts this [Iterable] to a set if it is not a [Collection].\n * - Converts this [Collection] to a set, when it's worth so and it doesn't change contains method behavior.\n * - Otherwise returns this.\n\n/** When [brittleContainsOptimizationEnabled] is false: */\n * - Converts this [Iterable] to a list if it is not a [Collection].\n * - Otherwise returns this.\n\ninternal fun <T> Iterable<T>.convertToSetForSetOperationWith(source: Iterable<T>): Collection<T> =\n when (this) {\n is Set -> this\n is Collection -> when {\n source is Collection && source.size < 2 -> this\n
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else -> if (this.safeToConvertToSet()) toHashSet() else this\n }\n else -> if
(brITTLECONTAINSOPTIMIZATIONENABLED()) toHashSet() else toList()\n }\n\n/**\n * When
[brITTLECONTAINSOPTIMIZATIONENABLED] is true:\n * - Converts this [Iterable] to a set if it is not a [Collection].\n * -
Converts this [Collection] to a set, when it's worth so and it doesn't change contains method behavior.\n * -
Otherwise returns this.\n * When [brITTLECONTAINSOPTIMIZATIONENABLED] is false:\n * - Converts this [Iterable] to a
list if it is not a [Collection].\n * - Otherwise returns this.\n */\ninternal fun <T>
Iterable<T>.convertToSetForSetOperation(): Collection<T> =\n when (this) {\n is Set -> this\n is
Collection -> if (this.safeToConvertToSet()) toHashSet() else this\n }\n else -> if
(brITTLECONTAINSOPTIMIZATIONENABLED()) toHashSet() else toList()\n }\n\n/**\n * Converts this sequence to a set if
[brITTLECONTAINSOPTIMIZATIONENABLED] is true,\n * otherwise
converts it to a list.\n */\ninternal fun <T> Sequence<T>.convertToSetForSetOperation(): Collection<T> =\n if
(brITTLECONTAINSOPTIMIZATIONENABLED()) toHashSet() else toList()\n\n/**\n * Converts this array to a set if
[brITTLECONTAINSOPTIMIZATIONENABLED] is true,\n * otherwise converts it to a list.\n */\ninternal fun <T>
Array<T>.convertToSetForSetOperation(): Collection<T> =\n if (brITTLECONTAINSOPTIMIZATIONENABLED())
toHashSet() else asList()", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\n/**\n * Data class representing a value from a
collection or sequence, along with its index in that collection or sequence.\n * \n * @property value the underlying
value.\n * @property index the index of the value in the collection or sequence.\n */\npublic data class
IndexedValue<out T>(public val
index: Int, public val value: T)\n", /*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmName("MapAccessorsKt")\n\npackage
kotlin.collections\n\nimport kotlin.reflect.KProperty\nimport kotlin.internal.Exact\n\n/**\n * Returns the value of
the property for the given object from this read-only map.\n * @param thisRef the object for which the value is
requested (not used).\n * @param property the metadata for the property, used to get the name of property and
lookup the value corresponding to this name in the map.\n * @return the property value.\n * \n * @throws
NoSuchElementException when the map doesn't contain value for the property name and doesn't provide an implicit
default (see [withDefault]).\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <V, V1 : V> Map<in
String, @Exact V>.getValue(thisRef:
Any?, property: KProperty<*>): V1 =\n @Suppress("UNCHECKED_CAST")
(getOrImplicitDefault(property.name) as V1)\n\n/**\n * Returns the value of the property for the given object from
this mutable map.\n * @param thisRef the object for which the value is requested (not used).\n * @param property
the metadata for the property, used to get the name of property and lookup the value corresponding to this name in
the map.\n * @return the property value.\n * \n * @throws NoSuchElementException when the map doesn't contain
value for the property name and doesn't provide an implicit default (see [withDefault]).\n */\n@kotlin.jvm.JvmName("getVar")\n@kotlin.internal.InlineOnly\npublic inline operator fun <V, V1 : V>
MutableMap<in String, out @Exact V>.getValue(thisRef: Any?, property: KProperty<*>): V1 =\n @Suppress("UNCHECKED_CAST") (getOrImplicitDefault(property.name) as V1)\n\n/**\n * Stores the value of
the property for the given object in this mutable map.\n * @param thisRef
the object for which the value is requested (not used).\n * @param property the metadata for the property, used to
get the name of property and store the value associated with that name in the map.\n * @param value the value to
set.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <V> MutableMap<in String, in
V>.setValue(thisRef: Any?, property: KProperty<*>, value: V) {\n this.put(property.name, value)\n}\n", /*\n *
Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is
governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("MapsKt")\n\npackage
kotlin.collections\n\n/**\n * Returns the value for the given key, or the implicit default value for this map.\n * By

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default no implicit value is provided for maps and a [NoSuchElementException] is thrown.\n \* To create a map with implicit default value use [withDefault]

method.\n \* \n \* @throws NoSuchElementException when the map doesn't contain a value for the specified key and no implicit default was provided for that map.\n

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*\n@kotlin.jvm.JvmName("\ngetOrImplicitDefaultNullable")\n@PublishedApi\ninternal fun <K, V> Map<K, V>.getOrImplicitDefault(key: K): V {\n if (this is MapWithDefault)\n return\n this.getOrImplicitDefault(key)\n return getOrElseNullable(key, { throw NoSuchElementException("\nKey $key\nis missing in the map.") })\n}\n\n/**\n * Returns a wrapper of this read-only map, having the implicit default value\n provided with the specified function [defaultValue].\n * \n * This implicit default value is used when the original\n map doesn't contain a value for the key specified\n * and a value is obtained with [Map.getValue] function, for\n example when properties are delegated to the map.\n * \n * When this map already has an implicit default value\n provided with a former call to [withDefault], it is being replaced by this call.\n
```

```
*\npublic fun <K, V> Map<K, V>.withDefault(defaultValue: (key: K) -> V): Map<K, V> =\n when (this) {\n is MapWithDefault -> this.map.withDefault(defaultValue)\n else -> MapWithDefaultImpl(this, defaultValue)\n }\n\n/**\n * Returns a wrapper of this mutable map, having the implicit default value provided with the specified\n function [defaultValue].\n * \n * This implicit default value is used when the original map doesn't contain a value for\n the key specified\n * and a value is obtained with [Map.getValue] function, for example when properties are\n delegated to the map.\n * \n * When this map already has an implicit default value provided with a former call to\n [withDefault], it is being replaced by this call.\n *\n@kotlin.jvm.JvmName("\nwithDefaultMutable")\npublic fun\n<K, V> MutableMap<K, V>.withDefault(defaultValue: (key: K) -> V): MutableMap<K, V> =\n when (this) {\n is MutableMapWithDefault -> this.map.withDefault(defaultValue)\n else ->
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MutableMapWithDefaultImpl(this,
```

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 defaultValue)\n}\n\nprivate interface MapWithDefault<K, out V> : Map<K, V> {\n public val map: Map<K, V>\n public fun getOrImplicitDefault(key: K): V\n}\n\nprivate interface MutableMapWithDefault<K, V> :\n MutableMap<K, V>, MapWithDefault<K, V> {\n public override val map: MutableMap<K, V>\n}\n\nprivate\n class MapWithDefaultImpl<K, out V>(public override val map: Map<K, V>, private val default: (key: K) -> V) :\n MapWithDefault<K, V> {\n override fun equals(other: Any?): Boolean = map.equals(other)\n override fun\n hashCode(): Int = map.hashCode()\n override fun toString(): String = map.toString()\n override val size: Int get()\n = map.size\n override fun isEmpty(): Boolean = map.isEmpty()\n override fun containsKey(key: K): Boolean =\n map.containsKey(key)\n override fun containsValue(value: @UnsafeVariance V): Boolean =\n map.containsValue(value)\n override fun get(key: K): V? = map.get(key)\n override val keys: Set<K> get()\n = map.keys\n
```

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 override val values: Collection<V> get() = map.values\n override val entries: Set<Map.Entry<K, V>> get()\n = map.entries\n }\n\n private class MutableMapWithDefaultImpl<K, V>(public override val map: MutableMap<K, V>, private\n val default: (key: K) -> V) : MutableMapWithDefault<K, V> {\n override fun equals(other: Any?): Boolean =\n map.equals(other)\n override fun hashCode(): Int = map.hashCode()\n override fun toString(): String =\n map.toString()\n override val size: Int get() = map.size\n override fun isEmpty(): Boolean = map.isEmpty()\n override fun containsKey(key: K): Boolean = map.containsKey(key)\n override fun containsValue(value:\n @UnsafeVariance V): Boolean = map.containsValue(value)\n override fun get(key: K): V? = map.get(key)\n override val keys: MutableSet<K> get() = map.keys\n override val values: MutableCollection<V> get()\n = map.values\n
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 override val entries: MutableSet<MutableMap.MutableEntry<K, V>> get() = map.entries\n }\n\n override fun put(key: K, value: V): V? = map.put(key, value)\n override fun remove(key: K): V? = map.remove(key)\n override fun putAll(from: Map<out K, V>) = map.putAll(from)\n override fun clear() = map.clear()\n\n override\n fun getOrImplicitDefault(key: K): V = map.getOrElseNullable(key, { default(key) })\n}\n\n"/**\n * Copyright\n 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed\n by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
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* \n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("CollectionsKt")\n\npackage
kotlin.collections\n\nimport kotlin.random.Random\n\n/**\n * Removes a single instance of the specified element
from this\n * collection, if it is present.\n *\n * Allows to overcome type-safety restriction of `remove` that requires
to pass an element of type `E`.\n *\n
 * @return `true` if the element has been successfully removed; `false` if it was not present in the collection.\n
*\n\n@kotlin.internal.InlineOnly\npublic inline fun <@kotlin.internal.OnlyInputTypes T> MutableCollection<out
T>.remove(element: T): Boolean =\n @Suppress("UNCHECKED_CAST") (this as
MutableCollection<T>).remove(element)\n\n/**\n * Removes all of this collection's elements that are also
contained in the specified collection.\n *\n * Allows to overcome type-safety restriction of `removeAll` that requires
to pass a collection of type `Collection<E>`.\n *\n * @return `true` if any of the specified elements was removed
from the collection, `false` if the collection was not modified.\n *\n\n@kotlin.internal.InlineOnly\npublic inline fun
<@kotlin.internal.OnlyInputTypes T> MutableCollection<out T>.removeAll(elements: Collection<T>): Boolean
=\n @Suppress("UNCHECKED_CAST") (this as MutableCollection<T>).removeAll(elements)\n\n/**\n *
Retains only the elements in this collection
that are contained in the specified collection.\n *\n * Allows to overcome type-safety restriction of `retainAll` that
requires to pass a collection of type `Collection<E>`.\n *\n * @return `true` if any element was removed from the
collection, `false` if the collection was not modified.\n *\n\n@kotlin.internal.InlineOnly\npublic inline fun
<@kotlin.internal.OnlyInputTypes T> MutableCollection<out T>.retainAll(elements: Collection<T>): Boolean =\n
@Suppress("UNCHECKED_CAST") (this as MutableCollection<T>).retainAll(elements)\n\n/**\n * Adds the
specified [element] to this mutable collection.\n *\n\n@kotlin.internal.InlineOnly\npublic inline operator fun <T>
MutableCollection<in T>.plusAssign(element: T) {\n this.add(element)\n}\n\n/**\n * Adds all elements of the
given [elements] collection to this mutable collection.\n *\n\n@kotlin.internal.InlineOnly\npublic inline operator fun
<T> MutableCollection<in T>.plusAssign(elements: Iterable<T>) {\n this.addAll(elements)\n}\n\n/**\n
 * Adds all elements of the given [elements] array to this mutable collection.\n
*\n\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> MutableCollection<in T>.plusAssign(elements:
Array<T>) {\n this.addAll(elements)\n}\n\n/**\n * Adds all elements of the given [elements] sequence to this
mutable collection.\n *\n\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> MutableCollection<in
T>.plusAssign(elements: Sequence<T>) {\n this.addAll(elements)\n}\n\n/**\n * Removes a single instance of the
specified [element] from this mutable collection.\n *\n\n@kotlin.internal.InlineOnly\npublic inline operator fun <T>
MutableCollection<in T>.minusAssign(element: T) {\n this.remove(element)\n}\n\n/**\n * Removes all elements
contained in the given [elements] collection from this mutable collection.\n *\n\n@kotlin.internal.InlineOnly\npublic
inline operator fun <T> MutableCollection<in T>.minusAssign(elements: Iterable<T>) {\n
this.removeAll(elements)\n}\n\n/**\n * Removes
all elements contained in the given [elements] array from this mutable collection.\n
*\n\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> MutableCollection<in T>.minusAssign(elements:
Array<T>) {\n this.removeAll(elements)\n}\n\n/**\n * Removes all elements contained in the given [elements]
sequence from this mutable collection.\n *\n\n@kotlin.internal.InlineOnly\npublic inline operator fun <T>
MutableCollection<in T>.minusAssign(elements: Sequence<T>) {\n this.removeAll(elements)\n}\n\n/**\n * Adds
all elements of the given [elements] collection to this [MutableCollection].\n *\n\npublic fun <T>
MutableCollection<in T>.addAll(elements: Iterable<T>): Boolean {\n when (elements) {\n is Collection ->
return addAll(elements)\n else -> {\n var result: Boolean = false\n for (item in elements)\n
if (add(item)) result = true\n return result\n }\n }\n}\n\n/**\n * Adds all elements of the given
[elements] array to this
[MutableCollection].\n *\n\npublic fun <T> MutableCollection<in T>.addAll(elements:
Sequence<T>): Boolean {\n var result: Boolean = false\n for (item in elements) {\n if (add(item)) result =
true\n }\n return result\n}\n\n/**\n * Adds all elements of the given [elements] array to this
[MutableCollection].\n *\n\npublic fun <T> MutableCollection<in T>.addAll(elements: Array<out T>): Boolean {\n
return addAll(elements.asList())\n}\n\n/**\n * Removes all elements from this [MutableCollection] that are also

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contained in the given [elements] collection.\n \*  
public fun <T> MutableCollection<in T>.removeAll(elements: Iterable<T>): Boolean {\n return removeAll(elements.convertToSetForSetOperationWith(this))\n}\n\n\*\*\n \* Removes all elements from this [MutableCollection] that are also contained in the given [elements] sequence.\n \*  
public fun <T> MutableCollection<in T>.removeAll(elements: Sequence<T>): Boolean {\n val set = elements.convertToSetForSetOperation()\n return set.isNotEmpty() && removeAll(set)\n}\n\n\*\*\n \* Removes all elements from this [MutableCollection] that are also contained in the given [elements] array.\n \*  
public fun <T> MutableCollection<in T>.removeAll(elements: Array<out T>): Boolean {\n return elements.isNotEmpty() && removeAll(elements.convertToSetForSetOperation())\n}\n\n\*\*\n \* Retains only elements of this [MutableCollection] that are contained in the given [elements] collection.\n \*  
public fun <T> MutableCollection<in T>.retainAll(elements: Iterable<T>): Boolean {\n return retainAll(elements.convertToSetForSetOperationWith(this))\n}\n\n\*\*\n \* Retains only elements of this [MutableCollection] that are contained in the given [elements] array.\n \*  
public fun <T> MutableCollection<in T>.retainAll(elements: Array<out T>): Boolean {\n if (elements.isNotEmpty())\n return retainAll(elements.convertToSetForSetOperation())\n else\n return retainNothing()\n}\n\n\*\*\n \* Retains only elements of this [MutableCollection] that are contained in the given [elements] sequence.\n \*  
public fun <T> MutableCollection<in T>.retainAll(elements: Sequence<T>): Boolean {\n val set = elements.convertToSetForSetOperation()\n if (set.isNotEmpty())\n return retainAll(set)\n else\n return retainNothing()\n}\n\nprivate fun MutableCollection<\*>.retainNothing(): Boolean {\n val result = isEmpty()\n clear()\n return result\}\n\n\*\*\n \* Removes all elements from this [MutableIterable] that match the given [predicate].\n \* @return `true` if any element was removed from this collection, or `false` when no elements were removed and collection was not modified.\n \*  
public fun <T> MutableIterable<T>.removeAll(predicate: (T) -> Boolean): Boolean = filterInPlace(predicate, true)\n\n\*\*\n \* Retains only elements of this [MutableIterable] that match the given [predicate].\n \* @return `true` if any element was removed from this collection, or `false` when all elements were retained and collection was not modified.\n \*  
public fun <T> MutableIterable<T>.retainAll(predicate: (T) -> Boolean): Boolean = filterInPlace(predicate, false)\n\nprivate fun <T> MutableIterable<T>.filterInPlace(predicate: (T) -> Boolean, predicateResultToRemove: Boolean): Boolean {\n var result = false\n with(iterator()) {\n while (hasNext())\n if (predicate(next()) == predicateResultToRemove) {\n remove()\n result = true\n }\n }\n return result\}\n\n\*\*\n \* Removes the element at the specified [index] from this list.\n \* In Kotlin one should use the [MutableList.removeAt] function instead.\n \* @Deprecated("Use removeAt(index) instead.")\n ReplaceWith("removeAt(index)", level = DeprecationLevel.ERROR)\n\nkotlin.internal.InlineOnly\npublic inline fun <T> MutableList<T>.remove(index: Int): T = removeAt(index)\n\n\*\*\n \* Removes the first element from this mutable list and returns that removed element, or returns `null` if this list is empty.\n \*  
and returns that removed element, or throws [NoSuchElementException] if this list is empty.\n \*  
@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun <T> MutableList<T>.removeFirst(): T = if (isEmpty()) throw NoSuchElementException("List is empty.") else removeAt(0)\n\n\*\*\n \* Removes the first element from this mutable list and returns that removed element, or returns `null` if this list is empty.\n \*  
@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun <T> MutableList<T>.removeFirstOrNull(): T? = if (isEmpty()) null else removeAt(0)\n\n\*\*\n \* Removes the last element from this mutable list and returns that removed element, or throws [NoSuchElementException] if this list is empty.\n \*  
@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun <T> MutableList<T>.removeLast(): T = if (isEmpty()) throw NoSuchElementException("List is empty.") else removeAt(lastIndex)\n\n\*\*\n \* Removes the last element from this mutable list and returns that removed element, or returns `null` if this list is empty.\n \*  
@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun <T> MutableList<T>.removeLastOrNull(): T? = if (isEmpty()) null else removeAt(lastIndex)\n\n\*\*\n \* Removes all

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elements from this [MutableList] that match the given [predicate].\n *\n * @return `true` if any element was
removed from this collection, or `false` when no elements were removed and collection was not modified.\n
*\npublic fun <T> MutableList<T>.removeAll(predicate: (T) -> Boolean): Boolean = filterInPlace(predicate,
true)\n/>\n *\n * Retains only elements of this [MutableList] that match the given [predicate].\n *\n * @return `true`
if any element was removed from this collection, or `false` when all elements were retained and collection was not
modified.\n *\npublic fun <T> MutableList<T>.retainAll(predicate: (T) -> Boolean): Boolean =
filterInPlace(predicate, false)\n\nprivate fun
<T> MutableList<T>.filterInPlace(predicate: (T) -> Boolean, predicateResultToRemove: Boolean): Boolean {\n
if (this !is RandomAccess)\n return (this as MutableIterable<T>).filterInPlace(predicate,
predicateResultToRemove)\n var writeIndex: Int = 0\n for (readIndex in 0..lastIndex) {\n val element =
this[readIndex]\n if (predicate(element) == predicateResultToRemove)\n continue\n if (writeIndex
!= readIndex)\n this[writeIndex] = element\n writeIndex++\n }\n if (writeIndex < size) {\n for
(removeIndex in lastIndex downTo writeIndex)\n removeAt(removeIndex)\n return true\n } else {\n
return false\n }\n}\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("CollectionsKt")\n\npackage
kotlin.collections\n\nprivate open class ReversedListReadOnly<out T>(private val delegate: List<T>) :
AbstractList<T>() {\n override val size: Int get() = delegate.size\n override fun get(index: Int): T =
delegate[reverseElementIndex(index)]\n}\n\nprivate class ReversedList<T>(private val delegate: MutableList<T>) :
AbstractMutableList<T>() {\n override val size: Int get() = delegate.size\n override fun get(index: Int): T =
delegate[reverseElementIndex(index)]\n override fun clear() = delegate.clear()\n override fun removeAt(index:
Int): T = delegate.removeAt(reverseElementIndex(index))\n override fun set(index: Int, element: T): T =
delegate.set(reverseElementIndex(index), element)\n override fun add(index: Int, element: T) {\n
delegate.add(reversePositionIndex(index), element)\n }\n}\n\nprivate fun List<*>.reverseElementIndex(index:
Int) =\n if (index in 0..lastIndex) lastIndex - index else throw IndexOutOfBoundsException("Element
index $index must be in range [${0..lastIndex}].")\n\nprivate fun List<*>.reversePositionIndex(index: Int) =\n if
(index in 0..size) size - index else throw IndexOutOfBoundsException("Position index $index must be in range
[${0..size}].")\n\n/>\n *\n * Returns a reversed read-only view of the original List.\n * All changes made in the
original list will be reflected in the reversed one.\n * @sample samples.collections.ReversedViews.asReversedList\n
*\npublic fun <T> List<T>.asReversed(): List<T> = ReversedListReadOnly(this)\n/>\n *\n * Returns a reversed
mutable view of the original mutable List.\n * All changes made in the original list will be reflected in the reversed
one and vice versa.\n * @sample samples.collections.ReversedViews.asReversedMutableList\n
*\n\n@kotlin.jvm.JvmName("asReversedMutable")\n\npublic fun <T> MutableList<T>.asReversed():
MutableList<T> = ReversedList(this)\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("SequencesKt")\n@file:OptIn(Experimenta
lTypeInference::class)\n\npackage kotlin.sequences\n\nimport kotlin.coroutines.*\nimport
kotlin.coroutines.intrinsics.*\nimport kotlin.experimental.ExperimentalTypeInference\n\n/>\n *\n * Builds a
[Sequence] lazily yielding values one by one.\n *\n * @see kotlin.sequences.generateSequence\n *\n * @sample
samples.collections.Sequences.Building.buildSequenceYieldAll\n *\n * @sample
samples.collections.Sequences.Building.buildFibonacciSequence\n *\n\n@SinceKotlin("1.3")\n\npublic fun <T>
sequence(@BuilderInference block: suspend SequenceScope<T>().-> Unit): Sequence<T> = Sequence {
iterator(block) }\n\n@SinceKotlin("1.3")\n\n@Deprecated("Use 'sequence { }' function instead.",
ReplaceWith("sequence(builderAction)"), level =
DeprecationLevel.ERROR)\n\n@kotlin.internal.InlineOnly\n\npublic

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inline fun <T> buildSequence(@BuilderInference noline builderAction: suspend SequenceScope<T>().-> Unit):
Sequence<T> = Sequence { iterator(builderAction) } \n\n/** \n * Builds an [Iterator] lazily yielding values one by
one. \n * \n * @sample samples.collections.Sequences.Building.buildIterator \n * @sample
samples.collections.Iterables.Building.iterable \n * \n @SinceKotlin("1.3") \n public fun <T>
iterator(@BuilderInference block: suspend SequenceScope<T>().-> Unit): Iterator<T> { \n val iterator =
SequenceBuilderIterator<T>() \n iterator.nextStep = block.createCoroutineUnintercepted(receiver = iterator,
completion = iterator) \n return iterator \n } \n \n @SinceKotlin("1.3") \n @Deprecated("Use 'iterator { }' function
instead.", ReplaceWith("iterator(builderAction)"), level =
DeprecationLevel.ERROR) \n @kotlin.internal.InlineOnly \n public inline fun <T> buildIterator(@BuilderInference
noline builderAction: suspend SequenceScope<T>().-> Unit):
Iterator<T> = iterator(builderAction) \n \n /** \n * The scope for yielding values of a [Sequence] or an [Iterator],
provides [yield] and [yieldAll] suspension functions. \n * \n * @see sequence \n * @see iterator \n * \n * @sample
samples.collections.Sequences.Building.buildSequenceYieldAll \n * @sample
samples.collections.Sequences.Building.buildFibonacciSequence \n
*\n @RestrictsSuspension \n @SinceKotlin("1.3") \n public abstract class SequenceScope<in T> internal
constructor() { \n /** \n * Yields a value to the [Iterator] being built and suspends \n * until the next value is
requested. \n * \n * @sample samples.collections.Sequences.Building.buildSequenceYieldAll \n * @sample
samples.collections.Sequences.Building.buildFibonacciSequence \n * \n public abstract suspend fun yield(value:
T) \n \n /** \n * Yields all values from the `iterator` to the [Iterator] being built \n * and suspends until all these
values are iterated and the next one is requested. \n * \n
* The sequence of values returned by the given iterator can be potentially infinite. \n * \n * @sample
samples.collections.Sequences.Building.buildSequenceYieldAll \n * \n public abstract suspend fun
yieldAll(iterator: Iterator<T>) \n \n /** \n * Yields a collections of values to the [Iterator] being built \n * and
suspends until all these values are iterated and the next one is requested. \n * \n * @sample
samples.collections.Sequences.Building.buildSequenceYieldAll \n * \n public suspend fun yieldAll(elements:
Iterable<T>) { \n if (elements is Collection && elements.isEmpty()) return \n return
yieldAll(elements.iterator()) \n } \n \n /** \n * Yields potentially infinite sequence of values to the [Iterator]
being built \n * and suspends until all these values are iterated and the next one is requested. \n * \n * The
sequence can be potentially infinite. \n * \n * @sample
samples.collections.Sequences.Building.buildSequenceYieldAll \n
*\n public suspend fun yieldAll(sequence: Sequence<T>) =
yieldAll(sequence.iterator()) \n } \n \n @Deprecated("Use SequenceScope class instead.",
ReplaceWith("SequenceScope<T>"), level = DeprecationLevel.ERROR) \n public typealias SequenceBuilder<T> =
SequenceScope<T> \n \n private typealias State = Int \n \n private const val State_NotReady: State = 0 \n \n private const
val State_ManyNotReady: State = 1 \n \n private const val State_ManyReady: State = 2 \n \n private const val State_Ready:
State = 3 \n \n private const val State_Done: State = 4 \n \n private const val State_Failed: State = 5 \n \n private class
SequenceBuilderIterator<T> : SequenceScope<T>(), Iterator<T>, Continuation<Unit> { \n private var state =
State_NotReady \n private var nextValue: T? = null \n private var nextIterator: Iterator<T>? = null \n var
nextStep: Continuation<Unit>? = null \n \n override fun hasNext(): Boolean { \n while (true) { \n when
(state) { \n State_NotReady -> { \n
State_ManyNotReady -> \n if (nextIterator!!.hasNext()) { \n state =
State_ManyReady \n return true \n } else { \n nextIterator = null \n
} \n State_Done -> return false \n State_Ready, State_ManyReady -> return true \n else ->
throw exceptionalState() \n } \n state = State_Failed \n val step = nextStep!! \n nextStep =
null \n step.resume(Unit) \n } \n } \n \n override fun next(): T { \n when (state) { \n
State_NotReady, State_ManyNotReady -> return nextNotReady() \n State_ManyReady -> { \n state
= State_ManyNotReady \n return nextIterator!!.next() \n } \n State_Ready -> { \n state
= State_NotReady \n @Suppress("UNCHECKED_CAST") \n val

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 result = nextValue as T\n nextValue = null\n return result\n }\n else -> throw
exceptionalState()\n }\n }\n private fun nextNotReady(): T {\n if (!hasNext()) throw
NoSuchElementException() else return next()\n }\n private fun exceptionalState(): Throwable = when (state)
{\n State_Done -> NoSuchElementException()\n State_Failed -> IllegalStateException("\Iterator has
failed.\")\n else -> IllegalStateException("\Unexpected state of the iterator: $state")\n }\n\n override
suspend fun yield(value: T) {\n nextValue = value\n state = State_Ready\n return
suspendCoroutineUninterceptedOrReturn { c ->\n nextStep = c\n COROUTINE_SUSPENDED\n
}\n }\n\n override suspend fun yieldAll(iterator: Iterator<T>) {\n if (!iterator.hasNext()) return\n
nextIterator = iterator\n state = State_ManyReady\n return suspendCoroutineUninterceptedOrReturn
{ c ->\n nextStep = c\n COROUTINE_SUSPENDED\n }\n }\n\n // Completion continuation
implementation\n override fun resumeWith(result: Result<Unit>) {\n result.getOrThrow() // just rethrow
exception if it is there\n state = State_Done\n }\n\n override val context: CoroutineContext\n get() =
EmptyCoroutineContext\n }\n\n /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\n package kotlin.collections\n\n internal fun checkWindowSizeStep(size: Int, step:
Int) {\n require(size > 0 && step > 0) {\n if (size != step)\n "\Both size $size and step $step must be
greater than zero.\n else\n "\size $size must be greater than zero.\n }\n }\n\n internal fun <T>
Sequence<T>.windowedSequence(size: Int, step:
Int, partialWindows: Boolean, reuseBuffer: Boolean): Sequence<List<T>> {\n checkWindowSizeStep(size,
step)\n return Sequence { windowedIterator(iterator(), size, step, partialWindows, reuseBuffer) }\n }\n\n internal
fun <T> windowedIterator(iterator: Iterator<T>, size: Int, step: Int, partialWindows: Boolean, reuseBuffer:
Boolean): Iterator<List<T>> {\n if (!iterator.hasNext()) return EmptyIterator\n return iterator<List<T>> {\n
val bufferInitialCapacity = size.coerceAtMost(1024)\n val gap = step - size\n if (gap >= 0) {\n var
buffer = ArrayList<T>(bufferInitialCapacity)\n var skip = 0\n for (e in iterator) {\n if (skip >
0) { skip -= 1; continue }\n buffer.add(e)\n if (buffer.size == size) {\n yield(buffer)\n
 if (reuseBuffer) buffer.clear() else buffer = ArrayList(size)\n skip = gap\n }\n
 }\n\n if (buffer.isNotEmpty()) {\n if (partialWindows || buffer.size == size) yield(buffer)\n }\n
 } else {\n var buffer = RingBuffer<T>(bufferInitialCapacity)\n for (e in iterator) {\n
buffer.add(e)\n if (buffer.isFull()) {\n if (buffer.size < size) { buffer =
buffer.expanded(maxCapacity = size); continue }\n yield(if (reuseBuffer) buffer else
ArrayList(buffer))\n buffer.removeFirst(step)\n }\n }\n if (partialWindows) {\n
while (buffer.size > step) {\n yield(if (reuseBuffer) buffer else ArrayList(buffer))\n
buffer.removeFirst(step)\n }\n if (buffer.isNotEmpty()) yield(buffer)\n }\n }\n\n internal class MovingSubList<out E>(private val list: List<E>) : AbstractList<E>(), RandomAccess {\n
private
var fromIndex: Int = 0\n private var _size: Int = 0\n\n fun move(fromIndex: Int, toIndex: Int) {\n
checkRangeIndexes(fromIndex, toIndex, list.size)\n this.fromIndex = fromIndex\n this._size = toIndex -
fromIndex\n }\n\n override fun get(index: Int): E {\n checkElementIndex(index, _size)\n return
list[fromIndex + index]\n }\n\n override val size: Int get() = _size\n }\n\n /**\n * Provides ring buffer
implementation.\n * Buffer overflow is not allowed so [add] doesn't overwrite tail but raises an exception.\n
*/\n\n private class RingBuffer<T>(private val buffer: Array<Any?>, filledSize: Int) : AbstractList<T>(),
RandomAccess {\n init {\n require(filledSize >= 0) {\n "\ring buffer filled size should not be negative but it is
$filledSize" }\n require(filledSize <= buffer.size) {\n "\ring buffer filled size: $filledSize cannot be larger than
the buffer size: ${buffer.size}" }\n }\n\n constructor(capacity: Int)
: this(arrayOfNulls<Any?>(capacity), 0)\n private val capacity = buffer.size\n private var startIndex: Int =
0\n\n override var size: Int = filledSize\n private set\n\n override fun get(index: Int): T {\n
checkElementIndex(index, size)\n @Suppress("\UNCHECKED_CAST")\n return

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buffer[startIndex.forward(index)] as T\n }\n\n fun isFull() = size == capacity\n\n override fun iterator():
Iterator<T> = object : AbstractIterator<T>() {\n private var count = size\n private var index = startIndex\n\n override fun computeNext() {\n if (count == 0) {\n done()\n } else {\n
@Suppress(\"UNCHECKED_CAST\")\n setNext(buffer[index] as T)\n index =
index.forward(1)\n count--\n }\n }\n }\n\n @Suppress(\"UNCHECKED_CAST\")\n override fun <T> toArray(array: Array<T>): Array<T> {\n val result: Array<T?> =\n if (array.size < this.size) array.copyOf(this.size) else array as Array<T?>\n\n val size = this.size\n var widx = 0\n var idx = startIndex\n while (widx < size && idx < capacity) {\n result[widx] =
buffer[idx] as T\n widx++\n idx++\n }\n idx = 0\n while (widx < size) {\n
result[widx] = buffer[idx] as T\n widx++\n idx++\n }\n if (result.size > this.size)\n result[this.size] = null\n return result as Array<T>\n }\n\n override fun toArray(): Array<Any?> {\n
return toArray(arrayOfNulls(size))\n }\n\n /**\n * Creates a new ring buffer with the capacity equal to the
minimum of [maxCapacity] and 1.5 * [capacity].\n * The returned ring buffer contains the same elements as this
ring buffer.\n */\n fun expanded(maxCapacity: Int): RingBuffer<T> {\n val newCapacity = (capacity +
(capacity shr 1) + 1).coerceAtMost(maxCapacity)\n\n val newBuffer = if (startIndex == 0) buffer.copyOf(newCapacity) else toArray(arrayOfNulls(newCapacity))\n
return RingBuffer(newBuffer, size)\n }\n\n /**\n * Add [element] to the buffer or fail with
[IllegalStateException] if no free space available in the buffer\n */\n fun add(element: T) {\n if (isFull()) {\n
throw IllegalStateException(\"ring buffer is full\")\n }\n buffer[startIndex.forward(size)] =
element\n size++\n }\n\n /**\n * Removes [n] first elements from the buffer or fails with
[IllegalArgumentException] if not enough elements in the buffer to remove\n */\n fun removeFirst(n: Int) {\n
require(n >= 0) { \"n shouldn't be negative but it is $n\" }\n require(n <= size) { \"n shouldn't be greater than
the buffer size: n = $n, size = $size\" }\n if (n > 0) {\n val start = startIndex\n val end =
start.forward(n)\n\n if
(start > end) {\n buffer.fill(null, start, capacity)\n buffer.fill(null, 0, end)\n } else {\n
buffer.fill(null, start, end)\n }\n startIndex = end\n size -= n\n }\n }\n\n @Suppress(\"NOTHING_TO_INLINE\")\n private inline fun Int.forward(n: Int): Int = (this + n) %
capacity\n}\n\", \"/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n *
Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\npackage kotlin.collections\n// UByteArray
=====@Exp
erimentalUnsignedTypes\nprivate fun partition(\n array: UByteArray, left: Int, right: Int): Int {\n var i = left\n
var j = right\n val pivot = array[(left + right) / 2]\n while (i <= j) {\n while (array[i] < pivot)\n i++\n
while
(array[j] > pivot)\n j--\n if (i <= j) {\n val tmp = array[i]\n array[i] = array[j]\n
array[j] = tmp\n i++\n j--\n }\n }\n return i\n}\n\n@ExperimentalUnsignedTypes\nprivate fun
quickSort(\n array: UByteArray, left: Int, right: Int) {\n val index = partition(array, left, right)\n if (left < index
- 1)\n quickSort(array, left, index - 1)\n if (index < right)\n quickSort(array, index, right)\n}\n\n//
UShortArray
=====@Exp
erimentalUnsignedTypes\nprivate fun partition(\n array: UShortArray, left: Int, right: Int): Int {\n var i = left\n
var j = right\n val pivot = array[(left + right) / 2]\n while (i <= j) {\n while (array[i] < pivot)\n i++\n
while
(array[j] > pivot)\n j--\n if (i <= j) {\n val tmp = array[i]\n array[i] =
array[j]\n array[j] = tmp\n i++\n j--\n }\n }\n return
i\n}\n\n@ExperimentalUnsignedTypes\nprivate fun quickSort(\n array: UShortArray, left: Int, right: Int) {\n val
index = partition(array, left, right)\n if (left < index - 1)\n quickSort(array, left, index - 1)\n if (index <
right)\n quickSort(array, index, right)\n}\n\n// UIntArray
=====@Exp

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erimentalUnsignedTypes\nprivate fun partition(\n array: UIntArray, left: Int, right: Int): Int {\n var i = left\n var j = right\n val pivot = array[(left + right) / 2]\n while (i <= j) {\n while (array[i] < pivot)\n i++\n while (array[j] > pivot)\n j--\n if (i <= j) {\n val tmp = array[i]\n array[i] = array[j]\n array[j] = tmp\n i++\n j--\n }\n }\n return i\n}\n\n@ExperimentalUnsignedTypes\nprivate fun quickSort(\n array: UIntArray, left: Int, right: Int) {\n val index = partition(array, left, right)\n if (left < index - 1)\n quickSort(array, left, index - 1)\n if (index < right)\n quickSort(array, index, right)\n}\n\n// ULongArray
=====
erimentalUnsignedTypes\nprivate fun partition(\n array: ULongArray, left: Int, right: Int): Int {\n var i = left\n var j = right\n val pivot = array[(left + right) / 2]\n while (i <= j) {\n while (array[i] < pivot)\n i++\n while (array[j] > pivot)\n j--\n if (i <= j) {\n val tmp = array[i]\n array[i] = array[j]\n array[j] = tmp\n i++\n j--\n }\n }\n return i\n}\n\n@ExperimentalUnsignedTypes\nprivate fun quickSort(\n array: ULongArray, left: Int, right: Int) {\n val index = partition(array, left, right)\n if (left < index - 1)\n quickSort(array, left, index - 1)\n if (index < right)\n quickSort(array, index, right)\n}\n\n// Interfaces
=====
\n/**\n * Sorts the given array using qsort algorithm.\n */\n@ExperimentalUnsignedTypes\ninternal fun sortArray(array: UByteArray, fromIndex: Int, toIndex: Int) = quickSort(array, fromIndex, toIndex - 1)\n@ExperimentalUnsignedTypes\ninternal fun sortArray(array: UShortArray, fromIndex: Int, toIndex: Int) = quickSort(array, fromIndex, toIndex - 1)\n@ExperimentalUnsignedTypes\ninternal fun sortArray(array: UIntArray, fromIndex: Int, toIndex: Int) = quickSort(array, fromIndex, toIndex - 1)\n@ExperimentalUnsignedTypes\ninternal fun sortArray(array: ULongArray, fromIndex: Int, toIndex: Int) = quickSort(array, fromIndex, toIndex - 1)"
\n\n/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin\nimport kotlin.internal.InlineOnly\n\n/**\n * Compares this object with the specified object for order. Returns zero if this object is equal\n * to the specified [other] object, a negative number if it's less than [other], or a positive number\n * if it's greater than [other].\n */\n * This function delegates to [Comparable.compareTo] and allows to call it in infix form.\n */\n@InlineOnly\n@SinceKotlin("1.6")\npublic inline infix fun <T> Comparable<T>.compareTo(other: T): Int = this.compareTo(other)\n\n\n/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.contracts\nimport kotlin.internal.ContractsDsl\nimport kotlin.internal.InlineOnly\n\n/**\n * This marker distinguishes the experimental contract declaration API and is used to opt-in for that feature\n * when declaring contracts of user functions.\n */\n * Any usage of a declaration annotated with `@ExperimentalContracts` must be accepted either by\n * annotating that usage with the [OptIn] annotation, e.g. `@OptIn(ExperimentalContracts::class)`,\n * or by using the compiler argument `-opt-in=kotlin.contracts.ExperimentalContracts`.\n */\n@Retention(AnnotationRetention.BINARY)\n@SinceKotlin("1.3")\n@RequiresOptIn\n@MustBeDocumented\npublic annotation class ExperimentalContracts\n\n/**\n * Provides a scope, where the functions of the contract DSL, such as [returns], [callsInPlace], etc.,\n * can be used to describe the contract of a function.\n */\n * This type is used as a receiver type of the lambda function passed to the [contract] function.\n */\n * @see contract\n */\n@ContractsDsl\n@ExperimentalContracts\n@SinceKotlin("1.3")\npublic interface ContractBuilder {\n\n /**\n * Describes a situation when a function returns normally, without any exceptions thrown.\n */\n * Use [SimpleEffect.implies] function to describe a conditional effect that happens in such case.\n */\n * // @sample samples.contracts.returnsContract\n @ContractsDsl public fun returns(): Returns\n\n /**\n * Describes a situation when a function returns normally with the specified return [value].\n */\n * The possible values of

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[value] are limited to `true`, `false` or `null`.
 * Use [SimpleEffect.implies] function to describe a
conditional effect that happens in such case.
 * // @sample samples.contracts.returnsTrueContract
// @sample samples.contracts.returnsFalseContract
// @sample samples.contracts.returnsNullContract
@ContractsDsl public fun returns(value: Any?): Returns
 /**
 * Describes a situation when a function
returns normally with any value that is not `null`.
 * Use [SimpleEffect.implies] function
to describe a conditional effect that happens in such case.
 * // @sample
samples.contracts.returnsNotNullContract
 @ContractsDsl public fun returnsNotNull(): ReturnsNotNull
 /**
 * Specifies that the function parameter [lambda] is invoked in place.
 * This contract specifies
that:
 * 1. the function [lambda] can only be invoked during the call of the owner function,
 * and it won't be
invoked after that owner function call is completed;
 * 2. _(optionally)_ the function [lambda] is invoked the
amount of times specified by the [kind] parameter,
 * see the [InvocationKind] enum for possible values.
 * A function declaring the `callsInPlace` effect must be _inline_.
 * // @sample
samples.contracts.callsInPlaceAtMostOnceContract
 * @sample
samples.contracts.callsInPlaceAtLeastOnceContract
 * @sample
samples.contracts.callsInPlaceExactlyOnceContract
 * @sample
samples.contracts.callsInPlaceUnknownContract
 * // @ContractsDsl public fun <R> callsInPlace(lambda: Function<R>, kind: InvocationKind =
InvocationKind.UNKNOWN): CallsInPlace
 /**
 * Specifies how many times a function invokes its function
parameter in place.
 * See [ContractBuilder.callsInPlace] for the details of the call-in-place function contract.
 * // @ContractsDsl
 * @ExperimentalContracts
 * @SinceKotlin("1.3")
public enum class InvocationKind {
 /**
 * A function parameter will be invoked one time or not invoked at all.
 * // @sample
samples.contracts.callsInPlaceAtMostOnceContract
 @ContractsDsl AT_MOST_ONCE,
 /**
 * A
function parameter will be invoked one or more times.
 * // @sample
samples.contracts.callsInPlaceAtLeastOnceContract
 @ContractsDsl AT_LEAST_ONCE,
 /**
 * A
function parameter will be invoked exactly one time.
 * // @sample
samples.contracts.callsInPlaceExactlyOnceContract
 @ContractsDsl EXACTLY_ONCE,
 /**
 * A function parameter is called in place, but it's unknown how
many times it can be called.
 * // @sample samples.contracts.callsInPlaceUnknownContract
 @ContractsDsl UNKNOWN
}
 /**
 * Specifies the contract of a function.
 * The contract description
must be at the beginning of a function and have at least one effect.
 * Only the top-level functions can have a
contract for now.
 * @param builder the lambda where the contract of a function is described with the help of
the [ContractBuilder] members.
 * // @sample samples.contracts.returnsContract
 * @sample
samples.contracts.returnsTrueContract
 * @sample samples.contracts.returnsFalseContract
 * @sample
samples.contracts.returnsNullContract
 * @sample samples.contracts.returnsNotNullContract
 * @sample
samples.contracts.callsInPlaceAtMostOnceContract
 * @sample
samples.contracts.callsInPlaceAtLeastOnceContract
 * @sample
samples.contracts.callsInPlaceExactlyOnceContract
 * @sample
samples.contracts.callsInPlaceUnknownContract
 * // @ContractsDsl
 * @ExperimentalContracts
 * @InlineOnly
 * @SinceKotlin("1.3")
 * @Suppress("UNUSED_PARAMETER")
public inline fun contract(builder:
ContractBuilder.() -> Unit) { }
 /**
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contributors.
 * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.
 * // @package kotlin.coroutines
 /**
 * Marks coroutine context element that
intercepts coroutine continuations.
 * The coroutines framework uses [ContinuationInterceptor.Key] to retrieve the
interceptor and
 * intercepts all coroutine continuations with [interceptContinuation] invocations.
 * // @sample
[ContinuationInterceptor] behaves like a [polymorphic element][AbstractCoroutineContextKey], meaning that
 * its implementation delegates [get][CoroutineContext.Element.get] and
[minusKey][CoroutineContext.Element.minusKey]

```



```

* to [getPolymorphicElement] and [minusPolymorphicKey] respectively.\n * [ContinuationInterceptor] subtypes
can be extracted from the coroutine context using either [ContinuationInterceptor.Key]\n * or subtype key if it
extends [AbstractCoroutineContextKey].\n */\n@SinceKotlin("1.3")\npublic interface ContinuationInterceptor :
CoroutineContext.Element {\n /**\n * The key that defines *the* context interceptor.\n */\n companion
object Key : CoroutineContext.Key<ContinuationInterceptor>\n\n /**\n * Returns continuation that wraps the
original [continuation], thus intercepting all resumptions.\n * This function is invoked by coroutines framework
when needed and the resulting continuations are\n * cached internally per each instance of the original
[continuation].\n */\n * This function may simply return original [continuation] if it does not want to intercept
this particular continuation.\n */\n * When the original [continuation]
completes, coroutine framework invokes [releaseInterceptedContinuation]\n * with the resulting continuation if it
was intercepted, that is if `interceptContinuation` had previously\n * returned a different continuation instance.\n
*/\n public fun <T> interceptContinuation(continuation: Continuation<T>): Continuation<T>\n\n /**\n *
Invoked for the continuation instance returned by [interceptContinuation] when the original\n * continuation
completes and will not be used anymore. This function is invoked only if [interceptContinuation]\n * had returned
a different continuation instance from the one it was invoked with.\n */\n * Default implementation does
nothing.\n */\n * @param continuation Continuation instance returned by this interceptor's
[interceptContinuation] invocation.\n */\n public fun releaseInterceptedContinuation(continuation:
Continuation<*>) {\n /** do nothing by default */\n }\n\n public override operator
fun <E : CoroutineContext.Element> get(key: CoroutineContext.Key<E>): E? {\n // getPolymorphicKey
specialized for ContinuationInterceptor key\n @OptIn(ExperimentalStdlibApi::class)\n if (key is
AbstractCoroutineContextKey<*, *>) {\n @Suppress("UNCHECKED_CAST")\n return if
(key.isSubKey(this.key)) key.tryCast(this) as? E else null\n }\n @Suppress("UNCHECKED_CAST")\n
return if (ContinuationInterceptor === key) this as E else null\n }\n\n public override fun minusKey(key:
CoroutineContext.Key<*>): CoroutineContext {\n // minusPolymorphicKey specialized for
ContinuationInterceptor key\n @OptIn(ExperimentalStdlibApi::class)\n if (key is
AbstractCoroutineContextKey<*, *>) {\n return if (key.isSubKey(this.key) && key.tryCast(this) != null)
EmptyCoroutineContext else this\n }\n return if (ContinuationInterceptor === key)
EmptyCoroutineContext else this\n }\n}\n"/\n
* Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code
is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.coroutines\n\n/**\n * Persistent context for the coroutine. It is an indexed set of [Element] instances.\n * An
indexed set is a mix between a set and a map.\n * Every element in this set has a unique [Key].\n
*/\n@SinceKotlin("1.3")\npublic interface CoroutineContext {\n /**\n * Returns the element with the given
[key] from this context or `null`.\n */\n public operator fun <E : Element> get(key: Key<E>): E?\n\n /**\n
* Accumulates entries of this context starting with [initial] value and applying [operation]\n * from left to right to
current accumulator value and each element of this context.\n */\n public fun <R> fold(initial: R, operation: (R,
Element) -> R): R\n\n /**\n * Returns a context containing elements from this
context and elements from other [context].\n * The elements from this context with the same key as in the other
one are dropped.\n */\n public operator fun plus(context: CoroutineContext): CoroutineContext =\n if
(context === EmptyCoroutineContext) this else // fast path -- avoid lambda creation\n context.fold(this) {
acc, element ->\n val removed = acc.minusKey(element.key)\n if (removed ===
EmptyCoroutineContext) element else {\n // make sure interceptor is always last in the context (and thus
is fast to get when present)\n val interceptor = removed[ContinuationInterceptor]\n if
(interceptor == null) CombinedContext(removed, element) else {\n val left =
removed.minusKey(ContinuationInterceptor)\n if (left === EmptyCoroutineContext)
CombinedContext(element, interceptor) else\n CombinedContext(CombinedContext(left,
element), interceptor)\n }\n }\n }\n\n /**\n * Returns a context containing elements
from this context, but without an element with\n * the specified [key].\n */\n public fun minusKey(key:

```

```

Key<*>: CoroutineContext {
 /**
 * Key for the elements of [CoroutineContext]. [E] is a type of element
 with this key.
 */
 public interface Key<E : Element> {
 /**
 * An element of the [CoroutineContext].
 An element of the coroutine context is a singleton context by itself.
 */
 public interface Element {
 CoroutineContext {
 /**
 * A key of this coroutine context element.
 */
 public val key:
 Key<*>
 }
 public override operator fun <E : Element> get(key: Key<E>): E? =
 @Suppress("UNCHECKED_CAST")
 if (this.key == key) this as E else null
 public override fun
 <R> fold(initial: R, operation: (R, Element) ->
 R): R =
 operation(initial, this)
 public override fun minusKey(key: Key<*>): CoroutineContext =
 if (this.key == key) EmptyCoroutineContext else this
 }
 }
}
"/>**
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and Kotlin Programming Language contributors.
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that can be found in the license/LICENSE.txt file.
 */
package kotlin.coroutines
import
kotlin.coroutines.CoroutineContext.Element
import kotlin.coroutines.CoroutineContext.Key
/**
 * Base class
for [CoroutineContext.Element] implementations.
 */
@SinceKotlin("1.3")
public abstract class
AbstractCoroutineContextElement(public override val key: Key<*>) : Element
/**
 * Base class for
[CoroutineContext.Key] associated with polymorphic [CoroutineContext.Element] implementation.
 */
Polymorphic element implementation implies delegating its [get][Element.get] and
[minusKey][Element.minusKey] to [getPolymorphicElement]
and [minusPolymorphicKey] respectively.
 * Polymorphic elements can be extracted from the coroutine
context using both element key and its supertype key.
 * Example of polymorphic elements:
 */
` ``
 * open class
BaseElement : CoroutineContext.Element {
 /**
 * companion object Key : CoroutineContext.Key<BaseElement>
 */
 override val key: CoroutineContext.Key<*> get() = Key
 /**
 * // It is important to use getPolymorphicKey and
minusPolymorphicKey
 */
 override fun <E : CoroutineContext.Element> get(key: CoroutineContext.Key<E>):
E? = getPolymorphicElement(key)
 /**
 * override fun minusKey(key: CoroutineContext.Key<*>):
CoroutineContext = minusPolymorphicKey(key)
 */
}
 * class DerivedElement : BaseElement() {
 /**
 * companion object Key : AbstractCoroutineContextKey<BaseElement, DerivedElement>(BaseElement, { it as?
DerivedElement })
 */
}
 * // Now it is possible to query both `BaseElement` and `DerivedElement`
someContext[BaseElement] // Returns BaseElement?,
non-null both for BaseElement and DerivedElement instances
 * someContext[DerivedElement] // Returns
DerivedElement?, non-null only for DerivedElement instance
 */
` ``
 * @param B base class of a polymorphic
element
 * @param baseKey an instance of base key
 * @param E element type associated with the current key
 * @param safeCast a function that can safely cast abstract [CoroutineContext.Element] to the concrete [E] type
 * and return the element if it is a subtype of [E] or `null` otherwise.
 */
@SinceKotlin("1.3")
@ExperimentalStdlibApi
public abstract class AbstractCoroutineContextKey<B :
Element, E : B> {
 /**
 * baseKey: Key,
 private val safeCast: (element: Element) -> E?
 */
 : Key<E> {
 /**
 * private val topmostKey: Key<*> = if (baseKey is AbstractCoroutineContextKey<*, *>) baseKey.topmostKey else
baseKey
 */
 /**
 * internal fun tryCast(element: Element): E? = safeCast(element)
 */
 /**
 * internal fun isSubKey(key:
Key<*>): Boolean = key === this || topmostKey
 */
 /**
 * === key
 */
}
"/>**
 * Returns the current element if it is associated with the given [key] in a polymorphic manner
or `null` otherwise.
 * This method returns non-null value if either [Element.key] is equal to the given [key] or if
the [key] is associated
 * with [Element.key] via [AbstractCoroutineContextKey].
 */
 * See
[AbstractCoroutineContextKey] for the example of usage.
 */
@SinceKotlin("1.3")
@ExperimentalStdlibApi
public fun <E : Element>
Element.getPolymorphicElement(key: Key<E>): E? {
 /**
 * if (key is AbstractCoroutineContextKey<*, *>) {
 @Suppress("UNCHECKED_CAST")
 return if (key.isSubKey(this.key)) key.tryCast(this) as? E else null
 }
 @Suppress("UNCHECKED_CAST")
 return if (this.key === key) this as E else null
 */
}
"/>**
 * Returns empty coroutine context if the element is associated with the given [key] in a polymorphic manner
or `null` otherwise.
 * This method returns empty context if either [Element.key] is equal to the

```

given [key] or if the [key] is associated\n \* with [Element.key] via [AbstractCoroutineContextKey].\n \* See [AbstractCoroutineContextKey] for the example of usage.\n

```

\n@SinceKotlin("1.3")\n@ExperimentalStdlibApi\npublic fun Element.minusPolymorphicKey(key: Key<>):
CoroutineContext {\n if (key is AbstractCoroutineContextKey<*, *>) {\n return if (key.isSubKey(this.key)
&& key.tryCast(this) != null) EmptyCoroutineContext else this\n }\n return if (this.key === key)
EmptyCoroutineContext else this\n}\n\n/*\n * An empty coroutine context.\n */\n@SinceKotlin("1.3")\npublic
object EmptyCoroutineContext : CoroutineContext, Serializable {\n private const val serialVersionUID: Long =
0\n private fun readResolve(): Any = EmptyCoroutineContext\n\n public override fun <E : Element> get(key:
Key<E>): E? = null\n public override fun <R> fold(initial: R, operation: (R, Element) -> R): R = initial\n public
override fun plus(context: CoroutineContext): CoroutineContext
= context\n public override fun minusKey(key: Key<*>): CoroutineContext = this\n public override fun
hashCode(): Int = 0\n public override fun toString(): String = "EmptyCoroutineContext"\n}\n\n//-----
- internal impl -----\n\n// this class is not exposed, but is hidden inside implementations\n// this is a left-
biased list, so that `plus` works naturally\n@SinceKotlin("1.3")\ninternal class CombinedContext(\n private val
left: CoroutineContext,\n private val element: Element\n) : CoroutineContext, Serializable {\n\n override fun <E
: Element> get(key: Key<E>): E? {\n var cur = this\n while (true) {\n cur.element[key]?.let { return
it }\n val next = cur.left\n if (next is CombinedContext) {\n cur = next\n } else {\n
return next[key]\n }\n }\n }\n\n public override fun <R> fold(initial: R, operation: (R, Element) -
> R):
R =\n operation(left.fold(initial, operation), element)\n\n public override fun minusKey(key: Key<*>):
CoroutineContext {\n element[key]?.let { return left }\n val newLeft = left.minusKey(key)\n return
when {\n newLeft === left -> this\n newLeft === EmptyCoroutineContext -> element\n else ->
CombinedContext(newLeft, element)\n }\n }\n\n private fun size(): Int {\n var cur = this\n var size
= 2\n while (true) {\n cur = cur.left as? CombinedContext ?: return size\n size++\n }\n }\n\n private fun contains(element: Element): Boolean =\n get(element.key) == element\n\n private fun
containsAll(context: CombinedContext): Boolean {\n var cur = context\n while (true) {\n if
(!contains(cur.element)) return false\n val next = cur.left\n if (next is CombinedContext) {\n
cur = next\n }\n }\n }\n\n else {\n return contains(next as Element)\n }\n}\n\n override fun equals(other: Any?):
Boolean =\n this === other || other is CombinedContext && other.size() == size() &&
other.containsAll(this)\n\n override fun hashCode(): Int = left.hashCode() + element.hashCode()\n\n override
fun toString(): String =\n "[" + fold("") { acc, element ->\n if (acc.isEmpty()) element.toString() else
"\$acc, \$element"\n } + "]\n\n private fun writeReplace(): Any {\n val n = size()\n val elements =
arrayOfNulls<CoroutineContext>(n)\n var index = 0\n fold(Unit) { _, element -> elements[index++] =
element }\n check(index == n)\n @Suppress("UNCHECKED_CAST")\n return Serialized(elements
as Array<CoroutineContext>)\n }\n\n private class Serialized(val elements: Array<CoroutineContext>) :
Serializable {\n companion object {\n private const val serialVersionUID:
Long = 0L\n }\n\n private fun readResolve(): Any = elements.fold(EmptyCoroutineContext,
CoroutineContext::plus)\n }\n}\n\n/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n

```

```

*\n@file:kotlin.jvm.JvmName("IntrinsicsKt")\n@file:kotlin.jvm.JvmMultifileClass\n\npackage
kotlin.coroutines.intrinsics\n\nimport kotlin.contracts.*\nimport kotlin.coroutines.*\nimport
kotlin.internal.InlineOnly\n\n/*\n * Obtains the current continuation instance inside suspend functions and either
suspends\n * currently running coroutine or returns result immediately without suspension.\n * If the [block]
returns the special [COROUTINE_SUSPENDED] value, it means that suspend function did suspend the execution
and will\n * not return any result immediately. In this case, the [Continuation] provided to the [block] shall

```

be resumed by invoking [Continuation.resumeWith] at some moment in the future when the result becomes available to resume the computation. Otherwise, the return value of the [block] must have a type assignable to [T] and represents the result of this suspend function. It means that the execution was not suspended and the [Continuation] provided to the [block] shall not be invoked. As the result type of the [block] is declared as `Any?` and cannot be correctly type-checked, its proper return type remains on the conscience of the suspend function's author. Invocation of [Continuation.resumeWith] resumes coroutine directly in the invoker's thread without going through the [ContinuationInterceptor] that might be present in the coroutine's [CoroutineContext]. It is the invoker's responsibility to ensure that a proper invocation context is established. [Continuation.intercepted] can be used to acquire the intercepted continuation. Note that it is not recommended to call either [Continuation.resume] nor [Continuation.resumeWithException] functions synchronously in the same stackframe where suspension function is run. Use [suspendCoroutine] as a safer way to obtain current continuation instance.

```
*\n@SinceKotlin("1.3")\n@InlineOnly\n@Suppress("UNUSED_PARAMETER",
"RedundantSuspendModifier")\npublic suspend inline fun <T>
suspendCoroutineUninterceptedOrReturn(crossinline block: (Continuation<T>) -> Any?): T {\n contract {
callsInPlace(block, InvocationKind.EXACTLY_ONCE) }\n throw NotImplementedError("Implementation of
suspendCoroutineUninterceptedOrReturn is intrinsic")\n}\n\n/**\n * This value is used as a return value of
[suspendCoroutineUninterceptedOrReturn] `block` argument to state that\n * the execution was suspended and will
not return any result immediately.\n * **Note: this value should not be used in general code.** Using it outside
of the context of\n * `suspendCoroutineUninterceptedOrReturn`\n * function return value (including, but not limited to,\n * storing this value in other properties, returning it from other
functions, etc)\n * can lead to unspecified behavior of the code.\n */\n// It is implemented as property with getter to
avoid ProGuard <clint> problem with multifile IntrinsicKt class\n@SinceKotlin("1.3")\npublic val
COROUTINE_SUSPENDED: Any get() = CoroutineSingletons.COROUTINE_SUSPENDED\n\n// Using enum
here ensures two important properties:\n// 1. It makes SafeContinuation serializable with all kinds of serialization
frameworks (since all of them natively support enums)\n// 2. It improves debugging experience, since you clearly
see toString() value of those objects and what package they come from\n@SinceKotlin("1.3")\n@PublishedApi //
This class is Published API via serialized representation of SafeContinuation, don't rename/move\ninternal enum
class CoroutineSingletons { COROUTINE_SUSPENDED, UNDECIDED, RESUMED }\n", /*\n * Copyright
2010-2018
```

JetBrains s.r.o. and Kotlin Programming Language contributors. Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file. \npackage kotlin.experimental\n/\*\*  
Performs a bitwise AND operation between the two values.

```
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline infix fun Byte.and(other: Byte): Byte =
(this.toInt() and other.toInt()).toByte()\n\n/** Performs a bitwise OR operation between the two values.
```

```
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline infix fun Byte.or(other: Byte): Byte =
(this.toInt() or other.toInt()).toByte()\n\n/** Performs a bitwise XOR operation between the two values.
```

```
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline infix fun Byte.xor(other: Byte): Byte =
(this.toInt() xor other.toInt()).toByte()\n\n/** Inverts the bits in this value.
```

```
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun Byte.inv(): Byte =
(this.toInt().inv()).toByte()\n\n/**
```

Performs a bitwise AND operation between the two values.

```
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline infix fun Short.and(other: Short): Short =
(this.toInt() and other.toInt()).toShort()\n\n/** Performs a bitwise OR operation between the two values.
```

```
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline infix fun Short.or(other: Short): Short =
(this.toInt() or other.toInt()).toShort()\n\n/** Performs a bitwise XOR operation between the two values.
```

```
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline infix fun Short.xor(other: Short): Short =
(this.toInt() xor other.toInt()).toShort()\n\n/** Inverts the bits in this value.
```

`*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun Short.inv(): Short =`  
`(this.toInt().inv()).toShort()\n\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language`  
`contributors.\n * Use of this source code is governed by the Apache`  
`2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.experimental\n\n/**\n * The`  
`experimental marker for type inference augmenting annotations.\n *\n * Any usage of a declaration annotated with`  
``@ExperimentalTypeInference` must be accepted either by\n *\n * annotating that usage with the [OptIn] annotation,`  
`e.g. `@OptIn(ExperimentalTypeInference::class)`,\n *\n * or by using the compiler argument `-opt-`  
`in=kotlin.experimental.ExperimentalTypeInference`.\n */\n\n@RequiresOptIn(level =`  
`RequiresOptIn.Level.ERROR)\n@MustBeDocumented\n@Retention(AnnotationRetention.BINARY)\n@Target(A`  
`nnotationTarget.ANNOTATION_CLASS)\n@SinceKotlin("1.3")\npublic annotation class`  
`ExperimentalTypeInference\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language`  
`contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the`  
`license/LICENSE.txt file.\n */\n\npackage kotlin.internal\n\n/**\n * Specifies that the corresponding`  
`type should be ignored during type inference.\n`  
`*\n@Target(AnnotationTarget.TYPE)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class`  
`NoInfer\n\n/**\n * Specifies that the constraint built for the type during type inference should be an equality one.\n`  
`*\n@Target(AnnotationTarget.TYPE)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class`  
`Exact\n\n/**\n * Specifies that a corresponding member has the lowest priority in overload resolution.\n`  
`*\n@Target(AnnotationTarget.FUNCTION, AnnotationTarget.PROPERTY,`  
`AnnotationTarget.CONSTRUCTOR)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class`  
`LowPriorityInOverloadResolution\n\n/**\n * Specifies that the corresponding member has the highest priority in`  
`overload resolution. Effectively this means that\n *\n * an extension annotated with this annotation will win in overload`  
`resolution over a member with the same signature.\n */\n\n@Target(AnnotationTarget.FUNCTION,`  
`AnnotationTarget.PROPERTY)\n@Retention(AnnotationRetention.BINARY)\ninternal`  
`annotation class HidesMembers\n\n/**\n * The value of this type parameter should be mentioned in input types`  
`(argument types, receiver type or expected type).\n`  
`*\n@Target(AnnotationTarget.TYPE_PARAMETER)\n@Retention(AnnotationRetention.BINARY)\ninternal`  
`annotation class OnlyInputTypes\n\n/**\n * Specifies that this function should not be called directly without`  
`inlining\n */\n\n@Target(AnnotationTarget.FUNCTION, AnnotationTarget.PROPERTY,`  
`AnnotationTarget.PROPERTY_GETTER,`  
`AnnotationTarget.PROPERTY_SETTER)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class`  
`InlineOnly\n\n/**\n * Specifies that this declaration can have dynamic receiver type.\n`  
`*\n@Target(AnnotationTarget.FUNCTION,`  
`AnnotationTarget.PROPERTY)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class`  
`DynamicExtension\n\n/**\n * The value of this parameter should be a property reference expression (`this::foo`),`  
`referencing a `lateinit` property,\n *\n * the backing`  
`field of which is accessible at the point where the corresponding argument is passed.\n`  
`*\n@Target(AnnotationTarget.VALUE_PARAMETER)\n@Retention(AnnotationRetention.BINARY)\n@SinceK`  
`otlin("1.2")\ninternal annotation class AccessibleLateinitPropertyLiteral\n\n/**\n * Specifies that this declaration is`  
`only completely supported since the specified version.\n *\n * The Kotlin compiler of an earlier version is going to`  
`report a diagnostic on usages of this declaration.\n *\n * The diagnostic message can be specified with [message], or via`  
`[errorCode] (takes less space, but might not be immediately clear\n *\n * to the user). The diagnostic severity can be`  
`specified with [level]: WARNING/ERROR mean that either a warning or an error\n *\n * is going to be reported,`  
`HIDDEN means that the declaration is going to be removed\n from resolution completely.\n *\n * [versionKind]`  
`specifies which version should be compared with the [version] value, when compiling the usage of the annotated`  
`declaration.\n *\n`  
`Note that prior to 1.2, only [RequireKotlinVersionKind.LANGUAGE_VERSION] was supported, so the Kotlin`  
`compiler before 1.2 is going to\n *\n * treat any [RequireKotlin] as if it requires the language version. Since 1.2, the`

```

Kotlin compiler supports\n * [RequireKotlinVersionKind.LANGUAGE_VERSION],
[RequireKotlinVersionKind.COMPILER_VERSION] and [RequireKotlinVersionKind.API_VERSION].\n * If the
actual value of [versionKind] is something different (e.g. a new version kind, added in future versions of Kotlin),\n *
Kotlin 1.2 is going to ignore this [RequireKotlin] altogether, where as Kotlin before 1.2 is going to treat this as a
requirement\n * on the language version.\n *\n * This annotation is erased at compile time; its arguments are stored
in a more compact form in the Kotlin metadata.\n *\n @Target(AnnotationTarget.CLASS,
AnnotationTarget.FUNCTION, AnnotationTarget.PROPERTY, AnnotationTarget.CONSTRUCTOR,
AnnotationTarget.TYPEALIAS)\n @Retention(AnnotationRetention.SOURCE)\n @Repeatable\n @SinceKotlin("1.
2")\n internal
annotation class RequireKotlin(\n val version: String,\n val message: String = "",\n val level:
DeprecationLevel = DeprecationLevel.ERROR,\n val versionKind: RequireKotlinVersionKind =
RequireKotlinVersionKind.LANGUAGE_VERSION,\n val errorCode: Int = -1)\n\n /**\n * The kind of the
version that is required by [RequireKotlin].\n *\n @SinceKotlin("1.2")\n internal enum class
RequireKotlinVersionKind {\n LANGUAGE_VERSION,\n COMPILER_VERSION,\n
API_VERSION,\n }\n\n /**\n * Specifies that this declaration is a part of special DSL, used for constructing
function's contract.\n *\n @Retention(AnnotationRetention.BINARY)\n @SinceKotlin("1.2")\n internal annotation
class ContractsDsl\n\n /**\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n *\n\n package kotlin.properties\n\n import kotlin.reflect.KProperty\n\n /**\n
* Standard property delegates.\n *\n public object Delegates {\n /**\n * Returns a property delegate for a
read/write property with a non-`null` value that is initialized not during\n * object construction time but at a later
time. Trying to read the property before the initial value has been\n * assigned results in an exception.\n *\n
* @sample samples.properties.Delegates.notNullDelegate\n *\n public fun <T : Any> notNull():
ReadWriteProperty<Any?, T> = NotNullVar()\n /**\n * Returns a property delegate for a read/write property
that calls a specified callback function when changed.\n * @param initialValue the initial value of the property.\n
 * @param onChange the callback which is called after the change of the property is made. The value of the
property\n * has already been changed when this callback is invoked.\n *\n * @sample
samples.properties.Delegates.observableDelegate\n *\n public
inline fun <T> observable(initialValue: T, crossinline onChange: (property: KProperty<*>, oldValue: T, newValue:
T) -> Unit):\n ReadWriteProperty<Any?, T> =\n object : ObservableProperty<T>(initialValue) {\n
override fun afterChange(property: KProperty<*>, oldValue: T, newValue: T) = onChange(property, oldValue,
newValue)\n }\n /**\n * Returns a property delegate for a read/write property that calls a specified
callback function when changed,\n * allowing the callback to veto the modification.\n * @param initialValue
the initial value of the property.\n * @param onChange the callback which is called before a change to the
property value is attempted.\n * The value of the property hasn't been changed yet, when this callback is
invoked.\n * If the callback returns `true` the value of the property is being set to the new value,\n * and if the
callback returns `false` the new value is discarded and the property remains
its old value.\n *\n * @sample samples.properties.Delegates.vetoableDelegate\n * @sample
samples.properties.Delegates.throwVetoableDelegate\n *\n public inline fun <T> vetoable(initialValue: T,
crossinline onChange: (property: KProperty<*>, oldValue: T, newValue: T) -> Boolean):\n
ReadWriteProperty<Any?, T> =\n object : ObservableProperty<T>(initialValue) {\n override fun
beforeChange(property: KProperty<*>, oldValue: T, newValue: T): Boolean = onChange(property, oldValue,
newValue)\n }\n }\n\n private class NotNullVar<T : Any>(): ReadWriteProperty<Any?, T> {\n private var
value: T? = null\n public override fun getValue(thisRef: Any?, property: KProperty<*>): T {\n return value
?: throw IllegalStateException("Property ${property.name} should be initialized before get.")\n }\n public
override fun setValue(thisRef: Any?, property: KProperty<*>, value: T) {\n this.value = value\n
}\n }\n\n /**\n

```

```

* Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code
is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.properties\n\nimport kotlin.reflect.KProperty\n\n/**\n * Base interface that can be used for implementing
property delegates of read-only properties.\n *\n * This is provided only for convenience; you don't have to extend
this interface\n * as long as your property delegate has methods with the same signatures.\n *\n * @param T the
type of object which owns the delegated property.\n * @param V the type of the property value.\n */\n\npublic fun
interface ReadOnlyProperty<in T, out V> {\n /**\n * Returns the value of the property for the given object.\n
 * @param thisRef the object for which the value is requested.\n * @param property the metadata for the
property.\n * @return the property value.\n */\n public operator fun getValue(thisRef:
T, property: KProperty<*>): V\n}\n\n/**\n * Base interface that can be used for implementing property delegates of
read-write properties.\n *\n * This is provided only for convenience; you don't have to extend this interface\n *
as long as your property delegate has methods with the same signatures.\n *\n * @param T the type of object which
owns the delegated property.\n * @param V the type of the property value.\n */\n\npublic interface
ReadWriteProperty<in T, V> : ReadOnlyProperty<T, V> {\n /**\n * Returns the value of the property for the
given object.\n * @param thisRef the object for which the value is requested.\n * @param property the
metadata for the property.\n * @return the property value.\n */\n public override operator fun
getValue(thisRef: T, property: KProperty<*>): V\n\n /**\n * Sets the value of the property for the given
object.\n * @param thisRef the object for which the value is requested.\n * @param property the metadata
for the property.\n * @param value the value to set.\n */\n public operator fun setValue(thisRef: T,
property: KProperty<*>, value: V)\n}\n\n/**\n * Base interface that can be used for implementing property delegate
providers.\n *\n * This is provided only for convenience; you don't have to extend this interface\n * as long as
your delegate provider has a method with the same signature.\n *\n * @param T the type of object which owns the
delegated property.\n * @param D the type of property delegates this provider provides.\n */\n\n@SinceKotlin("1.4")\n\npublic fun interface PropertyDelegateProvider<in T, out D> {\n /**\n * Returns the
delegate of the property for the given object.\n *\n * This function can be used to extend the logic of
creating the object (e.g. perform validation checks)\n * to which the property implementation is delegated.\n
 * @param thisRef the object for which property delegate is requested.\n * @param property the metadata
for the property.\n * @return the property delegate.\n */\n public operator fun provideDelegate(thisRef: T,
property: KProperty<*>): D\n}\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.properties\n\nimport kotlin.reflect.KProperty\n\n/**\n *
Implements the core logic of a property delegate for a read/write property that calls callback functions when
changed.\n * @param initialValue the initial value of the property.\n */\n\npublic abstract class
ObservableProperty<V>(initialValue: V) : ReadWriteProperty<Any?, V> {\n private var value = initialValue\n\n /**\n * The callback which is called before a change to the property value is attempted.\n * The value of the
property hasn't been changed yet, when this callback is invoked.\n * If the callback returns `true` the value of
the property is being set to the new value,\n * and if the callback returns `false` the new value is discarded and
the property remains its old value.\n */\n protected open fun beforeChange(property: KProperty<*>, oldValue:
V, newValue: V): Boolean = true\n\n /**\n * The callback which is called after the change of the property is
made. The value of the property\n * has already been changed when this callback is invoked.\n */\n protected open fun afterChange(property: KProperty<*>, oldValue: V, newValue: V): Unit {} \n\n public override fun
getValue(thisRef: Any?, property: KProperty<*>): V {\n return value\n }\n\n public override fun
setValue(thisRef: Any?, property: KProperty<*>, value: V) {\n val oldValue = this.value\n if
(!beforeChange(property, oldValue, value)) {\n return\n }\n this.value = value\n afterChange(property, oldValue, value)\n }\n}\n\n"/*\n * Copyright 2010-2020 JetBrains s.r.o.
and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.\n */\n\n@file:Suppress("PackageDirectoryMismatch")\n\npackage
kotlin\n\nimport kotlin.reflect.*\n\n/**\n * An extension operator that allows delegating a read-only property of type

```

[V]\n \* to a property reference to a property of type [V] or its subtype.\n \*\n \* @receiver A property reference to a read-only or mutable property of type [V] or its subtype.\n \* The reference is without a receiver, i.e. it either references a top-level property or\n \* has the receiver bound to it.\n \*\n \* Example:\n \*\n \* class Login(val username: String)\n \* val defaultLogin = Login("Admin")\n \* val defaultUsername by defaultLogin::username\n \* // equivalent to\n \* val defaultUserName get() = defaultLogin.username\n \*\n \* class Login(val username: String)\n \* val defaultLogin = Login("Admin")\n \* val defaultUsername by defaultLogin::username\n \* // equivalent to\n \* val defaultUserName get() = defaultLogin.username

\*\n @SinceKotlin("1.4")\n @kotlin.internal.InlineOnly\n public inline operator fun <V> KProperty0<V>.getValue(thisRef: Any?, property: KProperty<\*>): V {\n return get()\n }\n \*\n \* An extension operator that allows delegating a mutable property of type [V]\n \* to a property reference to a mutable property of the same type [V].\n \*\n \* @receiver A property reference to a mutable property of type [V].\n \* The reference is without a receiver, i.e. it either references a top-level property or\n \* has the receiver bound to it.\n \*\n \* Example:\n \*\n \* class Login(val username: String, var incorrectAttemptCounter: Int = 0)\n \* val defaultLogin = Login("Admin")\n \* val defaultLoginAttempts by defaultLogin::incorrectAttemptCounter\n \* // equivalent to\n \* var defaultLoginAttempts: Int\n \* get() = defaultLogin.incorrectAttemptCounter\n \* set(value) { defaultLogin.incorrectAttemptCounter = value }\n \*\n \* class Login(val username: String, var incorrectAttemptCounter: Int = 0)\n \* val defaultLogin = Login("Admin")\n \* val defaultLoginAttempts by defaultLogin::incorrectAttemptCounter\n \* // equivalent to\n \* var defaultLoginAttempts: Int\n \* get() = defaultLogin.incorrectAttemptCounter\n \* set(value) { defaultLogin.incorrectAttemptCounter = value }

\*\n @SinceKotlin("1.4")\n @kotlin.internal.InlineOnly\n public inline operator fun <V> KMutableProperty0<V>.setValue(thisRef: Any?, property: KProperty<\*>, value: V) {\n set(value)\n }\n \*\n \* An extension operator that allows delegating a read-only member or extension property of type [V]\n \* to a property reference to a member or extension property of type [V] or its subtype.\n \*\n \* @receiver A property reference to a read-only or mutable property of type [V] or its subtype.\n \* The reference has an unbound receiver of type [T].\n \*\n \* Example:\n \*\n \* class Login(val username: String)\n \* val Login.user by Login::username\n \* // equivalent to\n \* val Login.user get() = this.username\n \*\n \* class Login(val username: String)\n \* val Login.user by Login::username\n \* // equivalent to\n \* val Login.user get() = this.username

\*\n @SinceKotlin("1.4")\n @kotlin.internal.InlineOnly\n public inline operator fun <T, V> KProperty1<T, V>.getValue(thisRef: T, property: KProperty<\*>): V {\n return get(thisRef)\n }\n \*\n \* An extension operator that allows delegating a mutable member or extension property of type [V]\n \* to a property reference to a member or extension mutable property of the same type [V].\n \*\n \* @receiver A property reference to a read-only or mutable property of type [V] or its subtype.\n \* The reference has an unbound receiver of type [T].\n \*\n \* Example:\n \*\n \* class Login(val username: String, var incorrectAttemptCounter: Int)\n \* var Login.attempts by Login::incorrectAttemptCounter\n \* // equivalent to\n \* var Login.attempts: Int\n \* get() = this.incorrectAttemptCounter\n \* set(value) { this.incorrectAttemptCounter = value }\n \*\n \* class Login(val username: String, var incorrectAttemptCounter: Int)\n \* var Login.attempts by Login::incorrectAttemptCounter\n \* // equivalent to\n \* var Login.attempts: Int\n \* get() = this.incorrectAttemptCounter\n \* set(value) { this.incorrectAttemptCounter = value }

\*\n @SinceKotlin("1.4")\n @kotlin.internal.InlineOnly\n public inline operator fun <T, V> KMutableProperty1<T, V>.setValue(thisRef: T, property: KProperty<\*>, value: V) {\n set(thisRef, value)\n }\n \* Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n \* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n \*\n \* package kotlin.random\n \* import kotlin.math.nextDown\n \*\n \* An abstract class that is implemented by random number generator algorithms.\n \*\n \* The companion object [Random.Default] is the default instance of [Random].\n \*\n \* To get a seeded instance of random generator use [Random] function.\n \*\n \* @sample samples.random.Randoms.defaultRandom\n \*\n \* class Random {\n \* /\*\*\n \* Gets the next random [bitCount] number of bits.\n \* Generates an `Int` whose lower [bitCount] bits are filled with random values and the remaining upper bits are zero.\n \* @param bitCount number of bits to generate, must be in range 0..32, otherwise the behavior is unspecified.\n \* @sample samples.random.Randoms.nextBits\n \* public abstract fun nextBits(bitCount: Int): Int\n \* /\*\*\n \* Gets the next random `Int` from the random number generator.\n \* Generates an `Int` random value uniformly distributed between `Int.MIN\_VALUE` and `Int.MAX\_VALUE` (inclusive).\n \* @sample samples.random.Randoms.nextInt\n \* public open fun nextInt(): Int = nextBits(32)\n \* /\*\*\n \* Gets the next random non-negative `Int` from the random number generator less than the specified [until] bound.\n \* Generates an `Int` random value uniformly distributed between `0` (inclusive) and the specified [until] bound (exclusive).\n \* @param until must be positive.\n \* @throws



```

IllegalArgumentException if [until] is negative or zero.\n *\n * @sample
samples.random.Randoms.nextIntFromUntil\n */\n public open fun nextInt(until: Int): Int = nextInt(0, until)\n\n
/**\n * Gets the next random `Int` from the random number generator in the specified range.\n *\n *
Generates an `Int` random value uniformly distributed between the specified [from] (inclusive) and [until]
(exclusive) bounds.\n *\n * @throws IllegalArgumentException if [from] is greater than or equal to [until].\n
*\n * @sample samples.random.Randoms.nextIntFromUntil\n */\n public open fun nextInt(from: Int, until:
Int): Int {\n checkRangeBounds(from, until)\n val n = until - from\n if (n > 0 || n == Int.MIN_VALUE)
{\n val rnd = if (n and -n == n) {\n val bitCount = fastLog2(n)\n nextBits(bitCount)\n
 } else {\n var v: Int\n do {\n val bits = nextInt().ushr(1)\n v = bits % n\n
 } while (bits - v + (n - 1) < 0)\n v\n }\n return from + rnd\n } else {\n while
(true) {\n val rnd = nextInt()\n if (rnd in from until until) return rnd\n }\n }\n }\n\n
/**\n * Gets the next random `Long` from the random number generator.\n *\n * Generates a `Long` random
value uniformly distributed between `Long.MIN_VALUE` and `Long.MAX_VALUE` (inclusive).\n *\n *
@sample samples.random.Randoms.nextLong\n */\n public open fun nextLong():
Long = nextInt().toLong().shl(32) + nextInt()\n\n
/**\n * Gets the next random non-negative `Long` from the
random number generator less than the specified [until] bound.\n *\n * Generates a `Long` random value
uniformly distributed between `0` (inclusive) and the specified [until] bound (exclusive).\n *\n * @param until
must be positive.\n *\n * @throws IllegalArgumentException if [until] is negative or zero.\n *\n *
@sample samples.random.Randoms.nextLongFromUntil\n */\n public open fun nextLong(until: Long): Long =
nextLong(0, until)\n\n
/**\n * Gets the next random `Long` from the random number generator in the specified
range.\n *\n * Generates a `Long` random value uniformly distributed between the specified [from] (inclusive)
and [until] (exclusive) bounds.\n *\n * @throws IllegalArgumentException if [from] is greater than or equal to
[until].\n *\n * @sample samples.random.Randoms.nextLongFromUntil\n
*/\n public open fun nextLong(from: Long, until: Long): Long {\n checkRangeBounds(from, until)\n
val n = until - from\n if (n > 0) {\n val rnd: Long\n if (n and -n == n) {\n val nLow =
n.toInt()\n val nHigh = (n ushr 32).toInt()\n rnd = when {\n nLow != 0 -> {\n
 val bitCount = fastLog2(nLow)\n // toUInt().toLong()\n
 nextBits(bitCount).toLong() and 0xFFFF_FFFF\n }\n nHigh == 1 -> {\n
 //
 toUInt().toLong()\n nextInt().toLong() and 0xFFFF_FFFF\n } else -> {\n val
bitCount = fastLog2(nHigh)\n nextBits(bitCount).toLong().shl(32) + (nextInt().toLong() and
0xFFFF_FFFF)\n }\n }\n } else {\n var v: Long\n
 do {\n val bits = nextLong().ushr(1)\n v = bits % n\n } while (bits - v + (n - 1)
< 0)\n rnd = v\n }\n return from + rnd\n } else {\n while (true) {\n val
rnd = nextLong()\n if (rnd in from until until) return rnd\n }\n }\n }\n }\n\n
/**\n * Gets the
next random [Boolean] value.\n *\n * @sample samples.random.Randoms.nextBoolean\n */\n public open
fun nextBoolean(): Boolean = nextBits(1) != 0\n\n
/**\n * Gets the next random [Double] value uniformly
distributed between 0 (inclusive) and 1 (exclusive).\n *\n * @sample samples.random.Randoms.nextDouble\n
*/\n public open fun nextDouble(): Double = doubleFromParts(nextBits(26), nextBits(27))\n\n
/**\n * Gets
the next random non-negative `Double` from the random number generator less than the specified [until] bound.\n
*\n
*\n * Generates a `Double` random value uniformly distributed between 0 (inclusive) and [until] (exclusive).\n
*\n * @throws IllegalArgumentException if [until] is negative or zero.\n *\n * @sample
samples.random.Randoms.nextDoubleFromUntil\n */\n public open fun nextDouble(until: Double): Double =
nextDouble(0.0, until)\n\n
/**\n * Gets the next random `Double` from the random number generator in the
specified range.\n *\n * Generates a `Double` random value uniformly distributed between the specified [from]
(inclusive) and [until] (exclusive) bounds.\n *\n * [from] and [until] must be finite otherwise the behavior is
unspecified.\n *\n * @throws IllegalArgumentException if [from] is greater than or equal to [until].\n *\n
*\n * @sample samples.random.Randoms.nextDoubleFromUntil\n */\n public open fun nextDouble(from: Double,

```

```

until: Double): Double {
 checkRangeBounds(from, until)
 val size = until - from
 val r = if (size.isInfinite() && from.isFinite() && until.isFinite()) {
 val r1 = nextDouble() * (until / 2 -
 from / 2)
 from + r1 + r1
 } else {
 from + nextDouble() * size
 }
 return if (r >=
until) until.nextDown() else r
}

/**
 * Gets the next random [Float] value uniformly distributed
between 0 (inclusive) and 1 (exclusive).
 *
 * @sample samples.random.Randoms.nextFloat
 */
public open fun nextFloat(): Float = nextBits(24) / (1 shl 24).toFloat()

/**
 * Fills a subrange of the
specified byte [array] starting from [fromIndex] inclusive and ending [toIndex] exclusive
 * with random
bytes.
 *
 * @return [array] with the subrange filled with random bytes.
 *
 * @sample
samples.random.Randoms.nextBytes
 */
public open fun nextBytes(array: ByteArray, fromIndex: Int = 0,
toIndex: Int = array.size): ByteArray {
 require(fromIndex in
0..array.size && toIndex in 0..array.size) {
 "fromIndex ($fromIndex) or toIndex ($toIndex) are out of range:
0..${array.size}."
 }
 require(fromIndex <= toIndex) {
 "fromIndex ($fromIndex) must be not greater than
toIndex ($toIndex)."
 }
 val steps = (toIndex - fromIndex) / 4
 var position = fromIndex
 repeat(steps) {
 val v = nextInt()
 array[position] = v.toByte()
 array[position + 1] =
v.ushr(8).toByte()
 array[position + 2] = v.ushr(16).toByte()
 array[position + 3] =
v.ushr(24).toByte()
 position += 4
 }
 val remainder = toIndex - position
 val vr =
nextInt(remainder * 8)
 for (i in 0 until remainder) {
 array[position + i] = vr.ushr(i * 8).toByte()
 }
 return array
}

/**
 * Fills the specified byte [array] with random bytes and returns it.
 *
 * @return [array] filled with random bytes.
 *
 * @sample samples.random.Randoms.nextBytes
 */
public open fun nextBytes(array: ByteArray):
ByteArray = nextBytes(array, 0, array.size)

/**
 * Creates a byte array of the specified [size], filled with
random bytes.
 *
 * @sample samples.random.Randoms.nextBytes
 */
public open fun
nextBytes(size: Int): ByteArray = nextBytes(ByteArray(size))

/**
 * The default random number
generator.
 *
 * On JVM this generator is thread-safe, its methods can be invoked from multiple threads.
 *
 * @sample samples.random.Randoms.defaultRandom
 */
companion object Default : Random(),
Serializable {
 private val defaultRandom: Random = defaultPlatformRandom()
 private object
Serialized : Serializable {
 private const val serialVersionUID = 0L
 private fun readResolve():
Any = Random()
 }
 private fun writeReplace(): Any = Serialized

 override fun nextBits(bitCount: Int): Int = defaultRandom.nextBits(bitCount)
 override fun nextInt(): Int =
defaultRandom.nextInt()
 override fun nextInt(until: Int): Int = defaultRandom.nextInt(until)
 override
fun nextInt(from: Int, until: Int): Int = defaultRandom.nextInt(from, until)
 override fun nextLong(): Long =
defaultRandom.nextLong()
 override fun nextLong(until: Long): Long = defaultRandom.nextLong(until)
 override
fun nextLong(from: Long, until: Long): Long = defaultRandom.nextLong(from, until)
 override fun
nextBoolean(): Boolean = defaultRandom.nextBoolean()
 override fun nextDouble(): Double =
defaultRandom.nextDouble()
 override fun nextDouble(until: Double): Double =
defaultRandom.nextDouble(until)
 override fun nextDouble(from: Double, until: Double): Double =
defaultRandom.nextDouble(from, until)
 override fun nextFloat(): Float = defaultRandom.nextFloat()
}

override
fun nextBytes(array: ByteArray): ByteArray = defaultRandom.nextBytes(array)
override fun nextBytes(size:
Int): ByteArray = defaultRandom.nextBytes(size)
override fun nextBytes(array: ByteArray, fromIndex: Int,
toIndex: Int): ByteArray =
defaultRandom.nextBytes(array, fromIndex, toIndex)
}

/**
 * Returns a repeatable random number generator seeded with the given [seed] `Int` value.
 * Two generators with
the same seed produce the same sequence of values within the same version of Kotlin runtime.
 *
 * Note:
Future versions of Kotlin may change the algorithm of this seeded number generator so that it will return
 * a
sequence of values different from the current one for a given seed.
 *
 * On JVM the returned generator is NOT
thread-safe. Do not invoke it from multiple threads without proper synchronization.
 *
 * @sample
samples.random.Randoms.seededRandom
 */
@SinceKotlin("1.3")
public fun Random(seed: Int): Random =

```

```

XorWowRandom(seed, seed.shr(31))\n\n**\n * Returns a repeatable random number generator seeded with the
given [seed] `Long` value.\n *\n * Two generators with the same seed produce the same sequence of values within
the same version of Kotlin runtime.\n *\n * *Note:* Future versions of Kotlin may change the algorithm of this
seeded number generator so that it will return\n * a sequence of values different from the current one for a given
seed.\n *\n * On JVM the returned generator is NOT thread-safe. Do not invoke it from multiple threads without
proper synchronization.\n *\n * @sample samples.random.Randoms.seededRandom\n
*\n@SinceKotlin("1.3")\npublic fun Random(seed: Long): Random = XorWowRandom(seed.toInt(),
seed.shr(32).toInt())\n\n**\n * Gets the next random `Int` from the random number generator in the specified
[range].\n *\n * Generates an `Int` random value uniformly distributed in the specified [range]:\n * from `range.start`
inclusive to `range.endInclusive` inclusive.\n
*\n * @throws IllegalArgumentException if [range] is empty.\n *\n@SinceKotlin("1.3")\npublic fun
Random.nextInt(range: IntRange): Int = when {\n range.isEmpty() -> throw IllegalArgumentException("Cannot
get random in empty range: $range")\n range.last < Int.MAX_VALUE -> nextInt(range.first, range.last + 1)\n
range.first > Int.MIN_VALUE -> nextInt(range.first - 1, range.last) + 1\n else -> nextInt()\n}\n\n**\n * Gets the
next random `Long` from the random number generator in the specified [range].\n *\n * Generates a `Long` random
value uniformly distributed in the specified [range]:\n * from `range.start` inclusive to `range.endInclusive`
inclusive.\n *\n * @throws IllegalArgumentException if [range] is empty.\n *\n@SinceKotlin("1.3")\npublic fun
Random.nextLong(range: LongRange): Long = when {\n range.isEmpty() -> throw
IllegalArgumentException("Cannot get random in empty range: $range")\n range.last < Long.MAX_VALUE ->
nextLong(range.first, range.last
+ 1)\n range.first > Long.MIN_VALUE -> nextLong(range.first - 1, range.last) + 1\n else ->
nextLong()\n}\n\ninternal expect fun defaultPlatformRandom(): Random\ninternal expect fun
doubleFromParts(hi26: Int, low27: Int): Double\n\ninternal fun fastLog2(value: Int): Int = 31 -
value.countLeadingZeroBits()\n\n**\n * Takes upper [bitCount] bits (0..32) from this number. *\n\ninternal fun
Int.takeUpperBits(bitCount: Int): Int =\n this.ushr(32 - bitCount) and (-bitCount).shr(31)\n\ninternal fun
checkRangeBounds(from: Int, until: Int) = require(until > from) { boundsErrorMessage(from, until) }\n\ninternal fun
checkRangeBounds(from: Long, until: Long) = require(until > from) { boundsErrorMessage(from, until) }\n\ninternal fun
checkRangeBounds(from: Double, until: Double) = require(until > from) { boundsErrorMessage(from, until)
}\n\ninternal fun boundsErrorMessage(from: Any, until: Any) = "Random range is empty: [$from,
$until)."\n\n"/**\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n *\n@npackage kotlin.random\n\n**\n * Gets the next random [UInt]
from the random number generator.\n *\n * Generates a [UInt] random value uniformly distributed between
[UInt.MIN_VALUE] and [UInt.MAX_VALUE] (inclusive).\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
Random.nextUInt(): UInt = nextInt().toUInt()\n\n**\n * Gets the next random [UInt] from the random number
generator less than the specified [until] bound.\n *\n * Generates a [UInt] random value uniformly distributed
between `0` (inclusive) and the specified [until] bound (exclusive).\n *\n * @throws IllegalArgumentException if
[until] is zero.\n *\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
Random.nextUInt(until: UInt): UInt = nextUInt(0u, until)\n\n**\n * Gets the next random
[UInt] from the random number generator in the specified range.\n *\n * Generates a [UInt] random value
uniformly distributed between the specified [from] (inclusive) and [until] (exclusive) bounds.\n *\n * @throws
IllegalArgumentException if [from] is greater than or equal to [until].\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
Random.nextUInt(from: UInt, until: UInt): UInt {\n checkUIntRangeBounds(from, until)\n val signedFrom =
from.toInt() xor Int.MIN_VALUE\n val signedUntil = until.toInt() xor Int.MIN_VALUE\n val signedResult =
nextInt(signedFrom, signedUntil) xor Int.MIN_VALUE\n return signedResult.toUInt()\n}\n\n**\n * Gets the next
random [UInt] from the random number generator in the specified [range].\n *\n * Generates a [UInt] random value

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uniformly distributed in the specified [range]:\n * from `range.start` inclusive to `range.endInclusive` inclusive.\n
*\n * @throws IllegalArgumentException if [range] is
empty.\n */\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
Random.nextInt(range: UIntRange): UInt = when {\n range.isEmpty() -> throw
IllegalArgumentException("Cannot get random in empty range: $range")\n range.last < UInt.MAX_VALUE ->
nextInt(range.first, range.last + 1u)\n range.first > UInt.MIN_VALUE -> nextInt(range.first - 1u, range.last) +
1u\n else -> nextInt()\n}\n\n/**\n * Gets the next random [ULong] from the random number generator.\n */\n *
Generates a [ULong] random value uniformly distributed between [ULong.MIN_VALUE] and
[ULong.MAX_VALUE] (inclusive).\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
Random.nextULong(): ULong = nextLong().toULong()\n\n/**\n * Gets the next random [ULong] from the random
number generator less than the specified [until] bound.\n */\n * Generates a [ULong] random value uniformly
distributed between `0` (inclusive) and the specified [until] bound
(exclusive).\n */\n * @throws IllegalArgumentException if [until] is zero.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
Random.nextULong(until: ULong): ULong = nextULong(0uL, until)\n\n/**\n * Gets the next random [ULong] from
the random number generator in the specified range.\n */\n * Generates a [ULong] random value uniformly
distributed between the specified [from] (inclusive) and [until] (exclusive) bounds.\n */\n * @throws
IllegalArgumentException if [from] is greater than or equal to [until].\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
Random.nextULong(from: ULong, until: ULong): ULong {\n checkULongRangeBounds(from, until)\n\n val
signedFrom = from.toLong() xor Long.MIN_VALUE\n val signedUntil = until.toLong() xor
Long.MIN_VALUE\n\n val signedResult = nextLong(signedFrom, signedUntil) xor Long.MIN_VALUE\n
return signedResult.toULong()\n}\n\n/**\n * Gets the next random
[ULong] from the random number generator in the specified [range].\n */\n * Generates a [ULong] random value
uniformly distributed in the specified [range]:\n * from `range.start` inclusive to `range.endInclusive` inclusive.\n
*\n * @throws IllegalArgumentException if [range] is empty.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
Random.nextULong(range: ULongRange): ULong = when {\n range.isEmpty() -> throw
IllegalArgumentException("Cannot get random in empty range: $range")\n range.last < ULong.MAX_VALUE -
> nextULong(range.first, range.last + 1u)\n range.first > ULong.MIN_VALUE -> nextULong(range.first - 1u,
range.last) + 1u\n else -> nextULong()\n}\n\n/**\n * Fills the specified unsigned byte [array] with random bytes
and returns it.\n */\n * @return [array] filled with random bytes.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun Random.nextUBytes(array: UByteArray):
UByteArray {\n nextBytes(array.asByteArray())\n
return array\n}\n\n/**\n * Creates an unsigned byte array of the specified [size], filled with random bytes.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun Random.nextUBytes(size: Int): UByteArray
= nextBytes(size).asUByteArray()\n\n/**\n * Fills a subrange of the specified `UByte` [array] starting from
[fromIndex] inclusive and ending [toIndex] exclusive with random UBytes.\n */\n * @return [array] with the
subrange filled with random bytes.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
Random.nextUBytes(array: UByteArray, fromIndex: Int = 0, toIndex: Int = array.size): UByteArray {\n
nextBytes(array.asByteArray(), fromIndex, toIndex)\n return array\n}\n\n\ninternal fun
checkUIntRangeBounds(from: UInt, until: UInt) = require(until > from) { boundsErrorMessage(from, until)
}\ninternal fun checkULongRangeBounds(from: ULong, until: ULong) = require(until > from) {
boundsErrorMessage(from, until) }\n", "/*\n * Copyright 2010-2018
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.random\n\n/**\n *
Random number generator, using Marsaglia's "xorwow" algorithm\n */\n * Cycles after 2^192 - 2^32 repetitions.\n

```

\*\n \* For more details, see Marsaglia, George (July 2003). "Xorshift RNGs". Journal of Statistical Software. 8 (14). doi:10.18637/jss.v008.i14\n \*\n \* Available at <https://www.jstatsoft.org/v08/i14/paper>\n \*\n \*/\n\n internal class XorWowRandom internal constructor(\n private var x: Int,\n private var y: Int,\n private var z: Int,\n private var w: Int,\n private var v: Int,\n private var addend: Int)\n : Random(), Serializable {\n\n internal constructor(seed1: Int, seed2: Int) :\n this(seed1, seed2, 0, 0, seed1.inv(), (seed1 shl 10) xor (seed2 ushr 4))\n\n init {\n require((x or y or z or w or v) != 0) { "Initial state must have at least one non-zero element." }\n\n // some trivial seeds can produce several values with zeroes in upper bits, so we discard first 64\n repeat(64) { nextInt() }\n\n override fun nextInt(): Int {\n // Equivalent to the xorxow algorithm\n // From Marsaglia, G. 2003. Xorshift RNGs. J. Statis. Soft. 8, 14, p. 5\n var t = x\n t = t xor (t ushr 2)\n x = y\n y = z\n z = w\n val v0 = v\n w = v0\n t = (t xor (t shl 1)) xor v0 xor (v0 shl 4)\n v = t\n addend += 362437\n return t + addend\n }\n\n override fun nextBits(bitCount: Int): Int =\n nextInt().takeUpperBits(bitCount)\n\n private companion object {\n private const val serialVersionUID: Long = 0L\n }\n\n }\*\n\n /\*\n \* Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n \* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n\n \*/\n\n @file:kotlin.jvm.JvmMultifileClass\n @file:kotlin.jvm.JvmName("RangesKt")\n\n package kotlin.ranges\n\n /\*\*\n \* Represents a range of [Comparable] values.\n \*/\n\n private open class ComparableRange<T> : Comparable<T> > {\n\n override val start: T,\n override val endInclusive: T\n : ClosedRange<T> {\n\n override fun equals(other: Any?): Boolean {\n return other is ComparableRange<\*> && (isEmpty() && other.isEmpty()) ||\n start == other.start && endInclusive == other.endInclusive\n }\n\n override fun hashCode(): Int {\n return if (isEmpty()) -1 else 31 \* start.hashCode() + endInclusive.hashCode()\n }\n\n override fun toString(): String = "\$start..\$endInclusive"\n }\n\n /\*\*\n \* Creates a range from this [Comparable] value to the specified [that] value.\n \*\n \* This value needs to be smaller than or equal to [that] value, otherwise the returned range will be empty.\n \*\n \* @sample samples.ranges.Ranges.rangeFromComparable\n \*/\n\n public operator fun <T> : Comparable<T>> T.rangeTo(that: T): ClosedRange<T> = ComparableRange(this, that)\n\n /\*\*\n \* Represents a range of floating point numbers.\n \*\n \* Extends [ClosedRange] interface providing custom operation [lessThanOrEquals] for comparing values of range domain type.\n \*\n \* This interface is implemented by floating point ranges returned by [Float.rangeTo] and [Double.rangeTo] operators to\n \* achieve IEEE-754 comparison order instead of total order of floating point numbers.\n \*/\n\n @SinceKotlin("1.1")\n\n public interface ClosedFloatingPointRange<T> : Comparable<T> > : ClosedRange<T> {\n\n override fun contains(value: T): Boolean = lessThanOrEquals(start, value) && lessThanOrEquals(value, endInclusive)\n\n override fun isEmpty(): Boolean = !lessThanOrEquals(start, endInclusive)\n\n /\*\*\n \* Compares two values of range domain type and returns true if first is less than or equal to second.\n \*/\n\n fun lessThanOrEquals(a: T, b: T): Boolean\n }\n\n /\*\*\n \* A closed range of values of type `Double`.\n \*\n \* Numbers are compared with the ends of this range according to IEEE-754.\n \*/\n\n private class ClosedDoubleRange(\n start: Double,\n endInclusive: Double\n ) : ClosedFloatingPointRange<Double> {\n\n private val \_start = start\n private val \_endInclusive = endInclusive\n\n override val start: Double get() = \_start\n override val endInclusive: Double get() = \_endInclusive\n\n override fun lessThanOrEquals(a: Double, b: Double): Boolean = a <= b\n\n override fun contains(value: Double): Boolean = value >= \_start && value <= \_endInclusive\n\n override fun isEmpty(): Boolean = !(\_start <= \_endInclusive)\n\n override fun equals(other: Any?): Boolean {\n return other is ClosedDoubleRange && (isEmpty() && other.isEmpty()) ||\n \_start == other.\_start && \_endInclusive == other.\_endInclusive\n }\n\n override fun hashCode(): Int {\n return if (isEmpty()) -1 else 31 \* \_start.hashCode() + \_endInclusive.hashCode()\n }\n\n override fun toString(): String = "\$\_start..\$\_endInclusive"\n }\n\n /\*\*\n \* Creates a range from this [Double] value to the specified [that] value.\n \*\n \* Numbers are compared with the ends of this range according to IEEE-754.\n \*\n \* @sample samples.ranges.Ranges.rangeFromDouble\n \*/\n\n @SinceKotlin("1.1")\n\n public operator fun Double.rangeTo(that: Double): ClosedFloatingPointRange<Double>

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= ClosedDoubleRange(this, that)\n\n/**\n * A closed range of values of type `Float`.\n *\n * Numbers are compared with the ends of this range according to IEEE-754.\n *\nprivate class ClosedFloatRange(\n start: Float,\n endInclusive: Float)\n : ClosedFloatingPointRange<Float> {\n private val _start = start\n private val _endInclusive = endInclusive\n override val start: Float get() = _start\n override val endInclusive: Float get() = _endInclusive\n\n override fun lessThanOrEquals(a: Float, b: Float): Boolean = a <= b\n\n override fun contains(value: Float): Boolean = value >= _start && value <= _endInclusive\n\n override fun isEmpty(): Boolean = !(_start <= _endInclusive)\n\n override fun equals(other: Any?): Boolean {\n return other is ClosedFloatRange && (isEmpty() && other.isEmpty() ||\n _start == other._start && _endInclusive == other._endInclusive)\n }\n\n override fun hashCode(): Int {\n return if (isEmpty()) -1 else 31 * _start.hashCode() + _endInclusive.hashCode()\n }\n\n override fun toString(): String = "$_start..$_endInclusive"\n}\n\n/**\n * Creates a range from this [Float] value to the specified [that] value.\n *\n * Numbers are compared with the ends of this range according to IEEE-754.\n *\n @sample samples.ranges.Ranges.rangeFromFloat\n *\n @SinceKotlin("1.1")\n\npublic operator fun Float.rangeTo(that: Float): ClosedFloatingPointRange<Float> = ClosedFloatRange(this, that)\n\n\n/**\n * Returns `true` if this iterable range contains the specified [element].\n *\n * Always returns `false` if the [element] is `null`.\n *\n @SinceKotlin("1.3")\n\n @kotlin.internal.InlineOnly\n\npublic inline operator fun <T, R> R.contains(element: T?): Boolean where T : Any, R : Iterable<T>, R : ClosedRange<T> =\n element != null && contains(element)\n\n\ninternal fun checkStepIsPositive(isPositive: Boolean, step: Number) {\n if (!isPositive) throw IllegalArgumentException("Step must be positive, was: $step.")\n}\n\n"/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n @file:kotlin.jvm.JvmName("KClasses")\n\n @file:Suppress("UNCHECKED_CAST")\n\n\npackage kotlin.reflect\n\nimport kotlin.internal.LowPriorityInOverloadResolution\n\n\n/**\n * Casts the given [value] to the class represented by this [KClass] object.\n *\n * Throws an exception if the value is `null` or if it is not an instance of this class.\n *\n * This is an experimental function that behaves as a similar function from kotlin.reflect.full on JVM.\n *\n * @see [KClass.isInstance]\n *\n * @see [KClass.safeCast]\n *\n @SinceKotlin("1.4")\n\n @WasExperimental(ExperimentalStdlibApi::class)\n\n @LowPriorityInOverloadResolution\n\nfun <T : Any> KClass<T>.cast(value: Any?): T {\n if (!isInstance(value)) throw ClassCastException("Value cannot be cast to $qualifiedOrSimpleName")\n\n return value as T\n}\n\n\n// TODO: replace with qualifiedName when it is fully supported in K/JS\n\ninternal expect val KClass<*>.qualifiedOrSimpleName: String?\n\n\n/**\n * Casts the given [value] to the class represented by this [KClass] object.\n *\n * Returns `null` if the value is `null` or if it is not an instance of this class.\n *\n * This is an experimental function that behaves as a similar function from kotlin.reflect.full on JVM.\n *\n * @see [KClass.isInstance]\n *\n * @see [KClass.cast]\n *\n @SinceKotlin("1.4")\n\n @WasExperimental(ExperimentalStdlibApi::class)\n\n @LowPriorityInOverloadResolution\n\nfun <T : Any> KClass<T>.safeCast(value: Any?): T? {\n return if (isInstance(value)) value as T else null\n}\n\n"/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n\npackage kotlin.reflect\n\nimport kotlin.jvm.JvmField\n\nimport kotlin.jvm.JvmStatic\n\n\n\n\n/**\n * Represents a type projection. Type projection is usually the argument to another type in a type usage.\n *\n * For example, in the type `Array<out Number>`, `out Number` is the covariant projection of the type represented by the class `Number`.\n *\n * Type projection is either the star projection, or an entity consisting of a specific type plus optional variance.\n *\n * See the [Kotlin language documentation](https://kotlinlang.org/docs/reference/generics.html#type-projections)\n *\n for more information.\n *\n @SinceKotlin("1.1")\n\n\npublic data class KTypeProjection constructor(\n /**\n * The use-site variance specified in the projection, or `null` if this is a star projection.\n *\n */\n public val variance: KVariance?,\n /**\n * The type specified in the

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projection, or `null` if this is a star projection.
 */
 public val type: KType?() {
 init {
 require((variance == null) == (type == null)) {
 if (variance == null)
 "\"Star projection must have no type specified.\"
 else
 "\"The projection variance $variance requires type to be specified.\"
 }
 }
 override fun toString(): String = when (variance) {
 null -> "\"*\n KVariance.INVARIANT
-> type.toString()\n KVariance.IN -> \"in $type\"\n KVariance.OUT -> \"out $type\"\n }
 public companion object {
 // provided for compiler access
 @JvmField
 @PublishedApi
 internal val
 star: KTypeProjection = KTypeProjection(null, null)
 /**
 * Star projection, denoted by the `*` character.
 * For example, in the type `KClass<*>`, `*` is the star projection.
 * See the [Kotlin language documentation](https://kotlinlang.org/docs/reference/generics.html#star-projections)
 * for more information.
 */
 public val STAR: KTypeProjection get() = star
 /**
 * Creates an invariant projection of a given type. Invariant projection is just the type itself,
 * without any use-site variance modifiers applied to it.
 * For example, in the type `Set<String>`, `String` is an invariant projection of the type
 * represented by the class `String`.
 */
 @JvmStatic
 public fun invariant(type: KType): KTypeProjection =
 KTypeProjection(KVariance.INVARIANT, type)
 /**
 * Creates a contravariant projection of a given type, denoted by the `in`
 * modifier applied to a type.
 * For example, in the type `MutableList<in Number>`, `in Number` is a contravariant
 * projection of the type of class `Number`.
 */
 @JvmStatic
 public fun contravariant(type: KType): KTypeProjection =
 KTypeProjection(KVariance.IN, type)
 /**
 * Creates a covariant projection of a given type, denoted by the `out` modifier applied to a type.
 * For example, in the type `Array<out Number>`, `out Number` is a covariant projection of the type
 * of class `Number`.
 */
 @JvmStatic
 public fun covariant(type: KType): KTypeProjection =
 KTypeProjection(KVariance.OUT, type)
 }
 }
}
/**
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 * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.
 */
package kotlin.reflect
/**
 * Represents variance applied to a type parameter on the declaration site (*declaration-site variance*),
 * or to a type in a projection (*use-site variance*).
 */
enum class KVariance {
 /**
 * See the [Kotlin language documentation](https://kotlinlang.org/docs/reference/generics.html#variance)
 * for more information.
 */
 @see [KTypeParameter.variance]
 @see [KTypeProjection]
 @SinceKotlin("1.1")
 IN,
 /**
 * The affected type parameter or type is *invariant*, which means it has no variance applied to it.
 */
 INVARIANT,
 /**
 * The affected type parameter or type is *contravariant*. Denoted by the `in`
 * modifier in the source code.
 */
 IN,
 /**
 * The affected type parameter or type is *covariant*. Denoted by the `out`
 * modifier in the source code.
 */
 OUT,
}
/**
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 * file.
 */
package kotlin.reflect
/**
 * Returns a runtime representation of the given reified type [T] as an instance of [KType].
 * Note that on JVM, the created type has no annotations ([KType.annotations] returns an empty list)
 * even if the type in the source code is annotated. Support for type annotations might be added in a
 * future version.
 */
@SinceKotlin("1.6")
@WasExperimental(ExperimentalStdlibApi::class)
public inline fun <reified T> typeOf(): KType =
 throw UnsupportedOperationException("This function is implemented as an intrinsic on all supported platforms.")
/**
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 * file.
 */
package kotlin.jvm
package kotlin.jvm
/**
 * An object to which char sequences and values can be appended.
 */
expect interface Appendable {
 /**
 * Appends the specified character [value] to this Appendable and returns this instance.
 */
 @param value the character to append
 fun append(value: Char): Appendable
 /**
 * Appends the specified character sequence [value] to this

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Appendable and returns this instance.\n * \n * @param value the character sequence to append. If [value] is
`null`, then the four characters `"\n\n\n\n"` are appended to this Appendable.\n * \n fun append(value:
CharSequence?): Appendable\n\n /**\n * Appends a subsequence of the specified character sequence [value] to
this Appendable and returns this instance.\n * \n * @param value the character sequence from which a
subsequence is appended. If [value] is `null`,\n * then characters are appended as if [value] contained the four
characters `"\n\n\n\n"`. \n * @param startIndex the beginning (inclusive) of the subsequence to append.\n
* @param endIndex the end (exclusive) of the subsequence to append.\n * \n * @throws
IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the
[value] character sequence indices or when `startIndex > endIndex`.\n * \n fun append(value: CharSequence?,
startIndex: Int, endIndex: Int): Appendable\n\n\n/**\n * Appends a subsequence of the specified character
sequence [value] to this Appendable and returns this instance.\n * \n * @param value the character sequence from
which a subsequence is appended.\n * @param startIndex the beginning (inclusive) of the subsequence to append.\n
* @param endIndex the end (exclusive) of the subsequence to append.\n * \n * @throws
IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the
[value] character sequence indices or when `startIndex > endIndex`.\n
\n\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic
fun <T : Appendable> T.appendRange(value: CharSequence, startIndex: Int, endIndex: Int): T {\n
@Suppress("UNCHECKED_CAST")\n return append(value, startIndex, endIndex) as T}\n\n/**\n * Appends
all arguments to the given [Appendable].\n * \n public fun <T : Appendable> T.append(vararg value:
CharSequence?): T {\n for (item in value)\n append(item)\n return this}\n\n\n/**\n * Appends a line feed
character (`\n`) to this Appendable. *\n*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun
Appendable.appendLine(): Appendable = append("\n")\n\n/**\n * Appends value to the given Appendable and a line
feed character (`\n`) after it. *\n*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun
Appendable.appendLine(value: CharSequence?): Appendable = append(value).appendLine()\n\n/**\n * Appends value
to the given Appendable and a line feed character (`\n`) after it.
\n\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun Appendable.appendLine(value:
Char): Appendable = append(value).appendLine()\n\n\ninternal fun <T> Appendable.appendElement(element: T,
transform: ((T) -> CharSequence)?) {\n when {\n transform != null -> append(transform(element))\n
element is CharSequence? -> append(element)\n element is Char -> append(element)\n else ->
append(element.toString())\n } }\n\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("StringsKt")\n\npackage
kotlin.text\n\n/**\n * Trims leading whitespace characters followed by [marginPrefix] from every line of a source
string and removes\n * the first and the last lines if they are blank (notice difference blank vs empty).\n * \n * Doesn't
affect a line if it doesn't contain [marginPrefix] except the first and
the last blank lines.\n * \n * Doesn't preserve the original line endings.\n * \n * @param marginPrefix non-blank
string, which is used as a margin delimiter. Default is `|` (pipe character).\n * \n * @sample
samples.text.Strings.trimMargin\n * @see trimIndent\n * @see kotlin.text.isWhitespace\n * \n public fun
String.trimMargin(marginPrefix: String = "\\|"): String =\n replaceIndentByMargin("\\|", marginPrefix)\n\n\n/**\n *
Detects indent by [marginPrefix] as it does [trimMargin] and replace it with [newIndent].\n * \n * @param
marginPrefix non-blank string, which is used as a margin delimiter. Default is `|` (pipe character).\n * \n public fun
String.replaceIndentByMargin(newIndent: String = "\\|", marginPrefix: String = "\\|"): String {\n
require(marginPrefix.isNotBlank()) { "marginPrefix must be non-blank string." }\n val lines = lines()\n\n return
lines.reindent(length + newIndent.length * lines.size, getIndentFunction(newIndent), { line ->\n val
firstNonWhitespaceIndex
= line.indexOfFirst { !it.isWhitespace() }\n\n when {\n firstNonWhitespaceIndex == -1 -> null\n
line.startsWith(marginPrefix, firstNonWhitespaceIndex) -> line.substring(firstNonWhitespaceIndex +

```



```

marginPrefix.length)\n else -> null\n }\n }\n)\n\n/**\n * Detects a common minimal indent of all the
input lines, removes it from every line and also removes the first and the last\n * lines if they are blank (notice
difference blank vs empty).\n *\n * Note that blank lines do not affect the detected indent level.\n *\n * In case if
there are non-blank lines with no leading whitespace characters (no indent at all) then the\n * common indent is 0,
and therefore this function doesn't change the indentation.\n *\n * Doesn't preserve the original line endings.\n *\n *
@sample samples.text.Strings.trimIndent\n * @see trimMargin\n * @see kotlin.text.isBlank\n */\npublic fun
String.trimIndent(): String = replaceIndent("\\n")\n\n/**\n * Detects a common
minimal indent like it does [trimIndent] and replaces it with the specified [newIndent].\n */\npublic fun
String.replaceIndent(newIndent: String = "\\n"): String {\n val lines = lines()\n val minCommonIndent = lines\n
.filter(String::isNotBlank)\n .map(String::indentWidth)\n .minOrNull() ?: 0\n return
lines.reindent(length + newIndent.length * lines.size, getIndentFunction(newIndent), { line ->
line.drop(minCommonIndent) })\n}\n\n/**\n * Prepends [indent] to every line of the original string.\n *\n * Doesn't
preserve the original line endings.\n */\npublic fun String.prependIndent(indent: String = " "): String =\n
lineSequence()\n .map {\n when {\n it.isBlank() -> {\n when {\n
it.length < indent.length -> indent\n else -> it\n }\n }\n }\n }\n .joinToString("\\n")\n\nprivate
fun String.indentWidth(): Int = indexOfFirst { !it.isWhitespace() }.let { if (it == -1) length else it }\n\nprivate fun
getIndentFunction(indent: String) = when {\n indent.isEmpty() -> { line: String -> line }\n else -> { line: String -
> indent + line }\n}\n\nprivate inline fun List<String>.reindent(\n resultSizeEstimate: Int,\n indentAddFunction:
(String) -> String,\n indentCutFunction: (String) -> String?): String {\n val lastIndex = lastIndex\n return
mapIndexedNotNull { index, value ->\n if ((index == 0 || index == lastIndex) && value.isBlank())\n null\n else\n indentCutFunction(value)?.let(indentAddFunction) ?: value\n }\n}\n
.joinTo(StringBuilder(resultSizeEstimate), "\\n")\n .toString()\n}\n\n"/*\n * Copyright 2010-2018 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt
file.\n */\n\npackage kotlin.text\n\n/**\n * Defines names for Unicode symbols used in proper Typography.\n */\npublic object Typography {\n /** The character " \u2013 quotation mark */\n public const val quote:
Char = "\u0022"\n /** The character $ \u2013 dollar sign */\n public const val dollar: Char = "\u0024"\n
 /** The character & \u2013 ampersand */\n public const val amp: Char = "\u0026"\n /** The character
< \u2013 less-than sign */\n public const val less: Char = "\u003C"\n /** The character > \u2013
greater-than sign */\n public const val greater: Char = "\u003E"\n /** The non-breaking space character */\n
 public const val nbsp: Char = "\u00A0"\n /** The character × */\n public const val times: Char =
"\u00D7"\n /** The character ¢ */\n public const val cent: Char = "\u00A2"\n /** The character £
*/\n public const val pound: Char = "\u00A3"\n /** The character §
*/\n public const val section: Char = "\u00A7"\n /** The character © */\n public const val copyright:
Char = "\u00A9"\n /** The character « */\n @SinceKotlin("1.6")\n public const val leftGuillemet:
Char = "\u00AB"\n /** The character » */\n @SinceKotlin("1.6")\n public const val rightGuillemet:
Char = "\u00BB"\n /** The character ® */\n public const val registered: Char = "\u00AE"\n /** The
character ° */\n public const val degree: Char = "\u00B0"\n /** The character ± */\n public const
val plusMinus: Char = "\u00B1"\n /** The character ¶ */\n public const val paragraph: Char = "\u00B6"\n
 /** The character · */\n public const val middleDot: Char = "\u00B7"\n /** The character ½
*/\n public const val half: Char = "\u00BD"\n /** The character – */\n public const val ndash: Char =
"\u2013"\n /** The character — */\n public const val mdash:
Char = "\u2014"\n /** The character ‘ */\n public const val leftSingleQuote: Char = "\u2018"\n /**
The character ’ */\n public const val rightSingleQuote: Char = "\u2019"\n /** The character ‚
*/\n public const val lowSingleQuote: Char = "\u201A"\n /** The character “ */\n public const val
leftDoubleQuote: Char = "\u201C"\n /** The character ” */\n public const val rightDoubleQuote: Char =
"\u201D"\n /** The character „ */\n public const val lowDoubleQuote: Char = "\u201E"\n /** The

```

```

character † * public const val dagger: Char = "\u2020"n /** The character ‡ * public
const val doubleDagger: Char = "\u2021"n /** The character • * public const val bullet: Char =
"\u2022"n /** The character … * public const val ellipsis: Char = "\u2026"n /** The character
′ * public const val prime: Char = "\u2032"n /** The character
″ * public const val doublePrime: Char = "\u2033"n /** The character € * public
const val euro: Char = "\u20AC"n /** The character ™ * public const val tm: Char = "\u2122"n /**
The character ≈ * public const val almostEqual: Char = "\u2248"n /** The character ≠ * public
const val notEqual: Char = "\u2260"n /** The character ≤ * public const val lessOrEqual:
Char = "\u2264"n /** The character ≥ * public const val greaterOrEqual: Char = "\u2265"n /**
The character « * @Deprecated("This constant has a typo in the name. Use leftGuillemet instead."),
ReplaceWith("Typography.leftGuillemet("))n @DeprecatedSinceKotlin("1.6")n public const val
leftGuillemete: Char = "\u00AB"n /** The character » * @Deprecated("This constant has a typo in
the name. Use rightGuillemet instead.", ReplaceWith("Typography.rightGuillemet("))n
@DeprecatedSinceKotlin("1.6")n public const val rightGuillemete: Char = "\u00BB"n}"/**n * Copyright
2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.n */npackage kotlin.textn/n/**n *
Represents a collection of captured groups in a single match of a regular expression.n * This collection has size
of `groupCount + 1` where `groupCount` is the count of groups in the regular expression.n * Groups are indexed
from 1 to `groupCount` and group with the index 0 corresponds to the entire match.n * An element of the
collection at the particular index can be `null` if the corresponding group in the regular expression is optional
andn * there was no match captured by that group.n */npublic interface MatchGroupCollection :
Collection<MatchGroup?> {n/n /** Returns a group with the specified [index].n * @return
An instance of [MatchGroup] if the group with the specified [index] was matched or `null` otherwise.n *
Groups are indexed from 1 to the count of groups in the regular expression. A group with the index 0n *
corresponds to the entire match.n */n public operator fun get(index: Int): MatchGroup?n/n/**n * Extends
[MatchGroupCollection] by introducing a way to get matched groups by name, when regex supports it.n
*/n@SinceKotlin("1.1")npublic interface MatchNamedGroupCollection : MatchGroupCollection {n /**n *
Returns a named group with the specified [name].n * @return An instance of [MatchGroup] if the group with the
specified [name] was matched or `null` otherwise.n * @throws IllegalArgumentException if there is no group
with the specified [name] defined in the regex pattern.n * @throws UnsupportedOperationException if getting
named groups isn't supported on the current platform.n */n public operator fun get(name:
String): MatchGroup?n/n/n/**n * Represents the results from a single regular expression match.n */npublic
interface MatchResult {n /** The range of indices in the original string where match was captured. */n public
val range: IntRangen /** The substring from the input string captured by this match. */n public val value:
Stringn /**n * A collection of groups matched by the regular expression.n * This collection has size
of `groupCount + 1` where `groupCount` is the count of groups in the regular expression.n * Groups are indexed
from 1 to `groupCount` and group with the index 0 corresponds to the entire match.n */n public val groups:
MatchGroupCollectionn /**n * A list of matched indexed group values.n * This list has size of
`groupCount + 1` where `groupCount` is the count of groups in the regular expression.n * Groups are indexed
from 1 to `groupCount` and group with the index 0 corresponds to the entire
match.n * If the group in the regular expression is optional and there were no match captured by that
group,n * corresponding item in [groupValues] is an empty string.n * @sample
samples.text.Regexps.matchDestructuringToGroupValuesn */n public val groupValues: List<String>n/n
/**n * An instance of [MatchResult.Destructured] wrapper providing components for destructuring assignment
of group values.n * component1 corresponds to the value of the first group, component2 \u2014 of the
second, and so on.n * @sample samples.text.Regexps.matchDestructuringToGroupValuesn */n
public val destructured: Destructured get() = Destructured(this)n /** Returns a new [MatchResult] with the
results for the next match, starting at the positionn * at which the last match ended (at the character after the last

```

```

matched character).\n *\n public fun next(): MatchResult?\n /**\n * Provides components
for destructuring assignment of group values.\n *\n * [component1] corresponds to the value of the first group,
[component2] \u2014 of the second, and so on.\n *\n * If the group in the regular expression is optional and
there were no match captured by that group,\n * corresponding component value is an empty string.\n *\n *
@sample samples.text.Regexps.matchDestructuringToGroupValues\n *\n public class Destructured internal
constructor(public val match: MatchResult) {\n @kotlin.internal.InlineOnly\n public operator inline fun
component1(): String = match.groupValues[1]\n @kotlin.internal.InlineOnly\n public operator inline fun
component2(): String = match.groupValues[2]\n @kotlin.internal.InlineOnly\n public operator inline fun
component3(): String = match.groupValues[3]\n @kotlin.internal.InlineOnly\n public operator inline fun
component4(): String = match.groupValues[4]\n @kotlin.internal.InlineOnly\n
 public operator inline fun component5(): String = match.groupValues[5]\n @kotlin.internal.InlineOnly\n
 public operator inline fun component6(): String = match.groupValues[6]\n @kotlin.internal.InlineOnly\n
public operator inline fun component7(): String = match.groupValues[7]\n @kotlin.internal.InlineOnly\n
public operator inline fun component8(): String = match.groupValues[8]\n @kotlin.internal.InlineOnly\n
public operator inline fun component9(): String = match.groupValues[9]\n @kotlin.internal.InlineOnly\n
public operator inline fun component10(): String = match.groupValues[10]\n\n /**\n * Returns
destructured group values as a list of strings.\n * First value in the returned list corresponds to the value of the
first group, and so on.\n *\n * @sample samples.text.Regexps.matchDestructuringToGroupValues\n
*/\n public fun
toList(): List<String> = match.groupValues.subList(1, match.groupValues.size)\n }\n}", "/*\n * Copyright 2010-
2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass()\n@file:kotlin.jvm.JvmName("DurationUnitKt")\n\npackage
kotlin.time\n\n/**\n * The list of possible time measurement units, in which a duration can be expressed.\n *\n *
The smallest time unit is [NANOSECONDS] and the largest is [DAYS], which corresponds to exactly 24
[HOURS].\n *\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalTime::class)\npublic expect enum class
DurationUnit {\n /**\n * Time unit representing one nanosecond, which is 1/1000 of a microsecond.\n *\n
NANOSECONDS,\n /**\n * Time unit representing one microsecond, which is 1/1000 of a millisecond.\n
*\n MICROSECONDS,\n /**\n * Time unit representing
one millisecond, which is 1/1000 of a second.\n *\n MILLISECONDS,\n /**\n * Time unit representing
one second.\n *\n SECONDS,\n /**\n * Time unit representing one minute.\n *\n MINUTES,\n
/**\n * Time unit representing one hour.\n *\n HOURS,\n /**\n * Time unit representing one day, which
is always equal to 24 hours.\n *\n DAYS;\n}\n\n/**\n * Converts the given time duration [value] expressed in the
specified [sourceUnit] into the specified [targetUnit].\n *\n@SinceKotlin("1.3")\n\ninternal expect fun
convertDurationUnit(value: Double, sourceUnit: DurationUnit, targetUnit: DurationUnit): Double\n\n// overflown
result is unspecified\n@SinceKotlin("1.5")\n\ninternal expect fun convertDurationUnitOverflow(value: Long,
sourceUnit: DurationUnit, targetUnit: DurationUnit): Long\n\n// overflown result is coerced in the Long range
boundaries\n@SinceKotlin("1.5")\n\ninternal expect fun convertDurationUnit(value: Long, sourceUnit:
DurationUnit, targetUnit: DurationUnit):
Long\n\n\n@SinceKotlin("1.3")\n@Suppress("REDUNDANT_ELSE_IN_WHEN")\n\ninternal fun
DurationUnit.shortName(): String = when (this) {\n DurationUnit.NANOSECONDS -> "ns"\n
DurationUnit.MICROSECONDS -> "us"\n DurationUnit.MILLISECONDS -> "ms"\n
DurationUnit.SECONDS -> "s"\n DurationUnit.MINUTES -> "m"\n DurationUnit.HOURS -> "h"\n
DurationUnit.DAYS -> "d"\n else -> error("Unknown unit: $this")\n}\n\n@SinceKotlin("1.5")\n\ninternal fun
durationUnitByShortName(shortName: String): DurationUnit = when (shortName) {\n "ns" ->
DurationUnit.NANOSECONDS\n "us" -> DurationUnit.MICROSECONDS\n "ms" ->
DurationUnit.MILLISECONDS\n "s" -> DurationUnit.SECONDS\n "m" -> DurationUnit.MINUTES\n
"h" -> DurationUnit.HOURS\n "d" -> DurationUnit.DAYS\n else -> throw

```

```

IllegalArgumentException("Unknown duration unit short name:
$shortName")\n}\n\n@SinceKotlin("1.5")\ninternal fun durationUnitByIsoChar(isoChar:
Char, isTimeComponent: Boolean): DurationUnit =\n when {\n !isTimeComponent -> {\n when
(isoChar) {\n 'D' -> DurationUnit.DAYS\n else -> throw IllegalArgumentException("Invalid or
unsupported duration ISO non-time unit: $isoChar")\n }\n } else -> {\n when (isoChar) {\n
 'H' -> DurationUnit.HOURS\n 'M' -> DurationUnit.MINUTES\n 'S' ->
DurationUnit.SECONDS\n else -> throw IllegalArgumentException("Invalid duration ISO time unit:
$isoChar")\n }\n }\n },"/**\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\npackage kotlin.time\n\nimport kotlin.annotation.AnnotationTarget.*\n\n/**\n * This annotation marks the experimental preview of
the standard library API for measuring time and working with durations.\n */\n * > Note that this API is in a preview
state and has a very high chance of being changed in the future.\n * Do not use it if you develop a library since your
library will become binary incompatible\n * with the future versions of the standard library.\n */\n * Any usage of a
declaration annotated with `@ExperimentalTime` must be accepted either by\n * annotating that usage with the
[OptIn] annotation, e.g. `@OptIn(ExperimentalTime::class)`,\n * or by using the compiler argument `-opt-
in=kotlin.time.ExperimentalTime`.\n */\n@RequiresOptIn(level =
RequiresOptIn.Level.ERROR)\n@MustBeDocumented\n@Retention(AnnotationRetention.BINARY)\n@Target(\n
CLASS,\n ANNOTATION_CLASS,\n PROPERTY,\n FIELD,\n LOCAL_VARIABLE,\n
VALUE_PARAMETER,\n CONSTRUCTOR,\n FUNCTION,\n PROPERTY_GETTER,\n
PROPERTY_SETTER,\n TYPEALIAS)\n\n@SinceKotlin("1.3")\npublic annotation class
ExperimentalTime\n"/**\n
* Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code
is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\npackage
kotlin.time\n\n/**\n * A source of time for measuring time intervals.\n */\n * The only operation provided by the
time source is [markNow]. It returns a [TimeMark], which can be used to query the elapsed time later.\n */\n * @see
[measureTime]\n * @see [measureTimedValue]\n */\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic
interface TimeSource {\n /**\n * Marks a point in time on this time source.\n */\n * The returned
[TimeMark] instance encapsulates the captured time point and allows querying\n * the duration of time interval
[elapsed][TimeMark.elapsedNow] from that point.\n */\n * public fun markNow(): TimeMark\n\n /**\n *
The most precise time source available in the platform.\n */\n * This time source returns its readings from a
source of monotonic time when it is available in a target platform,\n * and resorts to a non-monotonic time source
otherwise.\n */\n * public object Monotonic : TimeSource by MonotonicTimeSource {\n override fun
toString(): String = MonotonicTimeSource.toString()\n }\n\n * public companion object {\n /**\n *
Represents a time point notched on a particular [TimeSource]. Remains bound to the time source it was taken from\n *
and allows querying for the duration of time elapsed from that point (see the function [elapsedNow]).\n */\n * @SinceKotlin("1.3")\n * @ExperimentalTime\n * public abstract class TimeMark {\n /**\n * Returns the
amount of time passed from this mark measured with the time source from which this mark was taken.\n */\n * \n * Note that the value returned by this function can change on subsequent invocations.\n */\n * public abstract fun
elapsedNow(): Duration\n /**\n * Returns a time mark on the same time source that is
ahead of this time mark by the specified [duration].\n */\n * The returned time mark is more _late_ when the
[duration] is positive, and more _early_ when the [duration] is negative.\n */\n * public open operator fun
plus(duration: Duration): TimeMark = AdjustedTimeMark(this, duration)\n /**\n * Returns a time mark on
the same time source that is behind this time mark by the specified [duration].\n */\n * The returned time mark
is more _early_ when the [duration] is positive, and more _late_ when the [duration] is negative.\n */\n * public
open operator fun minus(duration: Duration): TimeMark = plus(-duration)\n /**\n * Returns true if this time
mark has passed according to the time source from which this mark was taken.\n */\n * Note that the value
returned by this function can change on subsequent invocations.\n * If the time source is monotonic, it can change

```

only from `false` to `true`, namely, when the time mark becomes behind the current point of the time source.

```

 *^ public fun hasPassedNow(): Boolean =
 !elapsedNow().isNegative()
 /**
 * Returns false if this time mark has not passed according to the time
 source from which this mark was taken.
 *^
 * Note that the value returned by this function can change on
 subsequent invocations.
 * If the time source is monotonic, it can change only from `true` to `false`, namely,
 when the time mark becomes behind the current point of the time source.
 *^ public fun hasNotPassedNow():
 Boolean =
 elapsedNow().isNegative()
}
@ExperimentalTime
@SinceKotlin("1.3")
@kotlin.internal.InlineOnly
@Deprecated(" Subtracting one TimeMark from another is not a well defined operation because these time marks
could have been obtained from the different time sources.", level =
DeprecationLevel.ERROR)
@Suppress("UNUSED_PARAMETER")
public inline operator fun
TimeMark.minus(other: TimeMark): Duration = throw Error("Operation
is disallowed.")
@ExperimentalTime
@SinceKotlin("1.3")
@kotlin.internal.InlineOnly
@Deprecated(" Comparing one TimeMark to another is not a well defined operation because these time marks could have been
obtained from the different time sources.", level =
DeprecationLevel.ERROR)
@Suppress("UNUSED_PARAMETER")
public inline operator fun
TimeMark.compareTo(other: TimeMark): Int = throw Error("Operation is
disallowed.")
@ExperimentalTime
private class AdjustedTimeMark(val mark: TimeMark, val adjustment:
Duration) : TimeMark() {
 override fun elapsedNow(): Duration = mark.elapsedNow() - adjustment
 override fun plus(duration: Duration): TimeMark = AdjustedTimeMark(mark, adjustment + duration)
}
"/
*
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governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.
*/
package
kotlin.time
@SinceKotlin("1.3")
@ExperimentalTime
internal
expect object MonotonicTimeSource : TimeSource {
 /**
 * An abstract class used to implement time sources
 that return their readings as [Long] values in the specified [unit].
 *^
 * @property unit The unit in which this time
 source's readings are expressed.
 *^
 @SinceKotlin("1.3")
 @ExperimentalTime
 public abstract class
 AbstractLongTimeSource(protected val unit: DurationUnit) : TimeSource {
 /**
 * This protected method
 should be overridden to return the current reading of the time source expressed as a [Long] number
 * in the unit
 specified by the [unit] property.
 *^
 protected abstract fun read(): Long
 }
 private class
 LongTimeMark(private val startedAt: Long, private val timeSource: AbstractLongTimeSource, private val offset:
 Duration) : TimeMark() {
 override fun elapsedNow(): Duration = (timeSource.read() -
 startedAt).toDuration(timeSource.unit) - offset
 override fun plus(duration:
 Duration): TimeMark = LongTimeMark(startedAt, timeSource, offset + duration)
 }
 override fun
 markNow(): TimeMark = LongTimeMark(read(), this, Duration.ZERO)
}
"/
/**
 * An abstract class used to
 * implement time sources that return their readings as [Double] values in the specified [unit].
 *^
 * @property unit
 * The unit in which this time source's readings are expressed.
 */
@SinceKotlin("1.3")
@ExperimentalTime
public abstract class AbstractDoubleTimeSource(protected val
unit: DurationUnit) : TimeSource {
 /**
 * This protected method should be overridden to return the current
 reading of the time source expressed as a [Double] number
 * in the unit specified by the [unit] property.
 *^
 protected abstract fun read(): Double
 }
 private class
 DoubleTimeMark(private val startedAt: Double,
 private val timeSource: AbstractDoubleTimeSource, private val offset: Duration) : TimeMark() {
 override fun
 elapsedNow(): Duration = (timeSource.read()
 - startedAt).toDuration(timeSource.unit) - offset
 override fun plus(duration: Duration): TimeMark =
 DoubleTimeMark(startedAt, timeSource, offset + duration)
 }
 override fun markNow(): TimeMark =
 DoubleTimeMark(read(), this, Duration.ZERO)
}
"/
/**
 * A time source that has programmatically updatable
 * readings. It is useful as a predictable source of time in tests.
 *^
 * The current reading value can be advanced by
 * the specified duration amount with the operator [plusAssign]:
 *^
 * val timeSource = TestTimeSource()
 * timeSource += 10.seconds
 *^
 * Implementation note: the current reading value is stored as a [Long]

```

number of nanoseconds, \n \* thus it's capable to represent a time range of approximately \u00b11292 years. \n \*

Should the reading value overflow as the result of [plusAssign] operation, an [IllegalStateException] is thrown. \n

```

*\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic class TestTimeSource : AbstractLongTimeSource(unit
= DurationUnit.NANOSECONDS) {\n private var reading: Long = 0L\n\n override fun read(): Long =
reading\n\n /**\n * Advances the current reading value of this time source by the specified [duration].\n *\n * [duration] value is rounded down towards zero when converting it to a [Long] number of nanoseconds.\n * For
example, if the duration being added is `0.6.nanoseconds`, the reading doesn't advance because\n * the duration
value is rounded to zero nanoseconds.\n *\n * @throws IllegalStateException when the reading value
overflows as the result of this operation.\n */\n public operator fun plusAssign(duration: Duration) {\n val
longDelta = duration.toLong(unit)\n reading = if (longDelta != Long.MIN_VALUE && longDelta !=
Long.MAX_VALUE) {\n // when delta fits in long, add it as long\n val newReading = reading +
longDelta\n if (reading xor longDelta >= 0 && reading xor newReading < 0) overflow(duration)\n
 newReading\n } else {\n val delta = duration.toDouble(unit)\n // when delta is greater than
long, add it as double\n val newReading = reading + delta\n if (newReading > Long.MAX_VALUE ||
newReading < Long.MIN_VALUE) overflow(duration)\n newReading.toLong()\n }\n }\n private
fun overflow(duration: Duration) {\n throw IllegalStateException("TestTimeSource will overflow if its reading
${reading}ns is advanced by $duration.")\n }\n }\n}
"/**\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n\npackage kotlin.time\n\nimport kotlin.contracts.*\n\n/**\n * Executes
the given function [block] and returns the duration of elapsed time interval.\n *\n * The elapsed time is measured
with [TimeSource.Monotonic].\n */\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic
inline fun measureTime(block: () -> Unit): Duration {\n contract {\n callsInPlace(block,
InvocationKind.EXACTLY_ONCE)\n }\n return TimeSource.Monotonic.measureTime(block)\n}\n\n/**\n * Executes
the given function [block] and returns the duration of elapsed time interval.\n *\n * The elapsed time is
measured with the specified `this` [TimeSource] instance.\n */\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic
inline fun TimeSource.measureTime(block: () -> Unit):
Duration {\n contract {\n callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n }\n val mark =
markNow()\n block()\n return mark.elapsedNow()\n}\n\n/**\n * Data class representing a result of executing
an action, along with the duration of elapsed time interval.\n *\n * @property value the result of the action.\n *
@property duration the time elapsed to execute the action.\n */\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic data class TimedValue<T>(val value:
T, val duration: Duration)\n\n/**\n * Executes the given function [block] and returns an instance of [TimedValue]
class, containing both\n * the result of the function execution and the duration of elapsed time interval.\n *\n * The
elapsed time is measured with [TimeSource.Monotonic].\n */\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic
inline fun <T> measureTimedValue(block: () -> T): TimedValue<T> {\n contract {\n callsInPlace(block,
InvocationKind.EXACTLY_ONCE)\n }\n return
TimeSource.Monotonic.measureTimedValue(block)\n}\n\n/**\n * Executes the given [block] and returns an
instance of [TimedValue] class, containing both\n * the result of function execution and the duration of elapsed time
interval.\n *\n * The elapsed time is measured with the specified `this` [TimeSource] instance.\n */\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic
inline fun <T> TimeSource.measureTimedValue(block: ()
-> T): TimedValue<T> {\n contract {\n callsInPlace(block,
InvocationKind.EXACTLY_ONCE)\n }\n val mark = markNow()\n val result = block()\n return
TimedValue(result, mark.elapsedNow())\n}\n}
"/**\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\nimport kotlin.coroutines.*\nimport
kotlin.coroutines.intrinsics.*\nimport kotlin.native.concurrent.SharedImmutable\n\n/**\n * Defines deep recursive
function that keeps its stack on the heap,\n * which allows very deep recursive computations that do not use the
actual call stack.\n * To initiate a call to this deep recursive function use its [invoke] function.\n * As a rule of

```

thumb, it should be used if recursion goes deeper than a thousand calls. The [DeepRecursiveFunction] takes one parameter of type [T] and returns a result of type [R]. The [block] of code defines the body of a recursive function.

In this block [callRecursive][DeepRecursiveScope.callRecursive] function can be used to make a recursive call to the declared function. Other instances of [DeepRecursiveFunction] can be called in this scope with `callRecursive` extension, too. For example, take a look at the following recursive tree class and a deeply recursive instance of this tree with 100K nodes:

```
class Tree(val left: Tree? = null, val right: Tree? = null)
val deepTree = generateSequence(Tree()) { Tree(it) }.take(100_000).last()
```

A regular recursive function can be defined to compute a depth of a tree:

```
fun depth(t: Tree?): Int = if (t == null) 0 else max(depth(t.left), depth(t.right)) + 1
println(depth(deepTree)) // StackOverflowError
```

If this `depth` function is called for a `deepTree` it produces [StackOverflowError] because of deep recursion. However, the `depth` function can be rewritten using `DeepRecursiveFunction`

in the following way, and then it successfully computes [depth(deepTree)]

```
val depth = DeepRecursiveFunction<Tree?, Int> { t -> if (t == null) 0 else
max(callRecursive(t.left), callRecursive(t.right)) + 1 }
println(depth(deepTree)) // Ok
```

Deep recursive functions can also mutually call each other using a heap for the stack via

[callRecursive][DeepRecursiveScope.callRecursive] extension. For example, the following pair of mutually recursive functions computes the number of tree nodes at even depth in the tree.

```
val mutualRecursion = object {
 val even: DeepRecursiveFunction<Tree?, Int> = DeepRecursiveFunction { t -> if (t == null) 0 else odd.callRecursive(t.left) + odd.callRecursive(t.right) + 1
 val odd: DeepRecursiveFunction<Tree?, Int> = DeepRecursiveFunction { t -> if (t == null) 0 else even.callRecursive(t.left)
 + even.callRecursive(t.right)
}
```

@param [T] the function parameter type.  
 @param [R] the function result type.  
 @param block the function body.

`suspend DeepRecursiveScope<T, R>.(T) -> R`  
 \* Initiates a call to this deep recursive function, forming a root of the call tree. This operator should not be used from inside of [DeepRecursiveScope] as it uses the call stack slot for initial recursive invocation. From inside of [DeepRecursiveScope] use

[callRecursive][DeepRecursiveScope.callRecursive].

`<T, R> DeepRecursiveFunction<T, R>.invoke(value: T): R`  
 DeepRecursiveScopeImpl<T, R>(block, value).runCallLoop()  
 \* A scope class for [DeepRecursiveFunction] function declaration that defines [callRecursive] methods to recursively call this function or another [DeepRecursiveFunction] putting the call activation frame on the heap.  
 @param [T] function parameter type.  
 @param [R] function result type.

`sealed class DeepRecursiveScope<T, R>`

`/* Makes recursive call to this [DeepRecursiveFunction] function putting the call activation frame on the heap, as opposed to the actual call stack that is used by a regular recursive call.`

`public abstract suspend fun callRecursive(value: T): R`  
 /\* Makes call to the specified [DeepRecursiveFunction] function putting the call activation frame on the heap, as opposed to the actual call stack that is used by a regular call.

`public abstract suspend fun <U, S> DeepRecursiveFunction<U, S>.callRecursive(value: U): S`  
 @Deprecated(level = DeprecationLevel.ERROR, message = "invoke' should not be called from DeepRecursiveScope. Use 'callRecursive' to do recursion in the heap instead of the call stack.")

`replaceWith = ReplaceWith("this.callRecursive(value)")`

`@Suppress("UNUSED_PARAMETER") public operator fun DeepRecursiveFunction<*, *>.invoke(value: Any?): Nothing`  
 throw UnsupportedOperationException("Should not be called from DeepRecursiveScope")

// ===== Implementation

=====  
 @ExperimentalStdlibApi private typealias DeepRecursiveFunctionBlock = suspend

```

DeepRecursiveScope<*, *>.(<Any?> -> Any?)\n\n@SharedImmutable\nprivate val UNDEFINED_RESULT =
Result.success(COROUTINE_SUSPENDED)\n\n@Suppress(\"UNCHECKED_CAST\")\n\n@ExperimentalStdlibAp
i\nprivate class DeepRecursiveScopeImpl<T, R>(\n block: suspend DeepRecursiveScope<T, R>.(<T> -> R,\n value: T)\n) : DeepRecursiveScope<T, R>(), Continuation<R> {\n // Active function block\n private var
function: DeepRecursiveFunctionBlock
= block as DeepRecursiveFunctionBlock\n\n // Value to call function with\n private var value: Any? = value\n\n // Continuation of the current call\n private var cont: Continuation<Any?>? = this as Continuation<Any?>\n\n // Completion result (completion of the whole call stack)\n private var result: Result<Any?> =
UNDEFINED_RESULT\n\n override val context: CoroutineContext\n get() = EmptyCoroutineContext\n\n override fun resumeWith(result: Result<R>) {\n this.cont = null\n this.result = result\n }\n\n override
suspend fun callRecursive(value: T): R = suspendCoroutineUninterceptedOrReturn { cont ->\n // calling the
same function that is currently active\n this.cont = cont as Continuation<Any?>\n this.value = value\n
COROUTINE_SUSPENDED\n }\n\n override suspend fun <U, S> DeepRecursiveFunction<U,
S>.callRecursive(value: U): S = suspendCoroutineUninterceptedOrReturn { cont ->\n // calling
another recursive function\n val function = block as DeepRecursiveFunctionBlock\n
with(this@DeepRecursiveScopeImpl) {\n val currentFunction = this.function\n if (function !==
currentFunction) {\n // calling a different function -- create a trampoline to restore function ref\n
this.function = function\n this.cont = crossFunctionCompletion(currentFunction, cont as
Continuation<Any?>)\n } else {\n // calling the same function -- direct\n this.cont = cont
as Continuation<Any?>\n }\n this.value = value\n }\n COROUTINE_SUSPENDED\n }\n\n private fun crossFunctionCompletion(\n currentFunction: DeepRecursiveFunctionBlock,\n cont:
Continuation<Any?>\n): Continuation<Any?> = Continuation(EmptyCoroutineContext) {\n this.function =
currentFunction\n // When going back from a trampoline we cannot just call
cont.resume (stack usage!)\n // We delegate the cont.resumeWith(it) call to runCallLoop\n this.cont =
cont\n this.result = it\n }\n\n @Suppress(\"UNCHECKED_CAST\")\n fun runCallLoop(): R {\n while
(true) {\n // Note: cont is set to null in DeepRecursiveScopeImpl.resumeWith when the whole computation
completes\n val result = this.result\n val cont = this.cont\n ?: return (result as
Result<R>).getOrThrow() // done -- final result\n // The order of comparison is important here for that case of
rogue class with broken equals\n if (UNDEFINED_RESULT == result) {\n // call \"function\" with
\"value\" using \"cont\" as completion\n val r = try {\n // This is block.startCoroutine(this,
value, cont)\n function.startCoroutineUninterceptedOrReturn(this, value, cont)\n } catch (e:
Throwable) {\n cont.resumeWithException(e)\n continue\n }\n // If the function returns without
suspension -- calls its continuation immediately\n if (r !== COROUTINE_SUSPENDED)\n cont.resume(r as R)\n } else {\n // we returned from a crossFunctionCompletion trampoline -- call
resume here\n this.result = UNDEFINED_RESULT // reset result back\n cont.resumeWith(result)\n }\n }\n }\n }\n\n \"\"*\n Copyright 2010-2022 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n *^n\n// Auto-generated file. DO NOT
EDIT!\n\n@file:kotlin.jvm.JvmName(\"NumbersKt\")\n\n@file:kotlin.jvm.JvmMultifileClass\n\npackage
kotlin\n\nimport kotlin.math.sign\n\n/** Divides this value by the other value, flooring the result to an integer that is
closer
to negative infinity. *\n\n@SinceKotlin(\"1.5\")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun Byte.floorDiv(other:
Byte): Int = \n this.toInt().floorDiv(other.toInt())\n\n/**\n * Calculates the remainder of flooring division of this
value by the other value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute
value less than the absolute value of the divisor.\n *\n\n@SinceKotlin(\"1.5\")\n\n@kotlin.internal.InlineOnly\n\npublic
inline fun Byte.mod(other: Byte): Byte = \n this.toInt().mod(other.toInt()).toByte()\n\n/** Divides this value by
the other value, flooring the result to an integer that is closer to negative infinity.

```



```

*^@SinceKotlin("1.5")@kotlin.internal.InlineOnly\npublic inline fun Byte.floorDiv(other: Short): Int = \n
this.toInt().floorDiv(other.toInt())\n\n/**\n * Calculates the remainder of flooring division of this value by the other
value.\n * \n * The result is either zero or has the same sign as the _divisor_
and has the absolute value less than the absolute value of the divisor.\n
*^@SinceKotlin("1.5")@kotlin.internal.InlineOnly\npublic inline fun Byte.mod(other: Short): Short = \n
this.toInt().mod(other.toInt()).toShort()\n\n/**\n * Divides this value by the other value, flooring the result to an integer
that is closer to negative infinity. *^@SinceKotlin("1.5")@kotlin.internal.InlineOnly\npublic inline fun
Byte.floorDiv(other: Int): Int = \n this.toInt().floorDiv(other)\n\n/**\n * Calculates the remainder of flooring
division of this value by the other value.\n * \n * The result is either zero or has the same sign as the _divisor_ and
has the absolute value less than the absolute value of the divisor.\n
*^@SinceKotlin("1.5")@kotlin.internal.InlineOnly\npublic inline fun Byte.mod(other: Int): Int = \n
this.toInt().mod(other)\n\n/**\n * Divides this value by the other value, flooring the result to an integer that is closer to
negative infinity. *^@SinceKotlin("1.5")@kotlin.internal.InlineOnly\npublic
inline fun Byte.floorDiv(other: Long): Long = \n this.toLong().floorDiv(other)\n\n/**\n * Calculates the
remainder of flooring division of this value by the other value.\n * \n * The result is either zero or has the same sign
as the _divisor_ and has the absolute value less than the absolute value of the divisor.\n
*^@SinceKotlin("1.5")@kotlin.internal.InlineOnly\npublic inline fun Byte.mod(other: Long): Long = \n
this.toLong().mod(other)\n\n/**\n * Divides this value by the other value, flooring the result to an integer that is closer
to negative infinity. *^@SinceKotlin("1.5")@kotlin.internal.InlineOnly\npublic inline fun Short.floorDiv(other:
Byte): Int = \n this.toInt().floorDiv(other.toInt())\n\n/**\n * Calculates the remainder of flooring division of this
value by the other value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute
value less than the absolute value of the divisor.\n
*^@SinceKotlin("1.5")@kotlin.internal.InlineOnly\npublic inline fun Short.mod(other: Byte): Byte = \n
this.toInt().mod(other.toInt()).toByte()\n\n/**\n * Divides this value by the other value, flooring the result to an integer
that is closer to negative infinity. *^@SinceKotlin("1.5")@kotlin.internal.InlineOnly\npublic inline fun
Short.floorDiv(other: Short): Int = \n this.toInt().floorDiv(other.toInt())\n\n/**\n * Calculates the remainder of
flooring division of this value by the other value.\n * \n * The result is either zero or has the same sign as the
divisor and has the absolute value less than the absolute value of the divisor.\n
*^@SinceKotlin("1.5")@kotlin.internal.InlineOnly\npublic inline fun Short.mod(other: Short): Short = \n
this.toInt().mod(other.toInt()).toShort()\n\n/**\n * Divides this value by the other value, flooring the result to an integer
that is closer to negative infinity. *^@SinceKotlin("1.5")@kotlin.internal.InlineOnly\npublic inline
fun Short.floorDiv(other: Int): Int = \n this.toInt().floorDiv(other)\n\n/**\n * Calculates the remainder of flooring
division of this value by the other value.\n * \n * The result is either zero or has the same sign as the _divisor_ and
has the absolute value less than the absolute value of the divisor.\n
*^@SinceKotlin("1.5")@kotlin.internal.InlineOnly\npublic inline fun Short.mod(other: Int): Int = \n
this.toInt().mod(other)\n\n/**\n * Divides this value by the other value, flooring the result to an integer that is closer
to negative infinity. *^@SinceKotlin("1.5")@kotlin.internal.InlineOnly\npublic inline fun Short.floorDiv(other:
Long): Long = \n this.toLong().floorDiv(other)\n\n/**\n * Calculates the remainder of flooring division of this
value by the other value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute
value less than the absolute value of the divisor.\n *^@SinceKotlin("1.5")@kotlin.internal.InlineOnly\npublic
inline fun Short.mod(other: Long): Long = \n this.toLong().mod(other)\n\n/**\n * Divides this value by the other
value, flooring the result to an integer that is closer to negative infinity.
*^@SinceKotlin("1.5")@kotlin.internal.InlineOnly\npublic inline fun Int.floorDiv(other: Byte): Int = \n
this.floorDiv(other.toInt())\n\n/**\n * Calculates the remainder of flooring division of this value by the other
value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the
absolute value of the divisor.\n *^@SinceKotlin("1.5")@kotlin.internal.InlineOnly\npublic inline fun
Int.mod(other: Byte): Byte = \n this.mod(other.toInt()).toByte()\n\n/**\n * Divides this value by the other value,
flooring the result to an integer that is closer to negative infinity.

```

```

*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Int.floorDiv(other: Short): Int = \n
this.floorDiv(other.toInt())\n\n/**\n * Calculates
the remainder of flooring division of this value by the other value.\n * \n * The result is either zero or has the same
sign as the _divisor_ and has the absolute value less than the absolute value of the divisor.\n
*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Int.mod(other: Short): Short = \n
this.mod(other.toInt()).toShort()\n\n/** Divides this value by the other value, flooring the result to an integer that is
closer to negative infinity. *\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun
Int.floorDiv(other: Int): Int {\n var q = this / other\n if (this xor other < 0 && q * other != this) q-- \n return
q\n}\n\n/**\n * Calculates the remainder of flooring division of this value by the other value.\n * \n * The result is
either zero or has the same sign as the _divisor_ and has the absolute value less than the absolute value of the
divisor.\n *\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Int.mod(other:
Int): Int {\n val r = this % other\n return r + (other and (((r xor other) and (r or -r)) shr 31))\n}\n\n/** Divides
this value by the other value, flooring the result to an integer that is closer to negative infinity.
*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Int.floorDiv(other: Long): Long = \n
this.toLong().floorDiv(other)\n\n/**\n * Calculates the remainder of flooring division of this value by the other
value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the
absolute value of the divisor.\n *\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun
Int.mod(other: Long): Long = \n this.toLong().mod(other)\n\n/** Divides this value by the other value, flooring
the result to an integer that is closer to negative infinity.
*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Long.floorDiv(other: Byte): Long = \n
this.floorDiv(other.toLong())\n\n/**\n * Calculates the remainder of flooring division of this value by the other value.\n * \n * The result is either zero or
has the same sign as the _divisor_ and has the absolute value less than the absolute value of the divisor.\n
*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Long.mod(other: Byte): Byte = \n
this.mod(other.toLong()).toByte()\n\n/** Divides this value by the other value, flooring the result to an integer that
is closer to negative infinity. *\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun
Long.floorDiv(other: Short): Long = \n this.floorDiv(other.toLong())\n\n/**\n * Calculates the remainder of
flooring division of this value by the other value.\n * \n * The result is either zero or has the same sign as the
divisor and has the absolute value less than the absolute value of the divisor.\n
*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Long.mod(other: Short): Short
= \n this.mod(other.toLong()).toShort()\n\n/** Divides this value by the other value, flooring the result to an
integer that is closer to negative infinity. *\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun
Long.floorDiv(other: Int): Long = \n this.floorDiv(other.toLong())\n\n/**\n * Calculates the remainder of flooring
division of this value by the other value.\n * \n * The result is either zero or has the same sign as the _divisor_ and
has the absolute value less than the absolute value of the divisor.\n
*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Long.mod(other: Int): Int = \n
this.mod(other.toLong()).toInt()\n\n/** Divides this value by the other value, flooring the result to an integer that is
closer to negative infinity. *\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun
Long.floorDiv(other: Long): Long {\n var q = this / other\n if (this xor other < 0 && q * other != this) q-- \n
return
q\n}\n\n/**\n * Calculates the remainder of flooring division of this value by the other value.\n * \n * The result is
either zero or has the same sign as the _divisor_ and has the absolute value less than the absolute value of the
divisor.\n *\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Long.mod(other: Long): Long
{\n val r = this % other\n return r + (other and (((r xor other) and (r or -r)) shr 63))\n}\n\n/**\n * Calculates the
remainder of flooring division of this value by the other value.\n * \n * The result is either zero or has the same sign
as the _divisor_ and has the absolute value less than the absolute value of the divisor.\n * \n * If the result cannot be
represented exactly, it is rounded to the nearest representable number. In this case the absolute value of the result
can be less than or _equal to_ the absolute value of the divisor.\n

```

```

*\/n@SinceKotlin("1.5")\/n@kotlin.internal.InlineOnly\/npublic inline fun Float.mod(other: Float):
Float {\/n val r = this % other\/n return if (r != 0.0.toFloat() && r.sign != other.sign) r + other else r\/n}\/n\/n**\/n *
Calculates the remainder of flooring division of this value by the other value.\/n *\/n * The result is either zero or has
the same sign as the _divisor_ and has the absolute value less than the absolute value of the divisor.\/n *\/n * If the
result cannot be represented exactly, it is rounded to the nearest representable number. In this case the absolute value
of the result can be less than or _equal to_ the absolute value of the divisor.\/n
*\/n@SinceKotlin("1.5")\/n@kotlin.internal.InlineOnly\/npublic inline fun Float.mod(other: Double): Double =\/n
this.toDouble().mod(other)\/n\/n**\/n * Calculates the remainder of flooring division of this value by the other
value.\/n *\/n * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the
absolute value of the divisor.\/n *\/n * If the result cannot be represented exactly,
it is rounded to the nearest representable number. In this case the absolute value of the result can be less than or
equal to the absolute value of the divisor.\/n
*\/n@SinceKotlin("1.5")\/n@kotlin.internal.InlineOnly\/npublic inline
fun Double.mod(other: Float): Double =\/n this.mod(other.toDouble())\/n\/n**\/n * Calculates the remainder of
flooring division of this value by the other value.\/n *\/n * The result is either zero or has the same sign as the
divisor and has the absolute value less than the absolute value of the divisor.\/n *\/n * If the result cannot be
represented exactly, it is rounded to the nearest representable number. In this case the absolute value of the result
can be less than or _equal to_ the absolute value of the divisor.\/n
*\/n@SinceKotlin("1.5")\/n@kotlin.internal.InlineOnly\/npublic inline fun Double.mod(other: Double): Double {\/n
val r = this % other\/n return if (r != 0.0 && r.sign != other.sign) r + other else r\/n}\/n\/n",**\/n * Copyright 2010-
2018
JetBrains s.r.o. and Kotlin Programming Language contributors.\/n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\/n
*\/n@SinceKotlin("1.3")\/n@kotlin.internal.InlineOnly\/npublic inline fun Any?.hashCode(): Int =
this?.hashCode() ?: 0\/n",**\/n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language
contributors.\/n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\/n
*\/n@SinceKotlin("1.1")\/npublic
class KotlinVersion(val major: Int, val minor: Int, val patch: Int) : Comparable<KotlinVersion> {\/n /**\/n *
Creates a version from [major] and [minor] components, leaving [patch] component zero.\/n *\/n public
constructor(major: Int, minor: Int) : this(major, minor, 0)\/n private val version = versionOf(major, minor,
patch)\/n private fun versionOf(major: Int, minor: Int, patch: Int): Int {\/n require(major in
0..MAX_COMPONENT_VALUE && minor in 0..MAX_COMPONENT_VALUE && patch in
0..MAX_COMPONENT_VALUE) {\/n "Version components are out of range: $major.$minor.$patch"\/n
}\/n return major.shl(16) + minor.shl(8) + patch\/n }\/n /**\/n * Returns the string representation of this
version\/n *\/n override fun toString(): String = "$major.$minor.$patch"\/n\/n override fun equals(other:
Any?): Boolean {\/n if (this === other) return true\/n val otherVersion = (other as? KotlinVersion) ?: return
false\/n
 return this.version == otherVersion.version\/n }\/n\/n override fun hashCode(): Int = version\/n\/n override
fun compareTo(other: KotlinVersion): Int = version - other.version\/n\/n /**\/n * Returns `true` if this version is
not less than the version specified\/n * with the provided [major] and [minor] components.\/n *\/n public fun
isAtLeast(major: Int, minor: Int): Boolean = // this.version >= versionOf(major, minor, 0)\/n this.major > major ||
(this.major == major &&\/n this.minor >= minor)\/n\/n /**\/n * Returns `true` if this version is not less
than the version specified\/n * with the provided [major], [minor] and [patch] components.\/n *\/n public fun
isAtLeast(major: Int, minor: Int, patch: Int): Boolean = // this.version >= versionOf(major, minor, patch)\/n
this.major > major || (this.major == major &&\/n (this.minor > minor || this.minor == minor &&\/n

```

```

 this.patch >= patch))\n\n
 companion object {\n /**\n * Maximum value a version component can have, a constant value 255.\n *\n // NOTE: Must be placed before CURRENT because its initialization requires this field being initialized
in JS\n public const val MAX_COMPONENT_VALUE = 255\n\n /**\n * Returns the current version
of the Kotlin standard library.\n *\n @kotlin.jvm.JvmField\n public val CURRENT: KotlinVersion =
KotlinVersionCurrentValue.get()\n }\n\n// this class is ignored during classpath normalization when
considering whether to recompile dependencies in Kotlin build\nprivate object KotlinVersionCurrentValue {\n
@kotlin.jvm.JvmStatic\n fun get(): KotlinVersion = KotlinVersion(1, 6, 21) // value is written here automatically
during build\n}"/\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n *
Use of this source code is governed by the Apache 2.0 license that can be found
in the license/LICENSE.txt file.\n
*\n@file:kotlin.jvm.JvmName("LateinitKt")\n@file:Suppress("unused")\n\npackage kotlin\n\nimport
kotlin.internal.InlineOnly\nimport kotlin.internal.AccessibleLateinitPropertyLiteral\nimport
kotlin.reflect.KProperty0\n\n/**\n * Returns `true` if this lateinit property has been assigned a value, and `false`
otherwise.\n *\n * Cannot be used in an inline function, to avoid binary compatibility issues.\n
*\n@SinceKotlin("1.2")\n@InlineOnly\ninline val @receiver:AccessibleLateinitPropertyLiteral
KProperty0<*>.isInitialized: Boolean\n get() = throw NotImplementedError("Implementation is
intrinsic")\n}"/\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use
of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n@file:kotlin.jvm.JvmName("LazyKt")\n@file:kotlin.jvm.JvmMultifileClass\n\npackage kotlin\n\nimport
kotlin.reflect.KProperty\n\n/**\n
 * Represents a value with lazy initialization.\n *\n * To create an instance of [Lazy] use the [lazy] function.\n
*\npublic interface Lazy<out T> {\n /**\n * Gets the lazily initialized value of the current Lazy instance.\n *\n
Once the value was initialized it must not change during the rest of lifetime of this Lazy instance.\n *\n public
val value: T\n\n /**\n * Returns `true` if a value for this Lazy instance has been already initialized, and `false`
otherwise.\n *\n * Once this function has returned `true` it stays `true` for the rest of lifetime of this Lazy instance.\n
*\n public fun isInitialized(): Boolean\n}\n\n/**\n * Creates a new instance of the [Lazy] that is already
initialized with the specified [value].\n *\npublic fun <T> lazyOf(value: T): Lazy<T> =
InitializedLazyImpl(value)\n\n/**\n * An extension to delegate a read-only property of type [T] to an instance of
[Lazy].\n *\n * This extension allows to use instances of Lazy for property
delegation:\n *\n`val property: String by lazy { initializer }`\n *\n@kotlin.internal.InlineOnly\npublic inline operator
fun <T> Lazy<T>.getValue(thisRef: Any?, property: KProperty<*>): T = value\n\n/**\n * Specifies how a [Lazy]
instance synchronizes initialization among multiple threads.\n *\npublic enum class LazyThreadSafetyMode {\n\n
/**\n * Locks are used to ensure that only a single thread can initialize the [Lazy] instance.\n *\n
SYNCHRONIZED,\n\n /**\n * Initializer function can be called several times on concurrent access to
uninitialized [Lazy] instance value,\n * but only the first returned value will be used as the value of [Lazy]
instance.\n *\n PUBLICATION,\n\n /**\n * No locks are used to synchronize an access to the [Lazy]
instance value; if the instance is accessed from multiple threads, its behavior is undefined.\n *\n * This mode
should not be used unless the [Lazy] instance is guaranteed never to be initialized
from more than one thread.\n *\n NONE,\n}\n\n\ninternal object UNINITIALIZED_VALUE\n\n// internal to
be called from lazy in JS\ninternal class UnsafeLazyImpl<out T>(initializer: () -> T) : Lazy<T>, Serializable {\n
private var initializer: (() -> T)? = initializer\n private var _value: Any? = UNINITIALIZED_VALUE\n\n
override val value: T\n get() {\n if (_value === UNINITIALIZED_VALUE) {\n _value =
initializer!()\n initializer = null\n }\n @Suppress("UNCHECKED_CAST")\n return
_value as T\n }\n\n override fun isInitialized(): Boolean = _value != UNINITIALIZED_VALUE\n\n
override fun toString(): String = if (isInitialized()) value.toString() else "Lazy value not initialized yet."\n\n
private fun writeReplace(): Any = InitializedLazyImpl(value)\n}\n\ninternal class InitializedLazyImpl<out
T>(override val value: T) : Lazy<T>, Serializable {\n override fun isInitialized():

```

```

Boolean = true\n\n override fun toString(): String = value.toString()\n\n}\n\n", "/*\n * Copyright 2010-2019
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("NumbersKt")\npackage kotlin\n\n/**\n *
Counts the number of set bits in the binary representation of this [Int] number.\n
*/\n\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Int.countOneBits(): Int\n\n/**\n * Counts the number of consecutive most significant bits that are zero in the binary
representation of this [Int] number.\n
*/\n\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Int.countLeadingZeroBits(): Int\n\n/**\n * Counts the number of consecutive least significant bits that are zero in
the binary representation of this [Int] number.\n
*/\n\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic
expect fun Int.countTrailingZeroBits(): Int\n\n/**\n * Returns a number having a single bit set in the position of the
most significant set bit of this [Int] number,\n * or zero, if this number is zero.\n
*/\n\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Int.takeHighestOneBit(): Int\n\n/**\n * Returns a number having a single bit set in the position of the least
significant set bit of this [Int] number,\n * or zero, if this number is zero.\n
*/\n\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Int.takeLowestOneBit(): Int\n\n/**\n * Rotates the binary representation of this [Int] number left by the specified
[bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the number as the least
significant bits on the right side.\n * Rotating the number left by a negative bit count is the same
as rotating it right by the negated bit count:\n * `number.rotateLeft(-n) == number.rotateRight(n)`\n * Rotating
by a multiple of [Int.SIZE_BITS] (32) returns the same number, or more generally\n * `number.rotateLeft(n) ==
number.rotateLeft(n % 32)`\n
*/\n\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Int.rotateLeft(bitCount: Int): Int\n\n/**\n * Rotates the binary representation of this [Int] number right by the
specified [bitCount] number of bits.\n * The least significant bits pushed out from the right side reenter the number
as the most significant bits on the left side.\n * Rotating the number right by a negative bit count is the same as
rotating it left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n * Rotating by a
multiple of [Int.SIZE_BITS] (32) returns the same number, or more generally\n * `number.rotateRight(n) ==
number.rotateRight(n % 32)`\n
*/\n\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic
expect fun Int.rotateRight(bitCount: Int): Int\n\n/**\n * Counts the number of set bits in the binary representation
of this [Long] number.\n
*/\n\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic
expect fun Long.countOneBits(): Int\n\n/**\n * Counts the number of consecutive most significant bits that are zero
in the binary representation of this [Long] number.\n
*/\n\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Long.countLeadingZeroBits(): Int\n\n/**\n * Counts the number of consecutive least significant bits that are zero in
the binary representation of this [Long] number.\n
*/\n\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Long.countTrailingZeroBits(): Int\n\n/**\n * Returns a number having a single bit set in the position of the most
significant set bit of this [Long] number,\n * or zero, if this number is zero.\n
*/\n\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic
expect fun Long.takeHighestOneBit(): Long\n\n/**\n * Returns a number having a single bit set in the position of
the least significant set bit of this [Long] number,\n * or zero, if this number is zero.\n
*/\n\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Long.takeLowestOneBit(): Long\n\n/**\n * Rotates the binary representation of this [Long] number left by the
specified [bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the number as

```

the least significant bits on the right side.  
Rotating the number left by a negative bit count is the same as rotating it right by the negated bit count:  
`number.rotateLeft(-n) == number.rotateRight(n)`  
Rotating by a multiple of [Long.SIZE\_BITS] (64) returns the same number, or more generally  
`number.rotateLeft(n) == number.rotateLeft(n % 64)`

```
\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun Long.rotateLeft(bitCount: Int): Long\n\n Rotates the binary representation of this [Long] number right by the specified [bitCount] number of bits.
* The least significant bits pushed out from the right side reenter the number as the most significant bits on the left side.
* Rotating the number right by a negative bit count is the same as rotating it left by the negated bit count:
number.rotateRight(-n) == number.rotateLeft(n)
* Rotating by a multiple of [Long.SIZE_BITS] (64) returns the same number, or more generally
number.rotateRight(n) == number.rotateRight(n % 64)
```

```
\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun Long.rotateRight(bitCount: Int): Long\n\n Counts the number of set bits in the binary representation of this [Byte] number.
```

```
\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun Byte.countOneBits(): Int = (toInt() and 0xFF).countOneBits()\n\n Counts the number of consecutive most significant bits that are zero in the binary representation of this [Byte] number.
```

```
\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun Byte.countLeadingZeroBits(): Int = (toInt() and 0xFF).countLeadingZeroBits() - (Int.SIZE_BITS - Byte.SIZE_BITS)\n\n Counts the number of consecutive least significant bits that are zero in the binary representation of this [Byte] number.
```

```
\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun Byte.countTrailingZeroBits(): Int = (toInt() or 0x100).countTrailingZeroBits()\n\n Returns a number having a single bit set in the position of the most significant set bit of this [Byte] number, or zero, if this number is zero.
```

```
\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun Byte.takeHighestOneBit(): Byte = (toInt() and 0xFF).takeHighestOneBit().toByte()\n\n Returns a number having a single bit set in the position of the least significant set bit of this [Byte] number, or zero, if this number is zero.
```

```
\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun Byte.takeLowestOneBit(): Byte = toInt().takeLowestOneBit().toByte()\n\n Rotates the binary representation of this [Byte] number left by the specified [bitCount] number of bits.
* The most significant bits pushed out from the left side reenter the number as the least significant bits on the right side.
* Rotating the number left by a negative bit count is the same as rotating it right by the negated bit count:
number.rotateLeft(-n) == number.rotateRight(n)
* Rotating by a multiple of [Byte.SIZE_BITS] (8) returns the same number, or more generally
number.rotateLeft(n) == number.rotateLeft(n % 8)
```

```
\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun Byte.rotateLeft(bitCount: Int): Byte =\n (toInt().shl(bitCount and 7) or (toInt() and 0xFF).ushr(8 - (bitCount and 7))).toByte()\n\n Rotates the binary representation of this [Byte] number right by the specified [bitCount] number of bits.
* The least significant bits pushed out from the right side reenter the number as the most significant bits on the left side.
* Rotating the number right by a negative bit count is the same as rotating it left by the negated bit count:
number.rotateRight(-n) == number.rotateLeft(n)
* Rotating by a multiple of [Byte.SIZE_BITS] (8) returns the same number, or more generally
number.rotateRight(n) == number.rotateRight(n % 8)
```

```
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun Byte.rotateRight(bitCount: Int): Byte =\n (toInt().shl(8
```

```

- (bitCount and 7)) or (toInt() and 0xFF).ushr(bitCount and 7)).toByte()\n\n/**\n * Counts the number of set bits in
the binary representation of this [Short] number.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun Short.countOneBits(): Int = (toInt() and 0xFFFF).countOneBits()\n\n/**\n * Counts the number of
consecutive most significant bits that are zero in the binary representation of this [Short] number.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun Short.countLeadingZeroBits(): Int =\n (toInt() and 0xFFFF).countLeadingZeroBits() - (Int.SIZE_BITS
- Short.SIZE_BITS)\n\n/**\n * Counts the number of consecutive least significant bits that are zero in the binary
representation of this [Short] number.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun Short.countTrailingZeroBits():
Int = (toInt() or 0x10000).countTrailingZeroBits()\n\n/**\n * Returns a number having a single bit set in the
position of the most significant set bit of this [Short] number,\n * or zero, if this number is zero.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun Short.takeHighestOneBit(): Short = (toInt() and 0xFFFF).takeHighestOneBit().toShort()\n\n/**\n *
Returns a number having a single bit set in the position of the least significant set bit of this [Short] number,\n *
or zero, if this number is zero.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun Short.takeLowestOneBit(): Short = toInt().takeLowestOneBit().toShort()\n\n/**\n * Rotates the binary
representation of this [Short] number left by the specified [bitCount] number of bits.\n * The most significant bits
pushed out from the left side reenter the number
as the least significant bits on the right side.\n * Rotating the number left by a negative bit count is the same as
rotating it right by the negated bit count:\n * `number.rotateLeft(-n) == number.rotateRight(n)`\n * Rotating by a
multiple of [Short.SIZE_BITS] (16) returns the same number, or more generally\n * `number.rotateLeft(n) ==
number.rotateLeft(n % 16)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
Short.rotateLeft(bitCount: Int): Short =\n (toInt().shl(bitCount and 15) or (toInt() and 0xFFFF).ushr(16 - (bitCount
and 15))).toShort()\n\n/**\n * Rotates the binary representation of this [Short] number right by the specified
[bitCount] number of bits.\n * The least significant bits pushed out from the right side reenter the number as the
most significant bits on the left side.\n * Rotating the number right by a negative bit count is the same as rotating
it left by the negated bit count:\n * `number.rotateRight(-n) ==
number.rotateLeft(n)`\n * Rotating by a multiple of [Short.SIZE_BITS] (16) returns the same number, or more
generally\n * `number.rotateRight(n) == number.rotateRight(n % 16)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
Short.rotateRight(bitCount: Int): Short =\n (toInt().shl(16 - (bitCount and 15)) or (toInt() and
0xFFFF).ushr(bitCount and 15)).toShort()\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n@file:kotlin.jvm.JvmName("TuplesKt")\n\npackage
kotlin\n\n/**\n * Represents a generic pair of two values.\n * There is no meaning attached to values in this
class, it can be used for any purpose.\n * Pair exhibits value semantics, i.e. two pairs are equal if both components
are equal.\n * An example of decomposing it into values:\n * @sample samples.misc.Tuples.pairDestructuring\n

```

```

*\n * @param A type of the first value.\n * @param B type of the second value.\n * @property first First value.\n *
@property second Second value.\n * @constructor Creates a new instance of Pair.\n */\npublic data class Pair<out
A, out B>(\n public val first: A,\n public val second: B\n) : Serializable {\n /**\n * Returns
string representation of the [Pair] including its [first] and [second] values.\n */\n public override fun toString():
String = \"($first, $second)\"\n}\n\n/**\n * Creates a tuple of type [Pair] from this and [that].\n */\n * This can be
useful for creating [Map] literals with less noise, for example:\n * @sample
samples.collections.maps.instantiation.mapFromPairs\n */\npublic infix fun <A, B> A.to(that: B): Pair<A, B> =
Pair(this, that)\n\n/**\n * Converts this pair into a list.\n */\n * @sample samples.misc.tuples.pairToList\n */\npublic
fun <T> Pair<T, T>.toList(): List<T> = listOf(first, second)\n\n/**\n * Represents a triad of values\n */\n * There is
no meaning attached to values in this class, it can be used for any purpose.\n * Triple exhibits value semantics, i.e.
two triples are equal if all three components are equal.\n * An example of decomposing it into values:\n * @sample
samples.misc.tuples.tripleDestructuring\n */\n * @param A type of the first value.\n * @param B type
of the second value.\n * @param C type of the third value.\n * @property first First value.\n * @property second
Second value.\n * @property third Third value.\n */\npublic data class Triple<out A, out B, out C>(\n public val
first: A,\n public val second: B,\n public val third: C\n) : Serializable {\n /**\n * Returns string
representation of the [Triple] including its [first], [second] and [third] values.\n */\n public override fun
toString(): String = \"($first, $second, $third)\"\n}\n\n/**\n * Converts this triple into a list.\n */\n * @sample
samples.misc.tuples.tripleToList\n */\npublic fun <T> Triple<T, T, T>.toList(): List<T> = listOf(first, second,
third)\n", "*/\n * Copyright 2010-2022 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n//
Auto-generated file. DO NOT EDIT!\n\npackage kotlin.ranges\n\nimport kotlin.internal.*\n\n/**\n * A range of values of type `UInt`.\n
*/\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic class UIntRange(start:
UInt, endInclusive: UInt) : UIntProgression(start, endInclusive, 1), ClosedRange<UInt> {\n override val start:
UInt get() = first\n override val endInclusive: UInt get() = last\n\n override fun contains(value: UInt): Boolean =
first <= value && value <= last\n\n /**\n * Checks if the range is empty.\n */\n * The range is empty if its
start value is greater than the end value.\n */\n override fun isEmpty(): Boolean = first > last\n\n override fun
equals(other: Any?): Boolean =\n other is UIntRange && (isEmpty() && other.isEmpty()) ||\n first ==
other.first && last == other.last\n\n override fun hashCode(): Int =\n if (isEmpty()) -1 else (31 * first.toInt()
+ last.toInt())\n\n override fun toString(): String = \"$first..$last\"\n\n companion object {\n
 /**\n * An empty range of values of type UInt. */\n public val EMPTY: UIntRange =
UIntRange(UInt.MAX_VALUE, UInt.MIN_VALUE)\n }\n}\n\n/**\n * A progression of values of type `UInt`.\n
*/\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic open class
UIntProgression\n\ninternal constructor(\n start: UInt,\n endInclusive: UInt,\n step: Int\n) : Iterable<UInt> {\n
 init {\n if (step == 0.toInt()) throw kotlin.IllegalArgumentException("Step must be non-zero.")\n if (step
== Int.MIN_VALUE) throw kotlin.IllegalArgumentException("Step must be greater than Int.MIN_VALUE to
avoid overflow on negation.")\n }\n\n /**\n * The first element in the progression.\n */\n public val first:
UInt = start\n\n /**\n * The last element in the progression.\n */\n public val last: UInt =
getProgressionLastElement(start, endInclusive, step)\n\n /**\n * The step of the progression.\n */\n public
val step:
Int = step\n\n final override fun iterator(): Iterator<UInt> = UIntProgressionIterator(first, last, step)\n\n /**\n
 * Checks if the progression is empty.\n */\n * Progression with a positive step is empty if its first element is
greater than the last element.\n * Progression with a negative step is empty if its first element is less than the last
element.\n */\n public open fun isEmpty(): Boolean = if (step > 0) first > last else first < last\n\n override fun
equals(other: Any?): Boolean =\n other is UIntProgression && (isEmpty() && other.isEmpty()) ||\n first ==
other.first && last == other.last && step == other.step)\n\n override fun hashCode(): Int =\n if
(isEmpty()) -1 else (31 * (31 * first.toInt() + last.toInt()) + step.toInt())\n\n override fun toString(): String = if (step
> 0) \"$first..$last step $step\" else \"$first downTo $last step ${-step}\"\n\n companion object {\n
 /**\n *

```



Creates UIntProgression

within the specified bounds of a closed range.  
\* The progression starts with the [rangeStart] value and goes toward the [rangeEnd] value not excluding it, with the specified [step].  
\* In order to go backwards the [step] must be negative.  
\* [step] must be greater than `Int.MIN\_VALUE` and not equal to zero.

```
public fun fromClosedRange(rangeStart: UInt, rangeEnd: UInt, step: Int): UIntProgression =
 UIntProgression(rangeStart, rangeEnd, step)
}

/** An iterator over a progression of values of type `UInt`.
 * @property step the number by which the value is incremented on each step.
 */
@SinceKotlin("1.3")
@Suppress("DEPRECATION_ERROR")
private class UIntProgressionIterator(first: UInt, last: UInt, step: Int) : UIntIterator() {
 private val finalElement = last
 private var hasNext: Boolean = if (step > 0) first <= last else first >= last
 private val step = step.toInt() // use 2-complement math for negative steps
 private var next = if (hasNext) first else finalElement

 override fun hasNext(): Boolean = hasNext

 override fun nextUInt(): UInt {
 val value = next
 if (value == finalElement) {
 if (!hasNext) throw kotlin.NoSuchElementException()
 hasNext = false
 } else {
 next += step
 }
 return value
 }
}

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 */
// Auto-generated file. DO NOT EDIT!
package kotlin.collections

/** An iterator over a sequence of values of type `UByte`.
 * @Deprecated("This class is not going to be stabilized and is to be removed soon.", level = DeprecationLevel.ERROR)
 */
@SinceKotlin("1.3")
public abstract class UByteIterator : Iterator<UByte> {
 final override fun next() = nextUByte()

 /** Returns the next value in the sequence without boxing.
 */
 public abstract fun nextUByte(): UByte
}

/** An iterator over a sequence of values of type `UShort`.
 * @Deprecated("This class is not going to be stabilized and is to be removed soon.", level = DeprecationLevel.ERROR)
 */
@SinceKotlin("1.3")
public abstract class UShortIterator : Iterator<UShort> {
 final override fun next() = nextUShort()

 /** Returns the next value in the sequence without boxing.
 */
 public abstract fun nextUShort(): UShort
}

/** An iterator over a sequence of values of type `UInt`.
 * @Deprecated("This class is not going to be stabilized and is to be removed soon.", level = DeprecationLevel.ERROR)
 */
@SinceKotlin("1.3")
public abstract class UIntIterator : Iterator<UInt> {
 final override fun next() = nextUInt()

 /** Returns the next value in the sequence without boxing.
 */
 public abstract fun nextUInt(): UInt
}

/** An iterator over a sequence of values of type `ULong`.
 * @Deprecated("This class is not going to be stabilized and is to be removed soon.", level = DeprecationLevel.ERROR)
 */
@SinceKotlin("1.3")
public abstract class ULongIterator : Iterator<ULong> {
 final override fun next() = nextULong()

 /** Returns the next value in the sequence without boxing.
 */
 public abstract fun nextULong(): ULong
}

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 */
// Auto-generated file. DO NOT EDIT!
package kotlin.ranges

import kotlin.internal.*

/** A range of values of type `ULong`.
 * @SinceKotlin("1.5")
 * @WasExperimental(ExperimentalUnsignedTypes::class)
 */
public class ULongRange(start: ULong, endInclusive: ULong) : ULongProgression(start, endInclusive, 1), ClosedRange<ULong> {
 override val start: ULong get() = first
 override val endInclusive: ULong get() = last
 override fun contains(value: ULong): Boolean = first <= value && value <= last

 /** Checks if the range is empty.
 * The range is empty if its start value is greater than the end value.
 */
 override fun isEmpty(): Boolean = first > last

 override fun equals(other: Any?): Boolean =
 other is ULongRange && (isEmpty() && other.isEmpty() || first == other.first && last == other.last)

 override fun hashCode(): Int =
 if (isEmpty()) -1 else (31 * (first xor (first shr 32)).toInt() + (last xor (last shr 32)).toInt())

 override fun toString(): String = "$first..$last"

 companion object {
 /** An empty range of values of type ULong.
 */
 public val EMPTY: ULongRange = ULongRange(ULong.MAX_VALUE, ULong.MIN_VALUE)
 }
}

```

```

progression of values of type `ULong`.
*/@SinceKotlin("1.5")@WasExperimental(ExperimentalUnsignedTypes::class)
public
open class ULongProgression(
 internal constructor(
 start: ULong,
 endInclusive: ULong,
 step: Long
) :
 Iterable<ULong> {
 init {
 if (step == 0.toLong()) throw kotlin.IllegalArgumentException("Step must be
 non-zero.")
 if (step == Long.MIN_VALUE) throw kotlin.IllegalArgumentException("Step must be greater
 than Long.MIN_VALUE to avoid overflow on negation.")
 }
 /**
 * The first element in the
 progression.
 */
 public val first: ULong = start
 /**
 * The last element in the progression.
 */
 public val last: ULong = getProgressionLastElement(start, endInclusive, step)
 /**
 * The step of the
 progression.
 */
 public val step: Long = step
 final override fun iterator(): Iterator<ULong> =
 ULongProgressionIterator(first, last, step)
 /**
 * Checks if the progression is empty.
 */
 fun isEmpty(): Boolean {
 Progression with a positive
 step is empty if its first element is greater than the last element.
 * Progression with a negative step is empty if
 its first element is less than the last element.
 */
 public open fun isEmpty(): Boolean = if (step > 0) first > last
 else first < last
 override fun equals(other: Any?): Boolean =
 other is ULongProgression && (isEmpty()
 && other.isEmpty() ||
 first == other.first && last == other.last && step == other.step)
 override fun
 hashCode(): Int =
 if (isEmpty()) -1 else (31 * (31 * (first xor (first shr 32)).toInt()) + (last xor (last shr
 32)).toInt()) + (step xor (step ushr 32)).toInt()
 override fun toString(): String =
 if (step > 0) "$first..$last step
 $step" else "$first downTo $last step ${-step}"
 companion object {
 /**
 * Creates
 ULongProgression within the specified bounds of a closed range.
 * The progression starts with the
 [rangeStart] value and goes toward the
 [rangeEnd] value not excluding it, with the specified [step].
 * In order to go backwards the [step] must be
 negative.
 * [step] must be greater than `Long.MIN_VALUE` and not equal to zero.
 */
 public fun fromClosedRange(rangeStart: ULong, rangeEnd: ULong, step: Long): ULongProgression =
 ULongProgression(rangeStart, rangeEnd, step)
 }
 }
 /**
 * An iterator over a progression of values of type
 `ULong`.
 */
 @property step the number by which the value is incremented on each step.
}
*/@SinceKotlin("1.3")@Suppress("DEPRECATION_ERROR")
private class
ULongProgressionIterator(first: ULong, last: ULong, step: Long) : ULongIterator() {
 private val finalElement =
 last
 private var hasNext: Boolean =
 if (step > 0) first <= last else first >= last
 private val step =
 step.toULong() // use 2-complement math for negative steps
 private var next =
 if (hasNext) first else
 finalElement
 override fun hasNext(): Boolean
 = hasNext
 override fun nextULong(): ULong {
 val value = next
 if (value == finalElement) {
 if (!hasNext) throw kotlin.NoSuchElementException()
 hasNext = false
 } else {
 next +=
 step
 }
 return value
 }
}
/*
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Language contributors.
* Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.
*/
package kotlin.math
/**
 * Returns the smaller of two values.
 */
*/@SinceKotlin("1.5")@WasExperimental(ExperimentalUnsignedTypes::class)@kotlin.internal.InlineOnly
public inline fun min(a: UInt, b: UInt): UInt {
 return minOf(a, b)
}
/**
 * Returns the smaller of two
values.
 */
*/@SinceKotlin("1.5")@WasExperimental(ExperimentalUnsignedTypes::class)@kotlin.internal.InlineOnly
public inline fun min(a: ULong, b: ULong): ULong {
 return minOf(a,
 b)
}
/**
 * Returns the greater of two values.
 */
*/@SinceKotlin("1.5")@WasExperimental(ExperimentalUnsignedTypes::class)@kotlin.internal.InlineOnly
public inline fun max(a: UInt, b: UInt): UInt {
 return maxOf(a, b)
}
/**
 * Returns the greater of two
values.
 */
*/@SinceKotlin("1.5")@WasExperimental(ExperimentalUnsignedTypes::class)@kotlin.internal.InlineOnly
public inline fun max(a: ULong, b: ULong): ULong {
 return maxOf(a, b)
}
/*
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Apache 2.0 license that can be found in the license/LICENSE.txt file.
 */

```

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*\n\n@file:kotlin.jvm.JvmName("\UNumbersKt")\npackage kotlin\n\n/**\n * Counts the number of set bits in the
binary representation of this [UInt] number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UInt.countOneBits():
Int = toInt().countOneBits()\n\n/**\n * Counts the number of consecutive most significant bits that are zero in the
binary representation of this [UInt] number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UInt.countLeadingZeroBits(): Int =
toInt().countLeadingZeroBits()\n\n/**\n * Counts the number of consecutive least significant bits that are zero in the
binary representation of this [UInt] number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UInt.countTrailingZeroBits(): Int =
toInt().countTrailingZeroBits()\n\n/**\n * Returns a number having a single bit set in the position of the most
significant set bit of this [UInt] number,\n * or zero, if this number is zero.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UInt.takeHighestOneBit(): UInt =
toInt().takeHighestOneBit().toUInt()\n\n/**\n * Returns a number having a single bit set in the position of the least
significant set bit of this [UInt] number,\n * or zero, if this number is zero.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UInt.takeLowestOneBit(): UInt =
toInt().takeLowestOneBit().toUInt()\n\n/**\n * Rotates the binary representation of this [UInt] number left by the
specified [bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the number as
the least significant bits on the right side.\n * Rotating the number left by a negative bit count is the same as
rotating it right by the negated bit count:\n * `number.rotateLeft(-n) == number.rotateRight(n)`\n * Rotating by a
multiple of [UInt.SIZE_BITS]
(32) returns the same number, or more generally\n * `number.rotateLeft(n) == number.rotateLeft(n % 32)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class,
ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun UInt.rotateLeft(bitCount: Int):
UInt = toInt().rotateLeft(bitCount).toUInt()\n\n/**\n * Rotates the binary representation of this [UInt] number
right by the specified [bitCount] number of bits.\n * The least significant bits pushed out from the right side reenter
the number as the most significant bits on the left side.\n * Rotating the number right by a negative bit count is
the same as rotating it left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n *
Rotating by a multiple of [UInt.SIZE_BITS] (32) returns the same number, or more generally\n *
`number.rotateRight(n) == number.rotateRight(n % 32)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class,
ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic
inline fun UInt.rotateRight(bitCount: Int): UInt = toInt().rotateRight(bitCount).toUInt()\n\n/**\n * Counts the
number of set bits in the binary representation of this [ULong] number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun ULong.countOneBits(): Int =
toLong().countOneBits()\n\n/**\n * Counts the number of consecutive most significant bits that are zero in the
binary representation of this [ULong] number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun ULong.countLeadingZeroBits(): Int =
toLong().countLeadingZeroBits()\n\n/**\n * Counts the number of consecutive least significant bits that are zero
in the binary representation of this [ULong] number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,

```

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ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun ULong.countTrailingZeroBits(): Int
= toLong().countTrailingZeroBits()\n\n/**\n * Returns a number having a single bit set in the position of the most
significant set bit of this [ULong] number,\n * or zero, if this number is zero.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun ULong.takeHighestOneBit(): ULong
= toLong().takeHighestOneBit().toULong()\n\n/**\n * Returns a number having a single bit set in the position of the
least significant set bit of this [ULong] number,\n * or zero, if this number is zero.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun ULong.takeLowestOneBit(): ULong
= toLong().takeLowestOneBit().toULong()\n\n/**\n * Rotates the binary representation
of this [ULong] number left by the specified [bitCount] number of bits.\n * The most significant bits pushed out
from the left side reenter the number as the least significant bits on the right side.\n *\n * Rotating the number left
by a negative bit count is the same as rotating it right by the negated bit count:\n * `number.rotateLeft(-n) ==
number.rotateRight(n)`\n *\n * Rotating by a multiple of [ULong.SIZE_BITS] (64) returns the same number, or
more generally\n * `number.rotateLeft(n) == number.rotateLeft(n % 64)`\n
*/\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class,
ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun ULong.rotateLeft(bitCount:
Int): ULong = toLong().rotateLeft(bitCount).toULong()\n\n/**\n * Rotates the binary representation of this [ULong]
number right by the specified [bitCount] number of bits.\n * The least significant bits pushed out from the right side
reenter the number as the most significant bits
on the left side.\n *\n * Rotating the number right by a negative bit count is the same as rotating it left by the
negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n *\n * Rotating by a multiple of
[ULong.SIZE_BITS] (64) returns the same number, or more generally\n * `number.rotateRight(n) ==
number.rotateRight(n % 64)`\n
*/\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class,
ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun ULong.rotateRight(bitCount:
Int): ULong = toLong().rotateRight(bitCount).toULong()\n\n/**\n * Counts the number of set bits in the binary
representation of this [UByte] number.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UByte.countOneBits(): Int =
toUInt().countOneBits()\n\n/**\n * Counts the number of consecutive most significant bits that are zero in the
binary representation of
this [UByte] number.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UByte.countLeadingZeroBits(): Int =
toByte().countLeadingZeroBits()\n\n/**\n * Counts the number of consecutive least significant bits that are zero in
the binary representation of this [UByte] number.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UByte.countTrailingZeroBits(): Int =
toByte().countTrailingZeroBits()\n\n/**\n * Returns a number having a single bit set in the position of the most
significant set bit of this [UByte] number,\n * or zero, if this number is zero.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UByte.takeHighestOneBit(): UByte
= toInt().takeHighestOneBit().toUByte()\n\n/**\n * Returns a number having a single bit set in the position of the least significant set bit of this [UByte] number,\n * or zero, if this number is zero.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UByte.takeLowestOneBit(): UByte =
toInt().takeLowestOneBit().toUByte()\n\n/**\n * Rotates the binary representation of this [UByte] number left by
the specified [bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the

```

number as the least significant bits on the right side.\n \* Rotating the number left by a negative bit count is the same as rotating it right by the negated bit count:\n \* `number.rotateLeft(-n) == number.rotateRight(n)`\n \* Rotating by a multiple of [UByte.SIZE\_BITS] (8) returns the same number, or more generally\n \* `number.rotateLeft(n) == number.rotateLeft(n % 8)`\n

```
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class,
ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun UByte.rotateLeft(bitCount:
Int): UByte = toByte().rotateLeft(bitCount).toUByte()\n\n/**\n * Rotates the binary representation of this [UByte]
number right by the specified [bitCount] number of bits.\n * The least significant bits pushed out from the right side
reenter the number as the most significant bits on the left side.\n *\n * Rotating the number right by a negative bit
count is the same as rotating it left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n
*\n * Rotating by a multiple of [UByte.SIZE_BITS] (8) returns the same number, or more generally\n *
`number.rotateRight(n) == number.rotateRight(n % 8)`\n

```

```
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class,
ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun UByte.rotateRight(bitCount:
Int): UByte = toByte().rotateRight(bitCount).toUByte()\n\n/**\n * Counts the number of set bits in the binary representation of this [UShort] number.\n

```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UShort.countOneBits(): Int =
toUInt().countOneBits()\n\n/**\n * Counts the number of consecutive most significant bits that are zero in the
binary representation of this [UShort] number.\n

```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UShort.countLeadingZeroBits(): Int =
toShort().countLeadingZeroBits()\n\n/**\n * Counts the number of consecutive least significant bits that are zero
in the binary representation of this [UShort] number.\n

```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UShort.countTrailingZeroBits():
Int = toShort().countTrailingZeroBits()\n\n/**\n * Returns a number having a single bit set in the position of the
most significant set bit of this [UShort] number,\n * or zero, if this number is zero.\n

```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UShort.takeHighestOneBit(): UShort =
toInt().takeHighestOneBit().toUShort()\n\n/**\n * Returns a number having a single bit set in the position of the
least significant set bit of this [UShort] number,\n * or zero, if this number is zero.\n

```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UShort.takeLowestOneBit(): UShort =
toInt().takeLowestOneBit().toUShort()\n\n/**\n * Rotates the binary representation of this [UShort] number left
by the specified [bitCount] number of bits.\n * The most significant bits pushed out
from the left side reenter the number as the least significant bits on the right side.\n *\n * Rotating the number left
by a negative bit count is the same as rotating it right by the negated bit count:\n * `number.rotateLeft(-n) ==
number.rotateRight(n)`\n *\n * Rotating by a multiple of [UShort.SIZE_BITS] (16) returns the same number, or
more generally\n * `number.rotateLeft(n) == number.rotateLeft(n % 16)`\n

```

```
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class,
ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun UShort.rotateLeft(bitCount:
Int): UShort = toShort().rotateLeft(bitCount).toUShort()\n\n/**\n * Rotates the binary representation of this
[UShort] number right by the specified [bitCount] number of bits.\n * The least significant bits pushed out from the
right side reenter the number as the most significant bits on the left side.\n *\n * Rotating the number right by a
negative bit count is the same as rotating it left by the
negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n *\n * Rotating by a multiple of
[UShort.SIZE_BITS] (16) returns the same number, or more generally\n * `number.rotateRight(n) ==

```

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number.rotateRight(n % 16)`n *^n@SinceKotlin("1.6")`n@WasExperimental(ExperimentalStdlibApi::class,
ExperimentalUnsignedTypes::class)`n@kotlin.internal.InlineOnly`npublic inline fun UShort.rotateRight(bitCount:
Int): UShort = toShort().rotateRight(bitCount).toUShort()`n", "/*`n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin
Programming Language contributors.`n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.`n *^n`npackage kotlin.internal`n`n// (a - b) mod c`nprivate fun
differenceModulo(a: UInt, b: UInt, c: UInt): UInt {`n val ac = a % c`n val bc = b % c`n return if (ac >= bc) ac -
bc else ac - bc + c`n}`n`nprivate fun differenceModulo(a: ULong, b: ULong, c: ULong): ULong {`n val ac = a %
c`n val bc
= b % c`n return if (ac >= bc) ac - bc else ac - bc + c`n}`n`n/**`n * Calculates the final element of a bounded
arithmetic progression, i.e. the last element of the progression which is in the range`n * from [start] to [end] in case
of a positive [step], or from [end] to [start] in case of a negative`n * [step].`n *`n * No validation on passed
parameters is performed. The given parameters should satisfy the condition:`n *`n * - either `step > 0` and `start <=
end`,`n * - or `step < 0` and `start >= end`.`n *`n * @param start first element of the progression`n * @param end
ending bound for the progression`n * @param step increment, or difference of successive elements in the
progression`n * @return the final element of the progression`n * @suppress`n
*^n@PublishedApi`n@SinceKotlin("1.3")`n`ninternal fun getProgressionLastElement(start: UInt, end: UInt, step:
Int): UInt = when {`n step > 0 -> if (start >= end) end else end - differenceModulo(end, start, step.toUInt())`n
step <
0 -> if (start <= end) end else end + differenceModulo(start, end, (-step).toUInt())`n else -> throw
kotlin.IllegalArgumentException("Step is zero.")`n}`n`n/**`n * Calculates the final element of a bounded
arithmetic progression, i.e. the last element of the progression which is in the range`n * from [start] to [end] in case
of a positive [step], or from [end] to [start] in case of a negative`n * [step].`n *`n * No validation on passed
parameters is performed. The given parameters should satisfy the condition:`n *`n * - either `step > 0` and `start <=
end`,`n * - or `step < 0` and `start >= end`.`n *`n * @param start first element of the progression`n * @param end
ending bound for the progression`n * @param step increment, or difference of successive elements in the
progression`n * @return the final element of the progression`n * @suppress`n
*^n@PublishedApi`n@SinceKotlin("1.3")`n`ninternal fun getProgressionLastElement(start: ULong, end: ULong,
step: Long): ULong = when {`n
step > 0 -> if (start >= end) end else end - differenceModulo(end, start, step.toULong())`n step < 0 -> if (start <=
end) end else end + differenceModulo(start, end, (-step).toULong())`n else -> throw
kotlin.IllegalArgumentException("Step is zero.")`n}`n`n", "/*`n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin
Programming Language contributors.`n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.`n *^n`n@file:kotlin.jvm.JvmName("UStringsKt") // string representation
of unsigned numbers`n`npackage kotlin.text`n`n/**`n * Returns a string representation of this [Byte] value in the
specified [radix].`n *`n * @throws IllegalArgumentException when [radix] is not a valid radix for number to string
conversion.`n
*^n@SinceKotlin("1.5")`n@WasExperimental(ExperimentalUnsignedTypes::class)`n`n@kotlin.internal.InlineOnly
`npublic /*inline*/ fun UByte.toString(radix: Int): String = this.toInt().toString(radix)`n`n/**`n * Returns
a string representation of this [Short] value in the specified [radix].`n *`n * @throws IllegalArgumentException
when [radix] is not a valid radix for number to string conversion.`n
*^n@SinceKotlin("1.5")`n@WasExperimental(ExperimentalUnsignedTypes::class)`n`n@kotlin.internal.InlineOnly
`npublic /*inline*/ fun UShort.toString(radix: Int): String = this.toInt().toString(radix)`n`n`n/**`n * Returns a string
representation of this [Int] value in the specified [radix].`n *`n * @throws IllegalArgumentException when [radix] is
not a valid radix for number to string conversion.`n
*^n@SinceKotlin("1.5")`n@WasExperimental(ExperimentalUnsignedTypes::class)`n`n@kotlin.internal.InlineOnly
`npublic /*inline*/ fun UInt.toString(radix: Int): String = this.toLong().toString(radix)`n`n`n/**`n * Returns a string
representation of this [Long] value in the specified [radix].`n *`n * @throws IllegalArgumentException when [radix]
is not a valid radix for number to string conversion.`n

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IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
String.toUShortOrNull(radix: Int): UShort? {\n val int = this.toUIntOrNull(radix) ?: return null\n if (int >
UShort.MAX_VALUE) return null\n return int.toUShort()\n}\n\n/**\n * Parses the string as an [UInt] number and
returns the result\n * or `null` if the string is not
a valid representation of a number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
String.toUIntOrNull(): UInt? = toUIntOrNull(radix = 10)\n\n/**\n * Parses the string as an [UInt] number and
returns the result\n * or `null` if the string is not a valid representation of a number.\n * @throws
IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
String.toUIntOrNull(radix: Int): UInt? {\n checkRadix(radix)\n\n val length = this.length\n if (length == 0)
return null\n\n val limit: UInt = UInt.MAX_VALUE\n val start: Int\n val firstChar = this[0]\n if (firstChar
< '0') {\n if (length == 1 || firstChar != '+') return null\n start = 1\n } else {\n start = 0\n }\n\n val
limitForMaxRadix = 119304647u // limit / 36\n var limitBeforeMul = limitForMaxRadix\n val uradix = radix.toUInt()\n var result = 0u\n for (i in start until length) {\n val digit = digitOf(this[i],
radix)\n\n if (digit < 0) return null\n if (result > limitBeforeMul) {\n if (limitBeforeMul ==
limitForMaxRadix) {\n limitBeforeMul = limit / uradix\n\n if (result > limitBeforeMul) {\n
 return null\n }\n } else {\n return null\n }\n }\n result *= uradix\n\n val beforeAdding = result\n result += digit.toUInt()\n if (result < beforeAdding) return null // overflow
has happened\n }\n\n return result\n}\n\n/**\n * Parses the string as an [ULong] number and returns the result\n
* or `null` if the string is not a valid representation of a number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
String.toULongOrNull(): ULong? = toULongOrNull(radix = 10)\n\n/**\n * Parses the string as an [ULong] number and returns the result\n
* or `null` if the string is not a valid representation
of a number.\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number
conversion.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
String.toULongOrNull(radix: Int): ULong? {\n checkRadix(radix)\n\n val length = this.length\n if (length ==
0) return null\n\n val limit: ULong = ULong.MAX_VALUE\n val start: Int\n val firstChar = this[0]\n if
(firstChar < '0') {\n if (length == 1 || firstChar != '+') return null\n start = 1\n } else {\n start = 0\n }\n\n val limitForMaxRadix = 512409557603043100uL // limit / 36\n var limitBeforeMul =
limitForMaxRadix\n val uradix = radix.toULong()\n var result = 0uL\n for (i in start until length) {\n val
digit = digitOf(this[i], radix)\n\n if (digit < 0) return null\n\n if (result > limitBeforeMul) {\n if (limitBeforeMul == limitForMaxRadix) {\n limitBeforeMul =
limit / uradix\n\n if (result > limitBeforeMul) {\n return null\n }\n } else {\n return null\n }\n }\n result *= uradix\n\n val beforeAdding = result\n result +=
digit.toUInt()\n if (result < beforeAdding) return null // overflow has happened\n }\n\n return
result\n}\n\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use
of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n\n@file:Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")\npackage kotlin\n\nimport
kotlin.annotation.AnnotationTarget.\nimport kotlin.internal.RequireKotlin\nimport
kotlin.internal.RequireKotlinVersionKind\n\n/**\n * Marks the API that is dependent on the
experimental unsigned types, including those types themselves.\n * @Usages of such API will be reported as
warnings unless an explicit opt-in with\n * the [OptIn] annotation, e.g.
`@OptIn(ExperimentalUnsignedTypes::class)`\n * or with the `--opt-in=kotlin.ExperimentalUnsignedTypes`
compiler option is given.\n * It's recommended to propagate the experimental status to the API that depends on
unsigned types by annotating it with this annotation.\n *\n@RequiresOptIn(level =
RequiresOptIn.Level.WARNING)\n@MustBeDocumented\n@Target(CLASS, ANNOTATION_CLASS,

```



PROPERTY, FIELD, LOCAL\_VARIABLE, VALUE\_PARAMETER, CONSTRUCTOR, FUNCTION,  
PROPERTY\_GETTER, PROPERTY\_SETTER,

TYPEALIAS)\n@Retention(AnnotationRetention.BINARY)\n@RequireKotlin("1.2.50", versionKind =  
RequireKotlinVersionKind.COMPILER\_VERSION)\npublic annotation class ExperimentalUnsignedTypes\n", /\*\n \* Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n \* Use of this source code  
is governed by

the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n

\*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("MathKt")\n\n\npackage

kotlin.math\n\n\n// constants, can't use them from nativeMath as they are not constants there\n\n/\*\* Ratio of the  
circumference of a circle to its diameter, approximately 3.14159. \*\n\n@SinceKotlin("1.2")\n\npublic const val PI:  
Double = 3.141592653589793\n\n/\*\* Base of the natural logarithms, approximately 2.71828.

\*\n\n@SinceKotlin("1.2")\n\npublic const val E: Double = 2.718281828459045\n\n\n// region =====  
Double Math =====\n\n\n/\*\* Computes the sine of the angle [x]  
given in radians.\n \* \n \* Special cases:\n \* - `sin(NaN|+Inf|-Inf)` is `NaN`\n \* \n\n@SinceKotlin("1.2")\n\npublic expect fun sin(x: Double): Double\n\n\n/\*\* Computes the cosine of the angle [x] given in radians.\n \* \n \* Special  
cases:\n \* - `cos(NaN|+Inf|-Inf)` is `NaN`\n \* \n\n@SinceKotlin("1.2")\n\npublic expect

fun cos(x: Double): Double\n\n\n/\*\* Computes the tangent of the angle [x] given in radians.\n \* \n \* Special cases:\n \* - `tan(NaN|+Inf|-Inf)` is `NaN`\n \* \n\n@SinceKotlin("1.2")\n\npublic expect fun tan(x: Double): Double\n\n\n/\*\* Computes the arc sine of the value [x];\n \* the returned value is an angle in the range from  $-\pi/2$  to  $\pi/2$   
radians.\n \* \n \* Special cases:\n \* - `asin(x)` is `NaN`, when  $abs(x) > 1$  or x is `NaN`\n \* \n\n@SinceKotlin("1.2")\n\npublic expect fun asin(x: Double): Double\n\n\n/\*\* Computes the arc cosine of the  
value [x];\n \* the returned value is an angle in the range from  $0.0$  to  $\pi$  radians.\n \* \n \* Special cases:\n \* -  
`acos(x)` is `NaN`, when  $abs(x) > 1$  or x is `NaN`\n \* \n\n@SinceKotlin("1.2")\n\npublic expect fun acos(x: Double):  
Double\n\n\n/\*\* Computes the arc tangent of the value [x];\n \* the returned value is an angle in the range from  $-\pi/2$   
to  $\pi/2$  radians.\n \* \n \* Special cases:\n \* - `atan(NaN)` is `NaN`\n \* \n\n@SinceKotlin("1.2")\n\npublic expect fun atan(x: Double): Double\n\n\n/\*\* Returns the angle `theta` of the polar coordinates `(r, theta)` that  
correspond\n \* to the rectangular coordinates `(x, y)` by computing the arc tangent of the value  $y / x$ ;\n \* the  
returned value is an angle in the range from  $-\pi$  to  $\pi$  radians.\n \* \n \* Special cases:\n \* - `atan2(0.0, 0.0)` is  
 $0.0$ \n \* - `atan2(0.0, x)` is  $0.0$  for  $x > 0$  and  $\pi$  for  $x < 0$ \n \* - `atan2(-0.0, x)` is  $-0.0$  for  $x > 0$  and  $-\pi$   
for  $x < 0$ \n \* - `atan2(y, +Inf)` is  $0.0$  for  $0 < y < +Inf$  and  $-0.0$  for  $-Inf < y < 0$ \n \* - `atan2(y, -Inf)` is  $\pi$   
for  $0 < y < +Inf$  and  $-\pi$  for  $-Inf < y < 0$ \n \* - `atan2(y, 0.0)` is  $\pi/2$  for  $y > 0$  and  $-\pi/2$  for  $y < 0$ \n \* -  
`atan2(+Inf, x)` is  $\pi/2$  for finite  $x$ \n \* - `atan2(-Inf, x)` is  $-\pi/2$  for finite  $x$ \n \* - `atan2(NaN, x)` and  
`atan2(y, NaN)` is `NaN`\n \* \n\n@SinceKotlin("1.2")\n\npublic expect fun atan2(y: Double, x: Double):  
Double\n\n\n/\*\* Computes

the hyperbolic sine of the value [x].\n \* \n \* Special cases:\n \* - `sinh(NaN)` is `NaN`\n \* - `sinh(+Inf)` is  $+Inf$ \n \* -  
`sinh(-Inf)` is  $-Inf$ \n \* \n\n@SinceKotlin("1.2")\n\npublic expect fun sinh(x: Double): Double\n\n\n/\*\* Computes the hyperbolic cosine of the value [x].\n \* \n \* Special cases:\n \* - `cosh(NaN)` is `NaN`\n \* -  
`cosh(+Inf|-Inf)` is  $+Inf$ \n \* \n\n@SinceKotlin("1.2")\n\npublic expect fun cosh(x: Double): Double\n\n\n/\*\* Computes the hyperbolic tangent of the value [x].\n \* \n \* Special cases:\n \* - `tanh(NaN)` is `NaN`\n \* -  
`tanh(+Inf)` is  $1.0$ \n \* - `tanh(-Inf)` is  $-1.0$ \n \* \n\n@SinceKotlin("1.2")\n\npublic expect fun tanh(x: Double):  
Double\n\n\n/\*\* Computes the inverse hyperbolic sine of the value [x].\n \* \n \* The returned value is `y` such that  
 $sinh(y) == x$ .\n \* \n \* Special cases:\n \* - `asinh(NaN)` is `NaN`\n \* - `asinh(+Inf)` is  $+Inf$ \n \* - `asinh(-Inf)`  
is  $-Inf$ \n \* \n\n@SinceKotlin("1.2")\n\npublic expect fun asinh(x: Double): Double\n\n\n/\*\* Computes the inverse hyperbolic cosine of the value [x].\n \* \n \* The returned value is positive `y` such that  
 $cosh(y) == x$ .\n \* \n \* Special cases:\n \* - `acosh(NaN)` is `NaN`\n \* - `acosh(x)` is `NaN` when  $x < 1$ \n \* -  
`acosh(+Inf)` is  $+Inf$ \n \* \n\n@SinceKotlin("1.2")\n\npublic expect fun acosh(x: Double): Double\n\n\n/\*\* Computes the inverse hyperbolic tangent of the value [x].\n \* \n \* The returned value is `y` such that  $tanh(y) ==$   
 $x$ .\n \* \n \* Special cases:\n \* - `tanh(NaN)` is `NaN`\n \* - `tanh(x)` is `NaN` when  $x > 1$  or  $x < -1$ \n \* -

`tanh(1.0)` is `+Inf` \* `-tanh(-1.0)` is `-Inf` \* `@SinceKotlin("1.2")` `public expect fun atanh(x: Double): Double` \* Computes `sqrt(x^2 + y^2)` without intermediate overflow or underflow. \* Special cases: \* `-` returns `+Inf` if any of arguments is infinite \* `-` returns `NaN` if any of arguments is `NaN` and the other is not infinite \* `@SinceKotlin("1.2")` `public expect fun hypot(x: Double, y: Double): Double` \* Computes the positive square root of the value `[x]`. \* Special cases: \* `-` `sqrt(x)` is `NaN` when `x < 0` or `x` is `NaN` \* `@SinceKotlin("1.2")` `public expect fun sqrt(x: Double): Double` \* Computes Euler's number `e` raised to the power of the value `[x]`. \* Special cases: \* `-` `exp(NaN)` is `NaN` \* `-` `exp(+Inf)` is `+Inf` \* `-` `exp(-Inf)` is `0.0` \* `@SinceKotlin("1.2")` `public expect fun exp(x: Double): Double` \* Computes `exp(x) - 1`. \* This function can be implemented to produce more precise result for `[x]` near zero. \* Special cases: \* `-` `expm1(NaN)` is `NaN` \* `-` `expm1(+Inf)` is `+Inf` \* `-` `expm1(-Inf)` is `-1.0` \* `@see [exp] function.` \* `@SinceKotlin("1.2")` `public expect fun expm1(x: Double): Double` \* Computes the logarithm of the value `[x]` to the given `[base]`. \* Special cases: \* `-` `log(x, b)` is `NaN` if either `x` or `b` are `NaN` \* `-` `log(x, b)` is `NaN` when `x < 0` or `b <= 0` or `b == 1.0` \* `-` `log(+Inf, +Inf)` is `NaN` \* `-` `log(+Inf, b)` is `+Inf` for `b > 1` and `-Inf` for `b < 1` \* `-` `log(0.0, b)` is `-Inf` for `b > 1` and `+Inf` for `b > 1` \* `@see also logarithm functions for common fixed bases: [ln], [log10] and [log2].` \* `@SinceKotlin("1.2")` `public expect fun log(x: Double, base: Double): Double` \* Computes the natural logarithm (base `E`) of the value `[x]`. \* Special cases: \* `-` `ln(NaN)` is `NaN` \* `-` `ln(x)` is `NaN` when `x < 0.0` \* `-` `ln(+Inf)` is `+Inf` \* `-` `ln(0.0)` is `-Inf` \* `@SinceKotlin("1.2")` `public expect fun ln(x: Double): Double` \* Computes the common logarithm (base 10) of the value `[x]`. \* `@see [ln] function for special cases.` \* `@SinceKotlin("1.2")` `public expect fun log10(x: Double): Double` \* Computes the binary logarithm (base 2) of the value `[x]`. \* `@see [ln] function for special cases.` \* `@SinceKotlin("1.2")` `public expect fun log2(x: Double): Double` \* Computes `ln(x + 1)`. \* This function can be implemented to produce more precise result for `[x]` near zero. \* Special cases: \* `-` `ln1p(NaN)` is `NaN` \* `-` `ln1p(x)` is `NaN` where `x < -1.0` \* `-` `ln1p(-1.0)` is `-Inf` \* `-` `ln1p(+Inf)` is `+Inf` \* `@see [ln] function` \* `@see [expm1] function` \* `@SinceKotlin("1.2")` `public expect fun ln1p(x: Double): Double` \* Rounds the given value `[x]` to an integer towards positive infinity. \* `@return the smallest double value that is greater than or equal to the given value [x] and is a mathematical integer.` \* Special cases: \* `-` `ceil(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer. \* `@SinceKotlin("1.2")` `public expect fun ceil(x: Double): Double` \* Rounds the given value `[x]` to an integer towards negative infinity. \* `@return the largest double value that is smaller than or equal to the given value [x] and is a mathematical integer.` \* Special cases: \* `-` `floor(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer. \* `@SinceKotlin("1.2")` `public expect fun floor(x: Double): Double` \* Rounds the given value `[x]` to an integer towards zero. \* `@return the value [x] having its fractional part truncated.` \* Special cases: \* `-` `truncate(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer. \* `@SinceKotlin("1.2")` `public expect fun truncate(x: Double): Double` \* Rounds the given value `[x]` towards the closest integer with ties rounded towards even integer. \* Special cases: \* `-` `round(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer. \* `@SinceKotlin("1.2")` `public expect fun round(x: Double): Double` \* Returns the absolute value of the given value `[x]`. \* Special cases: \* `-` `abs(NaN)` is `NaN` \* `@see absoluteValue extension property for [Double]` \* `@SinceKotlin("1.2")` `public expect fun abs(x: Double): Double` \* Returns the sign of the given value `[x]`: \* `-` `-1.0` if the value is negative, \* `-` zero if the value is zero, \* `-` `1.0` if the value is positive \* Special case: \* `-` `sign(NaN)` is `NaN` \* `@SinceKotlin("1.2")` `public expect fun sign(x: Double): Double` \* Returns the smaller of two values. \* If either value is `NaN`, then the result is `NaN`. \* `@SinceKotlin("1.2")` `public expect fun min(a: Double, b: Double): Double` \* Returns the greater of two values. \* If either value is `NaN`, then the result is `NaN`. \* `@SinceKotlin("1.2")` `public expect fun max(a: Double, b: Double): Double` // extensions \* Raises this value to the power `[x]`. \* Special cases: \* `-` `b.pow(0.0)` is `1.0` \* `-`

`b.pow(1.0) == b^n` - `b.pow(NaN)` is `NaN^n` - `NaN.pow(x)` is `NaN` for `x != 0.0` - `b.pow(Inf)` is `NaN` for `abs(b) == 1.0` - `b.pow(x)` is `NaN` for `b < 0` and `x` is finite and not an integer  
`@SinceKotlin("1.2")` public expect fun `Double.pow(x: Double): Double`  
 \* Raises this value to the integer power [n].  
 \* See the other overload of [pow] for details.  
`@SinceKotlin("1.2")` public expect fun `Double.pow(n: Int): Double`  
 \* Returns the absolute value of this value.  
 \* Special cases:  
 - `NaN.absoluteValue` is `NaN`  
 @see abs function  
`@SinceKotlin("1.2")` public expect val `Double.absoluteValue: Double`  
 \* Returns the sign of this value:  
 - `-1.0` if the value is negative,  
 - zero if the value is zero,  
 - `1.0` if the value is positive  
 \* Special case:  
 - `NaN.sign` is `NaN`  
`@SinceKotlin("1.2")` public expect val `Double.sign: Double`  
 \* Returns this value with the sign bit same as of the [sign] value.  
 \* If [sign] is `NaN` the sign of the result is undefined.  
`@SinceKotlin("1.2")` public expect fun `Double.withSign(sign: Double): Double`  
 \* Returns this value with the sign bit same as of the [sign] value.  
`@SinceKotlin("1.2")` public expect fun `Double.withSign(sign: Int): Double`  
 \* Returns the ulp (unit in the last place) of this value.  
 \* An ulp is a positive distance between this value and the next nearest [Double] value larger in magnitude.  
 \* Special Cases:  
 - `NaN.ulp` is `NaN`  
 - `x.ulp` is `+Inf` when `x` is `+Inf` or `-Inf`  
 - `0.0.ulp` is `Double.MIN_VALUE`  
`@SinceKotlin("1.2")` public expect val `Double.ulp: Double`  
 \* Returns the [Double] value nearest to this value in direction of positive infinity.  
`@SinceKotlin("1.2")` public expect fun `Double.nextUp(): Double`  
 \* Returns the [Double] value nearest to this value in direction of negative infinity.  
`@SinceKotlin("1.2")` public expect fun `Double.nextDown(): Double`  
 \* Returns the [Double] value nearest to this value in direction from this value towards the value [to].  
 \* Special cases:  
 - `x.nextTowards(y)` is `NaN` if either `x` or `y` are `NaN`  
 - `x.nextTowards(x) == x`  
`@SinceKotlin("1.2")` public expect fun `Double.nextTowards(to: Double): Double`  
 \* Rounds this [Double] value to the nearest integer and converts the result to [Int].  
 \* Ties are rounded towards positive infinity.  
 \* Special cases:  
 - `x.roundToInt() == Int.MAX_VALUE` when `x > Int.MAX_VALUE`  
 - `x.roundToInt() == Int.MIN_VALUE` when `x < Int.MIN_VALUE`  
 \* @throws `IllegalArgumentException` when this value is `NaN`  
`@SinceKotlin("1.2")` public expect fun `Double.roundToInt(): Int`  
 \* Rounds this [Double] value to the nearest integer and converts the result to [Long].  
 \* Ties are rounded towards positive infinity.  
 \* Special cases:  
 - `x.roundToLong() == Long.MAX_VALUE` when `x > Long.MAX_VALUE`  
 - `x.roundToLong() == Long.MIN_VALUE` when `x < Long.MIN_VALUE`  
 \* @throws `IllegalArgumentException` when this value is `NaN`  
`@SinceKotlin("1.2")` public expect fun `Double.roundToLong(): Long`  
 // endregion  
 // region ===== Float Math  
 =====  
 \* Computes the sine of the angle [x] given in radians.  
 \* Special cases:  
 - `sin(NaN|+Inf|-Inf)` is `NaN`  
`@SinceKotlin("1.2")` public expect fun `sin(x: Float): Float`  
 \* Computes the cosine of the angle [x] given in radians.  
 \* Special cases:  
 - `cos(NaN|+Inf|-Inf)` is `NaN`  
`@SinceKotlin("1.2")` public expect fun `cos(x: Float): Float`  
 \* Computes the tangent of the angle [x] given in radians.  
 \* Special cases:  
 - `tan(NaN|+Inf|-Inf)` is `NaN`  
`@SinceKotlin("1.2")` public expect fun `tan(x: Float): Float`  
 \* Computes the arc sine of the value [x];  
 \* the returned value is an angle in the range from `-PI/2` to `PI/2` radians.  
 \* Special cases:  
 - `asin(x)` is `NaN`, when `abs(x) > 1` or `x` is `NaN`  
`@SinceKotlin("1.2")` public expect fun `asin(x: Float): Float`  
 \* Computes the arc cosine of the value [x];  
 \* the returned value is an angle in the range from `0.0` to `PI` radians.  
 \* Special cases:  
 - `acos(x)` is `NaN`, when `abs(x) > 1` or `x` is `NaN`  
`@SinceKotlin("1.2")` public expect fun `acos(x: Float): Float`  
 \* Computes the arc tangent of the value [x];  
 \* the returned value is an angle in the range from `-PI/2` to `PI/2` radians.  
 \* Special cases:  
 - `atan(NaN)` is `NaN`  
`@SinceKotlin("1.2")` public expect fun `atan(x: Float): Float`  
 \* Returns the angle `theta` of the polar coordinates `(r, theta)` that correspond to the rectangular coordinates `(x, y)` by computing the arc tangent of the value `[y] / [x]`;

returned value is an angle in the range from  $-\pi$  to  $\pi$  radians.

**Special cases:**

- $\text{atan2}(0.0, 0.0)$  is  $0.0$
- $\text{atan2}(0.0, x)$  is  $0.0$  for  $x > 0$  and  $\pi$  for  $x < 0$
- $\text{atan2}(-0.0, x)$  is  $-0.0$  for  $x > 0$  and  $-\pi$  for  $x < 0$
- $\text{atan2}(y, +\text{Inf})$  is  $0.0$  for  $0 < y < +\text{Inf}$  and  $-0.0$  for  $-\text{Inf} < y < 0$
- $\text{atan2}(y, -\text{Inf})$  is  $\pi$  for  $0 < y < +\text{Inf}$  and  $-\pi$  for  $-\text{Inf} < y < 0$
- $\text{atan2}(y, 0.0)$  is  $\pi/2$  for  $y > 0$  and  $-\pi/2$  for  $y < 0$
- $\text{atan2}(+\text{Inf}, x)$  is  $\pi/2$  for finite  $x$
- $\text{atan2}(-\text{Inf}, x)$  is  $-\pi/2$  for finite  $x$
- $\text{atan2}(\text{NaN}, x)$  and  $\text{atan2}(y, \text{NaN})$  is  $\text{NaN}$

```

@SinceKotlin("1.2")
public expect fun atan2(y: Float, x: Float): Float

```

**Computes the hyperbolic sine of the value [x].**

**Special cases:**

- $\sinh(\text{NaN})$  is  $\text{NaN}$
- $\sinh(+\text{Inf})$  is  $+\text{Inf}$
- $\sinh(-\text{Inf})$  is  $-\text{Inf}$

```

@SinceKotlin("1.2")
public expect fun sinh(x: Float): Float

```

**Computes the hyperbolic cosine of the value [x].**

**Special cases:**

- $\cosh(\text{NaN})$  is  $\text{NaN}$
- $\cosh(+\text{Inf}-\text{Inf})$  is  $+\text{Inf}$

```

@SinceKotlin("1.2")
public expect fun cosh(x: Float): Float

```

**Computes the hyperbolic tangent of the value [x].**

**Special cases:**

- $\tanh(\text{NaN})$  is  $\text{NaN}$
- $\tanh(+\text{Inf})$  is  $1.0$
- $\tanh(-\text{Inf})$  is  $-1.0$

```

@SinceKotlin("1.2")
public expect fun tanh(x: Float): Float

```

**Computes the inverse hyperbolic sine of the value [x].**

The returned value is  $y$  such that  $\sinh(y) = x$ .

**Special cases:**

- $\text{asinh}(\text{NaN})$  is  $\text{NaN}$
- $\text{asinh}(+\text{Inf})$  is  $+\text{Inf}$
- $\text{asinh}(-\text{Inf})$  is  $-\text{Inf}$

```

@SinceKotlin("1.2")
public expect fun asinh(x: Float): Float

```

**Computes the inverse hyperbolic cosine of the value [x].**

The returned value is positive  $y$  such that  $\cosh(y) = x$ .

**Special cases:**

- $\text{acosh}(\text{NaN})$  is  $\text{NaN}$
- $\text{acosh}(x)$  is  $\text{NaN}$  when  $x < 1$
- $\text{acosh}(+\text{Inf})$  is  $+\text{Inf}$

```

@SinceKotlin("1.2")
public expect fun acosh(x: Float): Float

```

**Computes the inverse hyperbolic tangent of the value [x].**

The returned value is  $y$  such that  $\tanh(y) = x$ .

**Special cases:**

- $\text{atanh}(\text{NaN})$  is  $\text{NaN}$
- $\text{atanh}(x)$  is  $\text{NaN}$  when  $x > 1$  or  $x < -1$
- $\text{atanh}(1.0)$  is  $+\text{Inf}$
- $\text{atanh}(-1.0)$  is  $-\text{Inf}$

```

@SinceKotlin("1.2")
public expect fun atanh(x: Float): Float

```

**Computes  $\sqrt{x^2 + y^2}$  without intermediate overflow or underflow.**

**Special cases:**

- returns  $+\text{Inf}$  if any of arguments is infinite
- returns  $\text{NaN}$  if any of arguments is  $\text{NaN}$  and the other is not infinite

```

@SinceKotlin("1.2")
public expect fun hypot(x: Float, y: Float): Float

```

**Computes the positive square root of the value [x].**

**Special cases:**

- $\sqrt{x}$  is  $\text{NaN}$  when  $x < 0$  or  $x$  is  $\text{NaN}$

```

@SinceKotlin("1.2")
public expect fun sqrt(x: Float): Float

```

**Computes Euler's number  $e$  raised to the power of the value [x].**

**Special cases:**

- $\exp(\text{NaN})$  is  $\text{NaN}$
- $\exp(+\text{Inf})$  is  $+\text{Inf}$
- $\exp(-\text{Inf})$  is  $0.0$

```

@SinceKotlin("1.2")
public expect fun exp(x: Float): Float

```

**Computes  $\exp(x) - 1$ .**

This function can be implemented to produce more precise result for [x] near zero.

**Special cases:**

- $\text{expm1}(\text{NaN})$  is  $\text{NaN}$
- $\text{expm1}(+\text{Inf})$  is  $+\text{Inf}$
- $\text{expm1}(-\text{Inf})$  is  $-1.0$

```

@SinceKotlin("1.2")
public expect fun expm1(x: Float): Float

```

**Computes the logarithm of the value [x] to the given [base].**

**Special cases:**

- $\log(x, b)$  is  $\text{NaN}$  if either  $x$  or  $b$  are  $\text{NaN}$
- $\log(x, b)$  is  $\text{NaN}$  when  $x < 0$  or  $b \leq 0$  or  $b = 1.0$
- $\log(+\text{Inf}, +\text{Inf})$  is  $\text{NaN}$
- $\log(+\text{Inf}, b)$  is  $+\text{Inf}$  for  $b > 1$  and  $-\text{Inf}$  for  $b < 1$
- $\log(0.0, b)$  is  $-\text{Inf}$  for  $b > 1$  and  $+\text{Inf}$  for  $b < 1$

See also logarithm functions for common fixed bases: [ln], [log10] and [log2].

```

@SinceKotlin("1.2")
public expect fun log(x: Float, base: Float): Float

```

**Computes the natural logarithm (base  $E$ ) of the value [x].**

**Special cases:**

- $\ln(\text{NaN})$  is  $\text{NaN}$
- $\ln(x)$  is  $\text{NaN}$  when  $x < 0.0$
- $\ln(+\text{Inf})$  is  $+\text{Inf}$
- $\ln(0.0)$  is  $-\text{Inf}$

```

@SinceKotlin("1.2")
public expect fun ln(x: Float): Float

```

**Computes the common logarithm (base 10) of the value [x].**

@see [ln] function for special cases.

```

@SinceKotlin("1.2")
public expect fun log10(x: Float): Float

```

**Computes the binary logarithm (base 2) of the value [x].**

@see [ln] function for special cases.

```

@SinceKotlin("1.2")
public expect fun log2(x: Float): Float

```

**Computes  $\ln(a + 1)$ .**

This function can be implemented to produce more precise result for [x] near zero.

**Special cases:**

- $\ln1p(\text{NaN})$  is  $\text{NaN}$
- $\ln1p(x)$  is  $\text{NaN}$  where  $x < -1.0$
- $\ln1p(-1.0)$  is  $-\text{Inf}$
- $\ln1p(+\text{Inf})$  is  $+\text{Inf}$

@see [ln] function

```

@SinceKotlin("1.2")
public expect fun ln1p(x: Float): Float

```

**Rounds the given value [x] to an integer towards positive infinity.**

@return the smallest Float value that is greater than

or equal to the given value [x] and is a mathematical integer.

`* Special cases:`

- `-`ceil(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.`

`*\n@SinceKotlin("1.2")\npublic expect fun ceil(x: Float): Float\n\n/**\n * Rounds the given value [x] to an integer towards negative infinity.\n\n * @return the largest Float value that is smaller than or equal to the given value [x] and is a mathematical integer.\n\n * Special cases:\n * -`floor(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n\n *\n@SinceKotlin("1.2")\npublic expect fun floor(x: Float): Float\n\n/**\n * Rounds the given value [x] to an integer towards zero.\n\n * @return the value [x] having its fractional part truncated.\n\n * Special cases:\n * -`truncate(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n\n *\n@SinceKotlin("1.2")\npublic expect fun truncate(x: Float): Float\n\n/**\n * Rounds the given value [x] towards the closest integer with ties rounded towards even integer.\n\n * Special cases:\n * -`round(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n\n *\n@SinceKotlin("1.2")\npublic expect fun round(x: Float): Float\n\n\n/**\n * Returns the absolute value of the given value [x].\n\n * Special cases:\n * -`abs(NaN)` is `NaN`\n\n * @see absoluteValue extension property for [Float]\n\n *\n@SinceKotlin("1.2")\npublic expect fun abs(x: Float): Float\n\n/**\n * Returns the sign of the given value [x]:\n * -`-1.0` if the value is negative,\n * - zero if the value is zero,\n * -`1.0` if the value is positive\n\n * Special case:\n * -`sign(NaN)` is `NaN`\n\n *\n@SinceKotlin("1.2")\npublic expect fun sign(x: Float): Float\n\n\n/**\n * Returns the smaller of two values.\n\n * If either value is `NaN`, then the result is `NaN`.\n\n *\n@SinceKotlin("1.2")\npublic expect fun min(a: Float, b: Float): Float\n\n\n/**\n * Returns the greater of two values.\n\n * If either value is `NaN`, then the result is `NaN`.\n\n *\n@SinceKotlin("1.2")\npublic expect fun max(a: Float, b: Float): Float\n\n\n// extensions\n\n\n/**\n * Raises this value to the power [x].\n\n * Special cases:\n * -`b.pow(0.0)` is `1.0`\n * -`b.pow(1.0) == b`\n * -`b.pow(NaN)` is `NaN`\n * -`NaN.pow(x)` is `NaN` for `x != 0.0`\n * -`b.pow(Inf)` is `NaN` for `abs(b) == 1.0`\n * -`b.pow(x)` is `NaN` for `b < 0` and `x` is finite and not an integer\n\n *\n@SinceKotlin("1.2")\npublic expect fun Float.pow(x: Float): Float\n\n\n/**\n * Raises this value to the integer power [n].\n\n * See the other overload of [pow] for details.\n\n *\n@SinceKotlin("1.2")\npublic expect fun Float.pow(n: Int): Float\n\n\n/**\n * Returns the absolute value of this value.\n\n * Special cases:\n * -`NaN.absoluteValue` is `NaN`\n\n * @see abs function\n\n *\n@SinceKotlin("1.2")\npublic expect val Float.absoluteValue: Float\n\n\n/**\n * Returns the sign of this value:\n * -`-1.0` if the value is negative,\n * - zero if the value is zero,\n * -`1.0` if the value is positive\n\n * Special case:\n * -`NaN.sign` is `NaN`\n\n *\n@SinceKotlin("1.2")\npublic expect val Float.sign: Float\n\n\n/**\n * Returns this value with the sign bit same as of the [sign] value.\n\n * If [sign] is `NaN` the sign of the result is undefined.\n\n *\n@SinceKotlin("1.2")\npublic expect fun Float.withSign(sign: Float): Float\n\n\n/**\n * Returns this value with the sign bit same as of the [sign] value.\n\n *\n@SinceKotlin("1.2")\npublic expect fun Float.withSign(sign: Int): Float\n\n\n\n/**\n * Rounds this [Float] value to the nearest integer and converts the result to [Int].\n\n * Ties are rounded towards positive infinity.\n\n * Special cases:\n * -`x.roundToInt() == Int.MAX_VALUE` when `x > Int.MAX_VALUE`\n * -`x.roundToInt() == Int.MIN_VALUE` when `x < Int.MIN_VALUE`\n\n * @throws IllegalArgumentException when this value is `NaN`\n\n *\n@SinceKotlin("1.2")\npublic expect fun Float.roundToInt(): Int\n\n\n\n/**\n * Rounds this [Float] value to the nearest integer and converts the result to [Long].\n\n * Ties are rounded towards positive infinity.\n\n * Special cases:\n * -`x.roundToLong() == Long.MAX_VALUE` when `x > Long.MAX_VALUE`\n * -`x.roundToLong() == Long.MIN_VALUE` when `x < Long.MIN_VALUE`\n\n * @throws IllegalArgumentException when this value is `NaN`\n\n *\n@SinceKotlin("1.2")\npublic expect fun Float.roundToLong(): Long\n\n\n\n// endregion\n\n\n// Integer Math\n\n\n\n/**\n * Returns the absolute value of the given value [n].\n\n * Special cases:\n * -`abs(Int.MIN_VALUE)` is `Int.MIN_VALUE`\n\n * due to an overflow\n\n * @see absoluteValue extension property for [Int]\n\n *\n@SinceKotlin("1.2")\npublic expect fun abs(n: Int): Int\n\n\n\n/**\n * Returns the smaller of two values.\n\n *\n@SinceKotlin("1.2")\npublic expect`

```

fun min(a: Int, b: Int): Int\n\n/**\n * Returns the greater of two values.\n */\n@SinceKotlin("1.2")\npublic expect
fun max(a: Int, b: Int): Int\n\n/**\n * Returns the absolute value of this value.\n */\n * Special cases:\n * -
`Int.MIN_VALUE.absoluteValue` is `Int.MIN_VALUE` due to an overflow\n */\n * @see abs function\n
*/\n@SinceKotlin("1.2")\npublic expect val Int.absoluteValue: Int\n\n/**\n * Returns the sign of this value:\n * -
`-1` if the value is negative,\n * - `0` if the value is zero,\n * - `1` if the value is positive\n
*/\n@SinceKotlin("1.2")\npublic expect val Int.sign: Int\n\n\n/**\n * Returns the absolute value of the given
value [n].\n */\n * Special cases:\n * - `abs(Long.MIN_VALUE)` is `Long.MIN_VALUE` due to an overflow\n
*/\n * @see absoluteValue extension property for [Long]\n */\n@SinceKotlin("1.2")\npublic expect fun abs(n:
Long): Long\n\n/**\n * Returns the smaller of two values.\n */\n@SinceKotlin("1.2")\npublic expect fun min(a:
Long, b: Long): Long\n\n/**\n * Returns the greater of two values.\n */\n@SinceKotlin("1.2")\npublic expect fun
max(a: Long, b: Long): Long\n\n/**\n * Returns the absolute value of this value.\n */\n * Special cases:\n * -
`Long.MIN_VALUE.absoluteValue` is `Long.MIN_VALUE` due to an overflow\n */\n * @see abs function\n
*/\n@SinceKotlin("1.2")\npublic expect val Long.absoluteValue: Long\n\n/**\n * Returns the sign of this value:\n
*/\n * - `1` if the value is negative,\n */\n * - `0` if the value is zero,\n */\n * - `1` if the value is positive\n
*/\n@SinceKotlin("1.2")\npublic expect val Long.sign: Int\n\n\n//
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A,iB;UACA,IAAK,WA3RyD,cA2RrD,CAAe,OAaf,CAAJ,C;;QA3RT,OA6RO,W;O;KAvSX,C;uFAaA,yB;MAA  
A,wE;MA6RA,+D;MA7RA,yD;QAUW,kBAAU,oB;QA6RD,Q;QAAhB,iD;UAAgB,cAAhB,e;UACI,UA9RiD,W  
A8RvC,CAAY,OAAZ,C;UOpmVP,U;UADP,YPsmVe,WOtmVH,WPsmVwB,GOtmVxB,C;UACL,IAAI,aAAJ,C;  
YACH,aPomVuC,gB;YAA5B,WOnmVX,aPmmVgC,GOnmVhC,EAAS,MAAT,C;YACA,e;;YAEA,c;;UPgmVA,i  
B;UACA,IAAK,WAhSyD,cAgSrD,CAAe,OAaf,CAAJ,C;;QAhST,OakSO,W;O;KA5SX,C;uFAaA,yB;MAAA,wE  
;MAkSA,+D;MAISA,yD;QAUW,kBAAU,oB;QAKSD,Q;QAAhB,iD;UAAgB,cAAhB,e;UACI,UAnSiD,WAmSvC,  
CAAY,OAAZ,C;UOtmVP,U;UADP,YPwnVe,WOxnVH,WPwnVwB,GOxnVxB,C;UACL,IAAI,aAAJ,C;YACH,aP  
snVuC,gB;YAA5B,WOrnVX,aPqnVgC,GOrnVhC,EAAS,MAAT,C;YACA,e;;YAEA,c;;UPknVA,iB;UACA,IAAK  
,WArSyD,cAqSrD,CAAe,OAaf,CAAJ,C;;QArST,OAuSO,W;O;KAjTX,C;uFAaA,yB;MAAA,wE;MAuSA,+D;M  
AvSA,yD;QAUW,kBAAU,oB;QAUdS,Q;QAAhB,iD;UAAgB,cAAhB,e;UACI,UAXSiD,WAwSvC,CAAY,OAAZ,  
C;UOxoVP,U;UADP,YP0oVe,WO1oVH,WP0oVwB,GO1oVxB,C;UACL,IAAI,aAAJ,C;YACH,aPwoVuC,gB;YA  
A5B,WovoVX,aPuoVgC,GOvoVhC,EAAS,MAAT,C;YACA,e;;YAEA,c;;UPooVA,iB;UACA,IAAK,WA1SyD,cA  
0SrD,CAAe,OAaf,CAAJ,C;;QA1ST,OA4SO,W;O;KAiTX,C;uFAaA,yB;MAAA,wE;MA4SA,+D;MA5SA,yD;QA  
UW,kBAAU,oB;QA4SD,Q;QAAhB,iD;UAAgB,cAAhB,e;UACI,UA7SiD,WA6SvC,CAAY,OAAZ,C;UO1pVP,U;  
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Af,CAAJ,C;;QA/ST,OaiTO,W;O;KA3TX,C;uFAaA,yB;MAAA,wE;MAiTA,+D;MAjTA,yD;QAUW,kBAAU,oB;  
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VhC,EAAS,MAAT,C;YACA,e;;YAEA,c;;UPwqVA,iB;UACA,IAAK,WApTyD,cAoTrD,CAAe,OAAf,CAAJ,C;;QApTT,OAsTO,W;O;KAhUX,C;uFAaA,yB;MAAA,wE;MAsTA,oC;MAAA,+D;MAAA,gC;MatTA,yD;QAUW,kBAAU,oB;QAsTD,Q;QAaHb,iD;UAAgB,cAAhB,0B;UACI,UAvTiD,WAuTvC,CAAY,oBAAZ,C;UO9rVP,U;UADP,YPgsVe,WOhsvH,WPgsVwB,GOhsVxB,C;UACL,IAAI,aAAJ,C;YACH,aP8rVuC,gB;YAA5B,W07rVX,aP6rVgC,GO7rVhC,EAAS,MAAT,C;YACA,e;;YAEA,c;;UP0rVA,iB;UACA,IAAK,WAZTyD,cAyTrD,CAAe,oBAAf,CAAJ,C;;QAZTT,OA2TO,W;O;KArUX,C;wFAaA,yB;MAAA,+D;MAAA,sD;QASoB,Q;QAaHb,wBAAgB,SAaHb,gB;UAAgB,cAAA,SAaHb,M;UACI,UAAU,YAAY,OAAZ,C;UOp5UP,U;UADP,YPs5Ue,W0t5UH,WP5UwB,GOt5UxB,C;UACL,IAAI,aAAJ,C;YACH,aPo5UuC,gB;YAA5B,W0n5UX,aPm5UgC,GO5UUhC,EAAS,MAAT,C;YACA,e;;YAEA,c;;UPg5UA,iB;UACA,IAAK,WAAI,OAAJ,C;;QAET,OAAO,W;O;KAdX,C;0FAiBA,yB;MAAA,+D;MAAA,sD;QASoB,Q;QAaHb,wBAAgB,SAaHb,gB;UAAgB,cAAA,SAaHb,M;UACI,UAAU,YAAY,OAAZ,C;UOr6UP,U;UADP,YPu6Ue,W0v6UH,WPu6UwB,GOv6UxB,C;UACL,IAAI,aAAJ,C;YACH,aPq6UuC,gB;YAA5B,W0p6UX,aPo6UgC,GOp6UhC,EAAS,MAAT,C;YACA,e;;YAEA,c;;UPi6UA,iB;UACA,IAAK,WAAI,OAAJ,C;;QAET,OAAO,W;O;KAdX,C;0FAiBA,yB;MAAA,+D;MAAA,sD;QASoB,Q;QAaHb,wBAAgB,SAaHb,gB;UAAgB,cAAA,SAaHb,M;UACI,UAAU,YAAY,OAAZ,C;UOt7UP,U;UADP,YPw7Ue,W0x7UH,WPw7UwB,GOx7UxB,C;UACL,IAAI,aAAJ,C;YACH,aPs7UuC,gB;YAA5B,W0r7UX,aPq7UgC,GO7UUhC,EAAS,MAAT,C;YACA,e;;YAEA,c;;UPk7UA,iB;UACA,IAAK,WAAI,OAAJ,C;;QAET,OAAO,W;O;KAdX,C;0FAiBA,yB;MAAA,+D;MAAA,sD;QASoB,Q;QAaHb,wBAAgB,SAaHb,gB;UAAgB,cAAA,SAaHb,M;UACI,UAAU,YAAY,OAAZ,C;UOv8UP,U;UADP,YPy8Ue,W0z8UH,WPY8UwB,GOz8UxB,C;UACL,IAAI,aAAJ,C;YACH,aPu8UuC,gB;YAA5B,W0t8UX,aPs8UgC,GOt8UhC,EAAS,MAAT,C;YACA,e;;YAEA,c;;UPm8UA,iB;UACA,IAAK,WAAI,OAAJ,C;;QAET,OAAO,W;O;KAdX,C;0FAiBA,yB;MAAA,+D;MAAA,sD;QASoB,Q;QAaHb,wBAAgB,SAaHb,gB;UAAgB,cAAA,SAaHb,M;UACI,UAAU,YAAY,OAAZ,C;UOx9UP,U;UADP,YP09Ue,W019UH,WP09UwB,GO19UxB,C;UACL,IAAI,aAAJ,C;YACH,aPw9UuC,gB;YAA5B,W0v9UX,aPu9UgC,GOv9UhC,EAAS,MAAT,C;YACA,e;;YAEA,c;;UPo9UA,iB;UACA,IAAK,WAAI,OAAJ,C;;QAET,OAAO,W;O;KAdX,C;0FAiBA,yB;MAAA,+D;MAAA,sD;QASoB,Q;QAaHb,wBAAgB,SAaHb,gB;UAAgB,cAAA,SAaHb,M;UACI,UAAU,YAAY,OAAZ,C;UOz+UP,U;UADP,YP2+Ue,W03+UH,WP2+UwB,GO3+UxB,C;UACL,IAAI,aAAJ,C;YACH,aPy+UuC,gB;YAA5B,W0x+UX,aPw+UgC,GOx+UhC,EAAS,MAAT,C;YACA,e;;YAEA,c;;UPq+UA,iB;UACA,IAAK,WAAI,OAAJ,C;;QAET,OAAO,W;O;KAdX,C;0FAiBA,yB;MAAA,+D;MAAA,sD;QASoB,Q;QAaHb,wBAAgB,SAaHb,gB;UAAgB,cAAA,SAaHb,M;UACI,UAAU,YAAY,OAAZ,C;UO1/UP,U;UADP,YP4/Ue,W05/UH,WP4/UwB,GO5/UxB,C;UACL,IAAI,aAAJ,C;YACH,aP0/UuC,gB;YAA5B,W0z/UX,aPy/UgC,GOz/UhC,EAAS,MAAT,C;YACA,e;;YAEA,c;;UPs/UA,iB;UACA,IAAK,WAAI,OAAJ,C;;QAET,OAAO,W;O;KAdX,C;0FAiBA,yB;MAAA,+D;MAAA,sD;QASoB,Q;QAaHb,wBAAgB,SAaHb,gB;UAAgB,cAAA,SAaHb,M;UACI,UAAU,YAAY,OAAZ,C;UO3gVP,U;UADP,YP6gVe,W07gVH,WP6gVwB,GO7gVxB,C;UACL,IAAI,aAAJ,C;YACH,aP2gVuC,gB;YAA5B,W01gVX,aP0gVgC,GO1gVhC,EAAS,MAAT,C;YACA,e;;YAEA,c;;UPugVA,iB;UACA,IAAK,WAAI,OAAJ,C;;QAET,OAAO,W;O;KAdX,C;0FAiBA,yB;MAAA,+D;MAAA,sD;QASoB,Q;QAaHb,wBAAgB,SAaHb,gB;UAAgB,cAAhB,UAAgB,SAaHb,O;UACI,UAAU,YAAY,oBAAZ,C;UO5hVP,U;UADP,YP8hVe,W09hVH,WP8hVwB,GO9hVxB,C;UACL,IAAI,aAAJ,C;YACH,aP4hVuC,gB;YAA5B,W03hVX,aP2hVgC,GO3hVhC,EAAS,MAAT,C;YACA,e;;YAEA,c;;UPwhVA,iB;UACA,IAAK,WAAI,oBAAJ,C;;QAET,OAAO,W;O;KAdX,C;0FAiBA,yB;MAAA,+D;MAAA,sE;QAUoB,Q;QAaHb,wBAAgB,SAaHb,gB;UAAgB,cAAA,SAaHb,M;UACI,UAAU,YAAY,OAAZ,C;UO9iVP,U;UADP,YPgjVe,W0hjVH,WPgjVwB,GOhjVxB,C;UACL,IAAI,aAAJ,C;YACH,aP8iVuC,gB;YAA5B,W07iVX,aP6iVgC,GO7iVhC,EAAS,MAAT,C;YACA,e;;YAEA,c;;UP0iVA,iB;UACA,IAAK,WAAI,eAAe,OAAf,CAAJ,C;;QAET,OAAO,W;O;KafX,C;0FAkBA,yB;MAAA,+D;MAAA,sE;QAUoB,Q;QAaHb,wBAAgB,SAaHb,gB;UAAgB,cAAA,SAaHb,M;UACI,UAAU,YAAY,OAAZ,C;UOhkVP,U;UADP,YPkkVe,W0lkVH,WPkkVwB,GOlkVxB,C;UACL,IAAI,aAAJ,C;YACH,aPkgVuC,gB;YAA5B,W0jVX,aP+jVgC,GOjVhC,EAAS,MAAT,C;YACA,e;;YAEA,c;;UP4jVA,iB;UACA,IAAK,WAAI,eAAe,OAAf,CAAJ,C;;QAET,OAAO,W;O;KafX,C;2FAkBA,yB;MAAA,+D;MAAA,sE;QAUoB,Q;QAaHb,wBAAgB,SAaHb,gB;UAAgB,cAAA,SAaHb,M;UACI,UAAU,YAAY,OAAZ,C;UOllVP,U;UADP,YPolVe,W0plVH,WPoIVwB,GOplVxB,C;UACL,IAAI,aAAJ,C;YACH,aPkIVuC,gB;YAA5B,W0jlVX,aPilVgC,GOjlVhC,EAAS,MAAT,C;YACA,e;;YAEA,c;;UP8kVA,iB;UACA,IAAK,WAAI,eAAe,OAAf,CAAJ,C;;QAET,OAAO,W;O;KafX,C;2FAkBA,yB;MAAA,+D;MAAA,sE;QAUoB,Q;QAaHb,wB



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HJ,C;kFAMA,yB;MA4JA,8D;MA5JA,sC;QAGW,sB;;UAqKP,IA12LO,qBAAQ,CA02Lf,C;YAAe,qBAAO,I;YAA  
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P,uB;;UACpB,eApKmB,QAoKJ,CAAS,OAAT,C;UACf,AAU,CAAV,OAAa,SAAb,M;YACI,QAAQ,UAAK,CA  
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AW,C;;;UAGnB,qBAAO,O;;;QA7KP,yB;O;KAHJ,C;kFAMA,yB;MA6KA,8D;MA7KA,sC;QAGW,sB;;UAiLP,IA  
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B,GAeP,KAAM,OAfC,EAeO,MAAO,OAfd,CAerB,C;;MAfT,OAIBo,I;K;+EAdX,yB;MAAA,kF;MAAA,gE;MFv  
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;O;KAbnB,C;kGAOA,yB;MAAA,8D;MAAA,wC;QAMI,OAAe,cAAR,iBAAQ,EAac,UAAAd,C;O;KANnB,C;kFA  
SA,+B;MAcmB,kBAAR,iB;MAAQ,sB;;QJwxDf,eAAe,sB;QACf,IAAI,CAAC,QAAS,UAAAd,C;UAAyB,qBAAO,I;  
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,eIvyDmB,QJuyDJ,CAAS,OAAT,C;;UAEX,QAAQ,QAAS,O;UACjB,QI1yDe,QJ0yDP,CAAS,CAAT,C;UACR,IA  
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,sD;QhBtgBd,MAAM,gCAAYB,OAAQ,WAAjC,C;;MgBwgBN,UAAK,CAAL,C;QAAU,sB;WACV,+C;QAAiC,O  
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YAAQ,C8B90Kf,C;QAAwB,OAAO,S;MAC/B,qD;K;IAqBO,6D;MAAA,wC;MAAA,4B;K;IAMiC,8D;MAAA,qB;  
QAAE,OAAM,aAN,mB;O;K;+CALtC,Y;MACI,YAAqB,4BAAT,qBAAS,C;MACrB,IAAI,KAAM,UAAV,C;QA  
CI,OAAO,eAAW,W;;QAEIB,OAAkB,YAAX,eAAW,EAaU,4CAAV,CAA0B,W;K;;IANB5D,sC;MAaI,qD;K;IAw  
BO,6D;MAAA,wC;MAAA,4B;K;IAMiC,8D;MAAA,qB;QAAE,OAAM,aAN,mB;O;K;+CALtC,Y;MACI,YAAq  
B,8BAAT,qBAAS,C;MACrB,IAAI,KAAM,UAAV,C;QACI,OAAO,eAAW,W;;QAEIB,OAAkB,YAAX,eAAW,E  
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AAN,C;O;KAPX,C;wFAUA,yB;MAAA,+D;MAAA,6B;MAAA,uC;QAYoB,Q;QAFhB,YAAY,gB;QACZ,aAAa,g  
B;QACG,2B;QAAhB,OAAgB,cAAhB,C;UAAgB,yB;UACZ,IAAI,UAAU,OAAV,CAAJ,C;YACI,KAAM,WAAL,  
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AS,CAA1B,EAawC,C;K;IAGnD,sC;MASI,OAAkC,UAA3B,YAAW,SAAX,EAaiB,QAAjB,EAa2B,C;K;4FAGt

C,yB;MAAA,0C;MAAA,qC;QAOI,OAAO,gBAAK,OAAL,C;O;KAPX,C;IAUA,2D;MAgB+C,oB;QAAA,OAAY,  
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D,C;K;IAGX,sE;MAkBkD,oB;QAAA,OAAY,C;MAAG,8B;QAAA,iBAA0B,K;MACvF,OAAwE,OAAjE,8BAAiB  
,IAAjB,EAAuB,IAAvB,EAA6B,cAA7B,EAA2D,IAA3D,CAAiE,EAAI,SAAJ,C;K;IAYpC,4B;MAAY,cAAM,EA  
AN,C;K;IATpD,kC;MASI,OAAO,oBAAgB,SAAhB,EAA6B,KAAiB,EAA6B,UAA7B,C;K;IAGX,6C;MAUI,OAA  
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D,2B;MAAhB,OAAGB,cAAhB,C;QAAGB,yB;QACZ,OAAO,O;QACP,oBAAmB,qBAAnB,EAAmB,KAAAnB,E;;M  
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,C;K;wFAGpC,yB;MAAA,6C;MAAA,oC;MAAA,gC;MAAA,uC;QAIOB,Q;QAAA,0B;QAaHb,OAAGB,cAAhB,C  
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CAAJ,C;K;6FAGX,qB;MAUI,OAAO,sBAAI,CAAJ,C;K;6FAGX,qB;MAUI,OAAO,sBAAI,CAAJ,C;K;6FAGX,q  
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X,yB;MA8gHI,8D;MA9gHJ,iD;QASe,oBAAS,C;QAAT,S;UAAc,gBAqgHT,cAAR,iBAAQ,C;;QArgHhB,OAAO,  
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R,iBAAQ,C;;QA7/GhB,OAAO,OAAcS,sBAAI,KA AJ,CAATC,GAAsD,aAAa,KAAb,C;O;KATjE,C;uGAYA,yB;M  
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L,SAAK,EAAU,KAAV,C;O;KAThB,C;uGAYA,yB;MAAA,sD;MAAA,mC;QASI,OAAy,UAA L,SAAK,EAAU,K  
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SW,sB;;QA8NS,Q;QAAA,2B;QAAhB,OAAgB,cAAhB,C;UAAgB,yB;UAAM,IA9NH,SA8NO,CAAU,OAAV,CA  
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U,OAAV,CAAJ,C;cAAwB,oBAAO,O;cAAP,sB;;;UAE5B,oBAAO,I;;;QAhoBP,wB;O;KATJ,C;yFAYA,yB;Mago  
BA,+C;MA0tFI,0D;MA11GJ,uC;QASW,qB;;UAgoBO,Q;UAAA,OAAa,SAitFX,YAAR,iBAAQ,CAjtFW,CAAb,  
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,C;cAAwB,oBAAO,O;cAAP,sB;;;UAE5B,oBAAO,I;;;QApoBP,wB;O;KATJ,C;yFAYA,yB;MAooBA,+C;MAktFI,  
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AO,O;cAAP,sB;;;UAE5B,oBAAO,I;;;QAxoBP,wB;O;KATJ,C;yFAYA,yB;MAwoBA,+C;MA0sFI,0D;MA11GJ,uC  
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CtLA,iC;MkCsLA,4B;QAQI,OiCpLyC,gBkCoL1B,MAAR,iBAAQ,CiCpL0B,C;O;KkC4K7C,C;mFAWA,yB;MA  
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AvB,C;O;KATV,C;IAYA,mC;MAMI,OAAW,mBAAJ,GAAe,IAAf,GAAyB,sBAAK,CAAL,C;K;IAGpC,mC;MA  
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z  
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,C;IAUA,wC;MAQe,oBAAS,C;MAAT,S;QAAC,gBAknGT,gBAAR,iBAAQ,C;;MALnGhB,OAAO,OAAc,sBAAI,  
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C5ZA,6B;MmC4ZA,0BAOGC,yB;QnCnahC,6B;emCmagC,6B;UAAA,qB;YAAE,yBnCzZK,cmCyZK,EnCzZL,C

mCyZL,C;W;S;OAAF,C;MAPhC,uC;QAOMB,kBAAR,iB;QAAQ,uB;;UtC40Bf,0D;YACI,IsC70B0B,UnCzZK,cH  
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0B;O;KAPJ,C;iGAUA,yB;MAAA,sC;MnBvZA,+B;MmBuZA,0BAOGC,yB;QnB9ZhC,+B;emB8ZgC,6B;UAAA,q  
B;YAAE,yBnBpZQ,emBoZE,EnBpZF,CmBoZR,C;W;S;OAAF,C;MAPhC,uC;QAOMB,kBAAR,iB;QAAQ,uB;;Ut  
C80Bf,0D;YACI,IsC/0B0B,UnBpZQ,enBmuCpB,YAAK,KAAL,CmBnuCoB,CmBoZR,CtC+0B1B,C;cACI,sBAA  
O,K;cAAP,wB;;;UAGR,sBAAO,E;;;QsCn1BP,0B;O;KAPJ,C;iGAUA,yB;MAAA,sC;MpC9dA,+B;MoC8dA,0BA  
OGC,yB;QpCrehC,+B;eoCqegC,6B;UAAA,qB;YAAE,yBpC3dQ,eoC2dE,EpC3dF,CoC2dR,C;W;S;OAAF,C;MAP  
hC,uC;QAOMB,kBAAR,iB;QAAQ,uB;;UtCgyBf,0D;YACI,IsCjyB0B,UpC3dQ,eF4vCpB,YAAK,KAAL,CE5vCo  
B,CoC2dR,CtCiyB1B,C;cACI,sBAAO,K;cAAP,wB;;;UAGR,sBAAO,E;;;QsCryBP,0B;O;KAPJ,C;iGAUA,yB;MA  
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dC,CkCwdX,C;W;S;OAAF,C;MAPhC,uC;QAOMB,kBAAR,iB;QAAQ,uB;;UtCkyBf,0D;YACI,IsCnyB0B,UlCxd  
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sCvyBP,0B;O;KAPJ,C;+FAUA,yB;MAAA,sC;MtCm5BA,0D;MAAA,+C;MGv1CA,6B;MmCocA,yBAO+B,yB;Q  
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OMB,kBAAR,iB;QAAQ,sB;;UtCg5BD,Q;UAAA,OAAQ,SAAR,wBAAQ,CAAR,W;UAAAd,OAAc,cAAAd,C;YAAc,u  
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;;UAGR,qBAAO,E;;;QsCr5BP,yB;O;KAPJ,C;+FAUA,yB;MAAA,sC;MtCq5BA,0D;MAAA,+C;MmBp1CA,+B;M  
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BS,eoCmgBC,EpCngBD,CoCmgBT,C;W;S;OAAF,C;MAP/B,uC;QAOMB,kBAAR,iB;QAAQ,sB;;UtCo2BD,Q;U  
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O;KAPJ,C;+FAUA,yB;MAAA,sC;MtCy2BA,0D;MAAA,+C;MI52CA,iC;MkCmgBA,yBAO+B,yB;QIC1gB/B,iC;e  
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Ab,W;QAAd,OAAc,cAAAd,C;UAAc,uB;UACV,cAAc,sBAAK,KAAL,C;UACd,IAAI,UAAU,OAAV,CAAJ,C;YA  
AwB,OAAO,O;;QAEnc,MAAM,gCAAuB,mDAAvB,C;O;KafV,C;iFAkBA,yB;MAAA,+C;MAAA,iE;MAo3FI,0  
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Ad,C;UAAc,uB;UACV,cAAc,sBAAK,KAAL,C;UACd,IAAI,UAAU,OAAV,CAAJ,C;YAAwB,OAAO,O;;QAEnc,  
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UACd,IAAI,UAAU,OAAV,CAAJ,C;YAAwB,OAAO,O;;QAEnc,MAAM,gCAAuB,mDAAvB,C;O;KafV,C;+FAk  
BA,yB;MAAA,0D;MAAA,qC;QAOI,OAAe,YAAR,iBAAQ,EAAY,OnC9sBM,KmC8sBIB,C;O;KAPnB,C;+FAU  
A,yB;MAAA,0D;MAAA,qC;QAOI,OAAe,YAAR,iBAAQ,EAAY,OpC1wBQ,KoC0wBpB,C;O;KAPnB,C;+FAUA,y

B;MAAA,0D;MAAA,qC;QAOI,OAAe,YAAR,iBAAQ,EAAY,OICzwBU,KkCywBtB,C;O;KAPnB,C;IAUA,kC;M  
AQI,OAAW,mBAAJ,GAAe,IAAf,GAAyB,sBAAK,iBAAO,CAAP,IAAL,C;K;IAGpC,kC;MAQI,OAAW,mBAAJ,  
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,IAAL,C;K;6FAGpC,yB;MAAA,+C;MAkuFI,0D;MAluFJ,uC;QASkB,Q;QAAA,OAAa,SAytFX,YAztFF,SAytFN,  
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C;QASkB,Q;QAAA,OAAa,SAitFX,YAjtFF,SAitFN,QAAQ,CAjtFW,CAAb,W;QAAd,OAAc,cAAd,C;UAAc,uB;U  
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,C;6FAGbA,yB;MAAA,+C;MAktFI,0D;MAItFJ,uC;QASkB,Q;QAAA,OAAa,SAysFX,YAzsFF,SAysFN,QAAQ,C  
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;O;Kmbi7B1C,C;qFAUA,yB;MAAA,gD;MpClgCA,+B;MoCkgCA,4B;QAOI,OpC//BsC,eoC+/BvB,OAAR,iBAA  
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J,C;YAAwB,WAAY,WAAL,OAAJ,C;;QAJR1D,OAKRO,W;O;KA3RX,C;qFAYA,yB;MAAA,+D;MAAA,uC;QAS  
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;;QAIE/C,OAoEO,W;O;KA/EX,C;uGAcA,6C;MAS2HiB,gB;MADb,YAAY,C;MACC,2B;MAAb,OAAa,cAAb,C;  
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,CAAL,C;UAAyB,WAAY,WAAL,OAAJ,C;;MAC3D,OAAO,W;K;+FAGX,6C;MASoB,Q;MAAA,2B;MAAhB,OA  
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Y,C;MACI,2B;MAAhB,OAAgB,cAAhB,C;QAAgB,yB;QACZ,oBAAO,cAAP,EAAO,sBAAP,WAAkB,OAAIB,C;  
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DAC7D,iB;MACI,oCAAA,2BAAkB,KAAIB,EAAyB,SAAzB,C;MACb,OAAO,6BAAY,KAAZ,C;K;qDAEX,mB;  
MAES,Q;MAAL,IAAI,eAAC,0EAAD,QAAJ,C;QAAiC,OAAO,E;MACxC,OxCqqBO,UwCrqBA,gBxCqqBR,QA  
AQ,EwCrqBoB,O3DgNA,KmBqdpB,C;K;yDwCnqBX,mB;MAES,Q;MAAL,IAAI,eAAC,0EAAD,QAAJ,C;QAAi  
C,OAAO,E;MACxC,OxCw5BO,cwCx5BA,gBxCw5BR,QAAQ,EwCx5BwB,O3D2MJ,KmB6sBpB,C;K;;IwC96Bn  
B,6B;MAMI,4C;K;IA2BO,6C;MAAA,8B;MAAS,uB;K;8FACW,Y;MAAQ,OAAA,gBAAY,K;K;+CAC3C,Y;MA  
AkC,OAAA,gBAAY,U;K;sDAC9C,mB;MAAiD,OAAA,gBAAY,gBAAS,OAAT,C;K;mDAC7D,iB;MACI,oCAAA  
,2BAAkB,KAAIB,EAAyB,SAAzB,C;MACb,OAAO,6BAAY,KAAZ,C;K;qDAEX,mB;MAES,Q;MAAL,IAAI,eA  
AC,0EAAD,QAAJ,C;QAAiC,OAAO,E;MACxC,OxCopBO,UwCpBA,gBxCopBR,QAAQ,EwCpBoB,O5EkIA,K  
oCkhBpB,C;K;yDwClpBX,mB;MAES,Q;MAAL,IAAI,eAAC,0EAAD,QAAJ,C;QAAiC,OAAO,E;MACxC,OxCu4  
BO,cwCv4BA,gBxCu4BR,QAAQ,EwCv4BwB,O5E6HJ,KoC0wBpB,C;K;;IwC75BnB,8B;MAMI,4C;K;IA2BO,6C  
;MAAA,8B;MAAS,uB;K;8FACW,Y;MAAQ,OAAA,gBAAY,K;K;+CAC3C,Y;MAAkC,OAAA,gBAAY,U;K;sDA  
C9C,mB;MAAkD,OAAA,gBAAY,gBAAS,OAAT,C;K;mDAC9D,iB;MACI,oCAAA,2BAAkB,KAAIB,EAAyB,SA  
AzB,C;MACb,OAAO,6BAAY,KAAZ,C;K;qDAEX,mB;MAES,Q;MAAL,IAAI,eAAC,0EAAD,SAAJ,C;QAAkC,  
OAAO,E;MACzC,OxCmoBO,UwCnoBA,gBxCmoBR,QAAQ,EwCnoBoB,O1EkHE,KkCihBtB,C;K;yDwCjoBX,  
mB;MAES,Q;MAAL,IAAI,eAAC,0EAAD,SAAJ,C;QAAkC,OAAO,E;MACzC,OxCs3BO,cwCt3BA,gBxCs3BR,Q  
AAQ,EwCt3BwB,O1E6GF,KkCywBtB,C;K;;IwC54BnB,8B;MAMI,4C;K;ICtIJ,qC;MAII,SAAS,SID+BiC,I;MkD9  
B1C,OAAa,CAAN,gBAAc,EAAd,KACU,EAAN,gBAAc,EADIB,KAEl,OAAM,GAFV,KAGI,KAAK,IAAL,KAC  
C,OAAM,IAAN,KACS,IAAN,gBAAc,IADjB,KAEG,OAAM,IAFT,IAGG,OAAM,IAHT,IAIG,OAAM,IAJT,IAK  
G,OAAM,IALT,IAMG,OAAM,KAPV,CAHJ,C;K;;mCCTP,gB;;K;;ICAJ,wB;K;;IAIA,wB;K;;IAIA,wB;K;;IAKiC  
,uB;MAAC,oB;QAAA,OAA0B,E;MAA1B,gB;K;;IAElC,kB;K;;IAqCqC,sB;MAAC,gB;K;;IAgCN,4B;MAAC,sB;  
K;;IAEjC,uB;K;;IA8DmC,4B;MAAC,kB;K;;IAEpC,oB;K;;IAmCA,+B;K;;ICvLA,oB;K;;IAIA,wB;K;;oF7DLA,qB;  
MAKqE,uCoCHtB,E;K;IgpCK/C,yB;MAAA,kD;MAAA,4B;QAQsE,mBAAY,SAAZ,C;O;KARtE,C;IAUA,iC;MA

GI,OAAsB,UAAy,QAaVb,KAAmC,SAA9C,GACe,UAAy,UAD3B,GAGI,gBAAgB,UAAhB,C;K;IAGR,qC;MAEI,YoC1B2C,E;MpC2B3C,eAAe,UAAW,W;MAC1B,OAAO,QAAS,UAAhB,C;QACU,KAAy,MAAK,QAAS,OAAd,C;MACTb,OAAO,K;K;IAGX,8C;MAQc,Q;MANV,IAAI,KAAM,OAAN,GAAa,UAAW,KAA5B,C;QACI,OA AO,gBAAgB,UAAhB,C;;MAEX,eAAe,UAAW,W;MAC1B,YAAy,C;MACZ,OAAO,QAAS,UAAhB,C;QACI,MAAM,YAAN,EAAM,oBAAN,UAAiB,QAAS,O;;MAE9B,IAAI,QAAQ,KAAM,OAAiB,C;QACI,MAAM,KAAN,IA Ae,I;;MAEnB,OAAO,K;K;IAIX,yB;MAG6C,sBAAY,OAAZ,E;K;wGAE7C,yB;MAAA,+D;MAAA,gC;QAI0B,gB AAf,gB;QAAqB,aJW5B,W;QIXA,OJYO,SIZoC,Q;O;KAJ/C,C;yGAOA,yB;MAAA,4E;MAAA,gE;MAAA,0C;QA II,qBAAqB,QAArB,C;QAC8B,gBAAvB,eAAa,QAAb,C;QAA6B,aJGpC,W;QIHA,OJIO,SIJ4C,Q;O;KALvD,C;IA SA,wB;MAG2C,oBAAU,OAAV,E;K;sGAE3C,yB;MAAA,uE;MAAA,gC;QAI8B,gBAAAnB,oB;QAAyB,aJVhC,W; QIUa,OJTO,SISwC,Q;O;KAJnD,C;wGAOA,yB;MAAA,wE;MAAA,0C;QAIsc,gBAA3B,mBAAiB,QAAjB,C;QA AiC,aJjBxC,W;QIiBA,OJhBO,SIgBgD,Q;O;KAJ3D,C;IAQA,qB;MAIuD,oBAAU,IAAV,E;K;sGAEvD,yB;MAAA ,wE;MAAA,gC;QAIiC,gBAAtB,oB;QAA4B,aJ/BnC,W;QI+BA,OJ9BO,SI8B2C,Q;O;KAJtD,C;uGAOA,yB;MAA A,uE;MAAA,0C;QAIyC,gBAA9B,mBAAoB,QAApB,C;QAAoC,aJtC3C,W;QIsCA,OJrCO,SIqCmD,Q;O;KAJ9D, C;IAQA,mC;MAOqB,Q;MAAA,kC;MAAjB,iBAAc,CAAd,yB;QACI,sBAAK,KAAL,EAAc,KAAd,C;;K;IAIR,+B; MAMuD,sBAAQ,4BAAR,C;K;IAEvD,6B;MAIwE,kBAAhB,0B;MAAwB,uB;MAAxB,OJJE7C,W;K;IImEX,4B;M AQI,gBAAgB,SAAhB,EAAsB,cAAtB,C;K;IAGJ,2C;MAQI,gBAAgB,SAAhB,EAAsB,UAAtB,C;K;IAGJ,2C;MA CI,IAAI,IAAK,KAAL,IAAa,CAAjB,C;QAAoB,M;MAEpB,YAAy,YAAy,IAAZ,C;MACZ,gBAAc,KAAd,EAAq B,UAArB,C;MAEA,aAAU,CAAV,MAAkB,KAAM,OAAxB,M;QACI,iBAAK,CAAL,EAAU,MAAM,CAAN,CA AV,C;;K;IAIR,uC;MACI,OAAO,gBAAkB,IAAiB,O;K;IAGX,iF;MAII,oCAAa,2BAAkB,UAAiB,EAA8B,QAA9B ,EAAwC,MAAO,OAA/C,C;MACb,gBAAgB,WAAW,UAAx,I;MACHb,oCAAa,2BAAkB,iBAALB,EAAqC,oBAA oB,SAApB,IAArC,EAAoE,WAAy,OAAhF,C;MAEb,IAAI,WAAkB,QAAO,WAAP,CAAiB,IAAyC,WAAkB,QA AO,MAAP,CAA/D,C;QACI,eAAsB,MAAY,UAAZ,UAAZ,EAAqB,QAArB,C;QACTb,WAAy,KAAL,QAAJ,EAA c,iBAAd,C;;QAExB,IAAI,WAAW,WAAx,IAA0B,qBAAqB,UAAAnD,C;UACI,iBAAc,CAAd,UAAsB,SAAtB,U;Y ACI,YAAy,oBAAoB,KAAPB,IAAZ,IAAyC,OAAO,aAAa,KAAb,IAAP,C;;;UAG7C,mBAAc,YAAy,CAAZ,IAA d,aAAmC,CAAnC,Y;YACI,YAAy,oBAAoB,OAAPB,IAAZ,IAAyC,OAAO,aAAa,OAAb,IAAP,C;;;K;8GAMzD, qB;MAEgF,gB;K;kGAehF,yB;MAAA,4D;MAAA,4B;QAC8E,OAAK,aAAL,SAAK,C;O;KADnF,C;sGAIA,gC;M AEI,OAAI,SAAJ,GAEL,SAFJ,GAII,SN83BoB,Q;K;IM13B5B,mC;MAEI,IAAI,QAAQ,CAAZ,C;QACI,oB;;MAEJ, OAAO,K;K;IAGX,mC;MAEL,IAAI,QAAQ,CAAZ,C;QACI,oB;;MAEJ,OAAO,K;K;IAIX,mC;MAIqD,mB;K;IAEr D,wC;MPzNI,IAAI,EOgOI,YAAy,CPhOhB,CAAJ,C;QACI,cO+NqB,gC;QP9NrB,MAAM,gCAAYB,OAAQ,WA AjC,C;;K;IOiOd,8C;MAAoE,Y;K;I8D1PV,qC;MAAiC,6B;K;uDAIvF,mB;MACI,qB;MACA,eAAe,e;MACf,OAA O,QAAS,UAAhB,C;QACI,IAAI,OAAA,QAAS,OAAT,EAAMB,OAAnB,CAAJ,C;UACI,QAAS,S;UACT,OAAO,I ;;MAGf,OAAO,K;K;yDAGX,oB;MAGoB,Q;MAFhB,qB;MACA,eAAe,K;MACC,0B;MAAhB,OAAgB,cAAhB,C ;QAAgB,yB;QACZ,IAAI,eAAI,OAAJ,CAAJ,C;UAAkB,WAAW,I;;MAEjC,OAAO,Q;K;IAKuC,sE;MAAA,qB;Q AAE,OAAm,gBAAN,mB;O;K;4DAFpD,oB;MAEY,Q;MADR,qB;MACA,OAAoC,YAA5B,iEAA4B,EAAU,oDA AV,C;K;IAKU,sE;MAAA,qB;QAAE,QAAO,gBAAP,mB;O;K;4DAFpD,oB;MAEY,Q;MADR,qB;MACA,OAAoC ,YAA5B,iEAA4B,EAAU,oDAAV,C;K;gDAGxC,Y;MACI,qB;MACA,eAAe,IAAK,W;MACpB,OAAO,QAAS,UA AhB,C;QACI,QAAS,O;QACT,QAAS,S;;K;iDAIjB,Y;MAE8B,OAAA,IAAK,U;K;yDAGnC,Y;K;;IC3CgD,+B;MA AiC,oC;MACjF,gBAA8B,C;K;8CAM9B,mB;MAMI,qB;MACA,iBAAL,SAAJ,EAAU,OAAV,C;MACA,OAAO,I; K;mDAGX,2B;MAMc,UACF,M;MANR,oCAAa,4BAAMb,KAANB,EAA0B,SAAI1B,C;MAEb,qB;MACA,aAAa, K;MACb,cAAc,K;MACJ,0B;MAAV,OAAU,cAAV,C;QAAU,mB;QACN,kBAAL,eAAJ,EAAI,uBAAJ,WAAc,CA Ad,C;QACA,UAAU,I;;MAEd,OAAO,O;K;0CAGX,Y;MACI,qB;MACA,yBAAY,CAAZ,EAAe,SAAf,C;K;IAKiB, gE;MAAA,qB;QAAE,OAAm,gBAAN,mB;O;K;sDAFvB,oB;MACI,qB;MACA,OAAO,kBAAU,8CAAV,C;K;IAK U,gE;MAAA,qB;QAAE,QAAO,gBAAP,mB;O;K;sDAFvB,oB;MACI,qB;MACA,OAAO,kBAAU,8CAAV,C;K;6C AIX,Y;MAAQd,iD;K;mDAErD,mB;MAAoD,0BAAQ,OAAr,KAAoB,C;K;kDAExE,mB;MACqB,Q;MAAA,6B; MAAjB,iBAAc,CAAd,yB;QACI,IAAI,wBAAL,KAAL,GAAC,OAAd,CAAJ,C;UACI,OAAO,K;;MAGf,OAAO,E;K ;sDAGX,mB;MACI,iBAAc,sBAAd,WAA+B,CAA/B,U;QACI,IAAI,wBAAL,KAAL,GAAC,OAAd,CAAJ,C;UACI, OAAO,K;;MAGf,OAAO,E;K;iDAGX,Y;MAA6D,iCAAa,CAAb,C;K;yDAC7D,iB;MAAuE,sDAAiB,KAajB,C;K ;oDAGvE,8B;MAA4E,uCAAQ,IAAR,EAAc,SAAd,EAAyB,OAAzB,C;K;wDAE5E,8B;MAII,eAAe,0BAAa,SAAb

,C;MACf,YAAO,UAAU,SAAV,I;MnEuDX,iBAAc,CAAd,UAAaB,KAAtB,U;QmEtDiB,e;QACA,iB;;K;2CAIjB,i  
B;MAMI,IAAI,UAAU,IAAd,C;QAAoB,OAAO,I;MAC3B,IAAI,2BAAJ,C;QAAuB,OAAO,K;MAE9B,OAAO,oC  
AAa,uBAAc,IAAd,EAAoB,KAApB,C;K;6CAGxB,Y;MAG+B,OAAA,oCAAa,yBAAgB,IAAhB,C;K;IAG5C,kD;  
MAAA,oB;MACI,eACsB,C;MACtB,cAIqB,E;K;yDAErB,Y;MAAkC,sBAAQ,gB;K;sDAE1C,Y;MAEW,Q;MADP  
,IAAI,CAAC,cAAL,C;QAAgB,MAAM,6B;MACtB,eAAO,mBAAP,EAAO,2BAAP,O;MACA,OAAO,wBAAI,WA  
AJ,C;K;wDAGX,Y;MtE5CJ,IAAI,EsE6CU,gBAAQ,EtE7CIB,CAAJ,C;QACI,csE4CwB,sE;QtE3CxB,MAAM,6BA  
AsB,OAAQ,WAA9B,C;;MsE6CF,6BAAS,WAAT,C;MACA,eAAQ,W;MACR,cAAO,E;K;;IAOqB,6D;MAHpC,o  
B;MAGmD,wD;MAG3C,oCAAa,4BAAmB,KAAmB,EAA0B,WAAyB,KAAmD,C;MACb,eAAa,K;K;IEAGjB,Y;M  
AAsC,sBAAQ,C;K;+DAE9C,Y;MAAgC,mB;K;8DAEHc,Y;MACI,IAAI,CAAC,kBAAL,C;QAAoB,MAAM,6B;M  
AE1B,eAAO,mCAAP,EAAO,YAAP,C;MACA,OAAO,wBAAI,WAAJ,C;K;mEAGX,Y;MAAoC,sBAAQ,CAAR,I;  
K;+DAEpC,mB;MACI,wBAAI,YAAJ,EAAW,OAAX,C;MACA,mC;MACA,cAAO,E;K;+DAGX,mB;MtEIFJ,IAA  
I,EsEmFU,gBAAQ,EtEnFIB,CAAJ,C;QACI,csEkFwB,4E;QtEjFxB,MAAM,6BAAsB,OAAQ,WAA9B,C;;MsEkFF  
,wBAAI,WAAJ,EAAU,OAAV,C;K;;IAIgb,+D;MAAuF,8B;MAAtF,kB;MAA0C,4B;MAC/D,eAAyB,C;MAGrB,o  
CAAa,2BAAkB,gBAAlB,EAA6B,OAA7B,EAAc,WAAK,KAA3C,C;MACb,eAAa,UAAU,gBAAV,I;K;wDAGjB  
,0B;MACI,oCAAa,4BAAmB,KAAmB,EAA0B,YAA1B,C;MAEb,WAAK,aAAI,mBAAY,KAAZ,IAAJ,EAAuB,OA  
AvB,C;MACL,mC;K;wDAGJ,iB;MACI,oCAAa,2BAAkB,KAAIB,EAAyB,YAAzB,C;MAEb,OAAO,wBAAK,mB  
AAY,KAAZ,IAAL,C;K;6DAGX,iB;MACI,oCAAa,2BAAkB,KAAIB,EAAyB,YAAzB,C;MAEb,aAAa,WAAK,kB  
AAS,mBAAY,KAAZ,IAAT,C;MACIB,mC;MACA,OAAO,M;K;wDAGX,0B;MACI,oCAAa,2BAAkB,KAAIB,EA  
AyB,YAAzB,C;MAEb,OAAO,WAAK,aAAI,mBAAY,KAAZ,IAAJ,EAAuB,OAAvB,C;K;mGAGO,Y;MAAQ,mB  
;K;2DAE/B,Y;MAA+C,WAAK,iB;K;;ICxMN,8B;MAAiC,sB;MAwCnF,uBAAoC,I;MA+CpC,yBAA6C,I;K;IAIF  
R,oD;MAAC,wB;MAGIC,gBAAqB,K;K;iFAHa,Y;MAAA,yB;K;uGAKZ,Y;MAAQ,oB;K;8DAE9B,oB;MAKI,eA  
Ae,IAAK,S;MACpB,gBAAc,Q;MACd,OAAO,Q;K;wDAGX,Y;MAA+B,iEAAc,IAAd,C;K;wDAC/B,Y;MAAKC,i  
EAAc,IAAd,C;K;sDACIC,iB;MAA4C,+DAAY,IAAZ,EAakB,KAAIB,C;K;;IAIB5C,8E;MAAA,wE;MAAsC,2CA  
AK,KAAAM,IAAX,EAAGB,KAAAM,MAAtB,C;MAAtC,Y;K;IASBJ,+C;MACsE,6B;K;mEACIE,mB;MAAmD,kCA  
Ac,OAAc,C;K;IEAEnD,mB;MAAiD,gCAAY,OAAZ,C;K;;yCAIrD,Y;MACI,YAAQ,Q;K;IAOQ,+F;MAAA,sD;M  
AAS,6B;K;uFACb,mB;MAAwC,MAAM,qCAA8B,8BAA9B,C;K;mFAC9C,Y;MACI,4BAAwB,Q;K;4FAG5B,mB  
;MAAsD,sDAAY,OAAZ,C;K;IAI3C,oH;MAAA,kD;K;4GACH,Y;MAAkC,OAAA,0BAAc,U;K;yGACHd,Y;MAA  
yB,OAAA,0BAAc,OAAO,I;K;2GAC9C,Y;MAAwB,0BAAc,S;K;;sFAL9C,Y;MACI,oBAAoB,oCAAQ,W;MAC5  
B,6G;K;0FAOJ,mB;MACI,qB;MACA,IAAI,+CAAY,OAAZ,CAAJ,C;QACI,4BAAwB,cAAO,OAAP,C;QACxB,O  
AAO,I;;MAEX,OAAO,K;K;oIAGY,Y;MAAQ,OAAA,4BAAwB,K;K;4FAEvD,Y;MAAsC,4BAAwB,iB;K;;0FA9B  
1E,Y;MACI,IAAI,4BAAJ,C;QACI,6F;;MA+BJ,OAAO,mC;K;kDAKf,gB;MAEyB,Q;MADrB,qB;MACqB,OAAA,  
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MxD,iBAAI,GAJ,EAAS,KAAT,C;;K;IAQc,iG;MAAA,sD;MAAS,oC;K;yFACf,mB;MAAwC,MAAM,qCAA8B,  
gCAA9B,C;K;qFAC9C,Y;MAAuB,4BAAwB,Q;K;8FAE/C,mB;MAAsD,wDAAc,OAAc,C;K;IAI3C,sH;MAAA,k  
D;K;8GACH,Y;MAAKC,OAAA,0BAAc,U;K;2GACHd,Y;MAAyB,OAAA,0BAAc,OAAO,M;K;6GAC9C,Y;MAA  
wB,0BAAc,S;K;;wFAL9C,Y;MACI,oBAAoB,oCAAQ,W;MAC5B,+G;K;sIAOmB,Y;MAAQ,OAAA,4BAAwB,K;  
K;8FAEvD,Y;MAAsC,4BAAwB,iB;K;;4FAnB1E,Y;MACI,IAAI,8BAAJ,C;QACI,iG;;MAoBJ,OAAO,qC;K;gDA  
Gf,e;MACI,qB;MACA,WAAW,YAAQ,W;MACnB,OAAO,IAAK,UAAZ,C;QACI,YAAy,IAAK,O;QACjB,QAA  
Q,KAAAM,I;QACd,IAAI,YAAO,CAAP,CAAJ,C;UACI,YAAy,KAAAM,M;UACIB,IAAK,S;UACL,OAAO,K;;MA  
Gf,OAAO,I;K;kDAIX,Y;K;;IC3I+C,8B;MAAiC,oC;K;0CAEHf,iB;MAMI,IAAI,UAAU,IAAd,C;QAAoB,OAAO,I;  
MAC3B,IAAI,0BAAJ,C;QAAsB,OAAO,K;MAC7B,OAAO,mCAAY,mBAAU,IAAV,EAAGB,KAAhB,C;K;4CAG  
vB,Y;MAG+B,OAAA,mCAAY,2BAAkB,IAAlB,C;K;;ICbT,0B;MAAuD,8B;MAAIC,4B;MACvD,4BAAkC,K;K;g  
CAkBiC,Y;MAEI,qB;MACA,4BAaA,I;MACb,OAAO,I;K;qCAGX,Y;K;iDAGA,uB;K;iFAG8B,Y;MAAQ,OAAA,  
oBAAM,O;K;sCAC5C,iB;MACyC,Q;MAAA,oCAAM,0BAAW,KAAAX,CAAN,4D;K;sCACzC,0B;MAIW,IAAa,I;  
MAHpB,qB;MACA,0BAAW,KAAAX,C;MAEoB,gBAAb,qBAAM,KAAAN,C;MAAqB,qC;MAA5B,OAAO,CAAa,O  
tE8BjB,SsE9BI,2D;K;oCAGX,mB;MACI,qB;MACM,oBAAY,MAAK,OAAL,C;MACIB,qC;MACA,OAAO,I;K;s  
CAGX,0B;MACI,qB;MACM,oBAAY,QAAO,mCAAoB,KAApB,CAAP,EAAmC,CAAnC,EAAc,OAAtC,C;MA  
CIB,qC;K;yCAGJ,oB;MACI,qB;MACA,IAAI,QAAS,UAAb,C;QAAwB,OAAO,K;MAE/B,uBAAA,oBxEioDoB,Q



MjrD0C,YkEgDrD,QIEhDqD,CNirD1C,C;MwEhoDpB,qC;MACA,OAAO,I;K;yCAGX,2B;MACI,qB;MACA,mC  
AAoB,KAAPB,C;MAEA,IAAI,UAAS,SAAb,C;QAAMb,OAAO,oBAAO,QAAP,C;MAC1B,IAAI,QAAS,UAAb,C  
;QAAwB,OAAO,K;MAE3B,IADE,KACf,e;QAAQ,OAAO,oBAAO,QAAP,C;WACf,IAFE,KAEF,O;QAAK,uBIE  
7DqD,YkE6D7C,QIE7D6C,CNirD1C,QwEpnD6B,oBxEonD7B,C;;QwEnnDR,uBAAoC,cAA5B,oBAA4B,EAAV,  
CAAU,EAAP,KAAO,CAAY,QIE9DE,YkE8DK,QIE9DL,CkE8DF,EAA4C,cAAN,oBAAM,EAAY,KAAZ,EAAM  
B,SAAnB,CAA5C,C;;MAG5D,qC;MACA,OAAO,I;K;2CAGX,iB;MACI,qB;MACA,0BAAW,KAAx,C;MACA,q  
C;MACA,OAAW,UAAS,sBAAb,GACG,oBAAY,MADf,GAGG,oBAAY,QAAO,KAAP,EAAC,CAAd,CAAIB,CA  
AmC,CAAnC,C;K;uCAGR,mB;MAEkB,Q;MADd,qB;MACc,2B;MAAd,mD;QACI,IAAI,4BAAM,KAAO,GAAg  
B,OAAhB,CAAJ,C;UACU,oBAAY,QAAO,KAAP,EAAC,CAAd,C;UACIB,qC;UACA,OAAO,I;;;MAGf,OAAO,K;  
K;8CAGX,8B;MACI,qB;MACA,qC;MACM,oBAAY,QAAO,SAAP,EAAb,UAAU,SAAV,IAAIB,C;K;gCAGtB,  
Y;MACI,qB;MACA,uB9BhHuC,E;M8BiHvC,qC;K;wCAIJ,mB;MAA+C,OAAM,QAAN,oBAAM,EAAY,OAAR,  
C;K;4CAErD,mB;MAAMd,OAAM,YAAN,oBAAM,EAAY,OAAZ,C;K;mCAEzD,Y;MAA0B,uBAAC,oBAAd,C;  
K;0CAE1B,iB;MAGe,UAGL,MAHK,EAMO,M;MAPIB,IAAI,KAAM,OAAN,GAAa,SAAJB,C;QACI,OAAO,2D;;  
MAGc,gBAAxB,eAAK,SAAL,IAAK,gBAAL,yB;MxEuwBL,UAAU,SAAV,EwEwBsC,KxEwBtC,EAD+F,CA  
C/F,EADoH,CACpH,EADuI,gBACvI,C;MwErwBI,IAAI,KAAM,OAAN,GAAa,SAAJB,C;QACI,MAAM,SAAN,I  
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AI,yBAAJ,C;QAAgB,MAAM,oC;K;+CAG1B,iB;MACI,oCAAa,kCAAYB,SAAZB,C;MADoB,Y;K;wDAIrC,iB;M  
ACI,oCAAa,mCAA0B,SAI1B,C;MAD6B,Y;K;;IAIJ9C,+B;MAAA,mD;MAG8B,sB9BRa,E8BQb,C;MAH9B,Y;K  
;IAKA,kD;MAAA,mD;MAIkD,sB9BdP,E8BcO,C;MAJID,Y;K;IAMA,2C;MAAA,mD;MAGqD,sBIENa,YkEMR,  
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,uB;QAAgB,OAAA,kBAAW,SAAQ,CAAR,EAAW,CAAX,C;O;K;IAFPD,4C;MACI,IAAI,6BAAJ,C;QACI,iBAA  
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,kD;QAAA,iC;;MAAA,2C;K;;MC0BA,iC;MAKA,8B;MA6CA,0BAAMe,I;;IAzEnE,kC;MAAA,oB;MAA+B,8C; K;2CAE3B,mB;MAAyD,MAAM,qCAA8B,iCAA9B,C;K;uCAC/D,Y;MACI,WAAa,Q;K;uDAGjB,mB;MAAgE,O AAA,WAAa,uBAAc,OAAAd,C;K;0CAE7E,Y;MAAwE,OAAA,iCAAY,W;K;qDAEpF,mB;MACI,IAAI,iBAAS,OA AT,CAAJ,C;QACI,WAAa,cAAO,OAAQ,IAAf,C;QACb,OAAO,I;;MAEX,OAAO,K;K;wFAGY,Y;MAAQ,OAAA, WAAa,K;K;;8BA6ChD,Y;MACI,0BAAY,Q;K;0CAIhB,e;MAAmD,OAAA,0BAAY,gBAAS,GAAT,C;K;4CAE/D, iB;MAAmE,gBAAZ,0B;MAAY,c;;QvE+mDnD,Q;QADhB,IAAI,wCAAsB,mBAA1B,C;UAAqC,aAAO,K;UAAP, e;;QACrB,2B;QAAhB,OAAgB,cAAhB,C;UAAgB,yB;UAAM,IuE/mDmD,uBAAS,gBvE+mD9C,OuE/mDwD,MA AV,QvE+mD5D,C;YAAwB,aAAO,I;YAAP,e;;QAC9C,aAAO,K;;MuEhnDgD,iB;K;kFAInD,Y;MACI,IAAI,+BA AJ,C;QACI,0BAAW,qB;;MAEf,OAAO,sC;K;uCAGf,Y;MAAgF,iC;K;kCAEHf,e;MAA+C,OAAA,0BAAY,WAAI ,GAAJ,C;K;oCAE3D,sB;MAAgD,OAAA,0BAAY,aAAI,GAAJ,EAAS,KAAT,C;K;qCAE5D,e;MAAYC,OAAA,0B AAY,cAAO,GAAP,C;K;+EAEvB,Y;MAAQ,OAAA,0BAAY,K;K;;IA5DID,0C;MAAA,iD;MAAuD,8B;MAvC3D, mB;MAwCQ,8BAAmB,W;MACnB,2BAAgB,WAA,Y,S;MAFhC,Y;K;IAKA,+B;MAAA,iD;MAGuB,aAAK,kEAA L,Q;MAHvB,Y;K;IAKA,4D;MAAA,iD;MAQ8D,qB;M7EpC9D,IAAI,E6EsCQ,mBAAmB,C7EtC3B,CAAJ,C;QA CI,c6EqCgC,+C;Q7EpChC,MAAM,gCAAYB,OAAQ,WAAjC,C;;MAFV,IAAI,E6EuCQ,cAAc,C7EvCtB,CAAJ,C; QACI,gB6EsC2B,yC;Q7ErC3B,MAAM,gCAAYB,SAAQ,WAAjC,C;;M6E0BV,Y;K;IAcA,gD;MAAA,iD;MAA2C ,eAAK,eAAL,EAAsB,GAAtB,Q;MAA3C,Y;K;IAGA,yC;MAAA,iD;MAG8C,qB;MAC1C,KAAK,gBAAO,QAAP, C;MAJT,Y;K;IAqCJ,4B;MAK8E,gBAAnE,aAAmB,gEAAmB,C;MAA2E,wB;MAAIF,O1EvCO,S;K;;M2EjEP,uB;; kCAyCA,mB;MACI,UAAU,gBAAI,aAAI,OAAJ,EAAs,IAAb,C;MACd,OAAO,W;K;8BAGX,Y;MACI,gBAAI,Q; K;uCAOR,mB;MAA6D,OAAA,gBAAI,mBAA,Y,OAAZ,C;K;gCAEjE,Y;MAAYC,OAAA,gBAAI,U;K;CAE7C,Y; MAAqD,OAAA,gBAAI,KAAK,W;K;qCAE9D,mB;MAAkD,OAAA,gBAAI,cAAO,OAAP,CAAJ,Q;K;+EAEpB,Y ;MAAQ,OAAA,gBAAI,K;K;;IA5D1C,6B;MAAA,iD;MAGoB,8B;MAZxB,mB;MAaQ,oBAAM,gB;MAJV,Y;K;IA OA,yC;MAAA,iD;MAG2C,8B;MAnB/C,mB;MAoBQ,oBAAM,eAAgB,QAAS,KAAzB,C;MACN,qBAAO,QAAP, C;MALJ,Y;K;IAQA,4D;MAAA,iD;MAQ2D,8B;MAhC/D,mB;MAiCQ,oBAAM,eAAgB,eAAhB,EAAiC,UAAjC, C;MATV,Y;K;IAYA,gD;MAAA,iD;MAA2C,eAAK,eAAL,EAAsB,GAAtB,Q;MAA3C,Y;K;IAEA,oC;MAAA,iD; MAM0C,8B;MA5C9C,mB;MA6CQ,oBAAW,G;MAPf,Y;K;IAmCJ,+B;MAKuC,gBAA5B,eAAQ,eAAR,C;MAAo C,6B;MAA3C,O3ENO,S;K;I4EzD6B,uC;MAAC,kC;MAErC,oBAAkC,kB;MACIC,sBAAyB,C;K;2EAHY,Y;MAA A,8B;K;2FAGrC,Y;MAAA,0B;K,OAAA,gB;MAAA,0B;K;gDAGA,sB;MACI,eAAe,aAAS,qBAA,Y,GAAZ,C;MA CxB,mBAAmB,6BAAsB,QAAtB,C;MACnB,IAAI,oBAAJ,C;QAEI,kBAAW,QAAX,IAAuB,mCAAY,GAAZ,EA AiB,KAAjB,C;;QAEvB,IAAI,6BAAJ,C;UAEL,YAA+B,Y;UAC/B,IAAI,aAAS,gBAAO,KAAM,IAAb,EAakB,GA AIB,CAAb,C;YACI,OAAO,KAAM,gBAAS,KAAT,C;;YAEb,kBAAW,QAAX,IAAuB,CAAQ,KAAR,EAAe,mCA AY,GAAZ,EAAiB,KAAjB,CAAf,C;YACvB,6B;YACA,OAAO,I;;UAIX,YAAuC,Y;UACvC,cAAkB,wBAAN,KA AM,EAAiB,GAAjB,C;UACIB,IAAI,eAAJ,C;YACI,OAAO,OAAM,gBAAS,KAAT,C;;UAEX,KAA,Y,MAAK,mC AAY,GAAZ,EAAiB,KAAjB,CAAL,C;;MAG1B,6B;MAEA,OAAO,I;K;iDAGX,e;MAEuB,Q;MADnB,eAAe,aAA S,qBAA,Y,GAAZ,C;MACL,oCAAsB,QAAtB,C;MAAA,iB;QAAMC,OAAO,I;;MAA7D,mBAAmB,I;MACnB,IAA I,6BAAJ,C;QACI,YAAgC,Y;QAChC,IAAI,aAAS,gBAAO,KAAM,IAAb,EAakB,GAAIB,CAAb,C;U5BzDR,O4B 0D6B,iB5B1DvB,C4B0DmC,Q5B1DnC,C;U4B2DM,6B;UACA,OAAO,KAAM,M;;UAEb,OAAO,I;;QAGX,YAA uC,Y;QACvC,8BAAc,KAAAd,iB;UACI,cAA,Y,MAAM,KAAN,C;UACZ,IAAI,aAAS,gBAAO,GAAP,EAAY,OAA M,IAAIB,CAAb,C;YACI,IAAI,KAAM,OAAN,KAAc,CAAIB,C;cACU,KAAN,UAA2B,C;c5BtE/C,O4BwEqC,iB5 BxE/B,C4BwE2C,Q5BxE3C,C;;c4B2EoB,KAA,Y,QAAsB,QAAP,EAAc,CAAd,C;;YAEtB,6B;YAEA,OAAO,OAA M,M;;;MAIzB,OAAO,I;K;0CAGX,Y;MACI,oBAAa,kB;MACb,YAAO,C;K;mDAGX,e;MAAYC,uBAAS,GAAT, S;K;8CAEzC,e;MAA+B,Q;MAAA,+BAAS,GAAT,8B;K;+CAE/B,e;MACuB,Q;MAAA,oCAAsB,aAAS,qBAA,Y, GAAZ,CAA/B,C;MAAA,iB;QAAoD,OAAO,I;;MAA9E,mBAAmB,I;MACnB,IAAI,6BAAJ,C;QACI,YAAgC,Y;Q AChC,IAAI,aAAS,gBAAO,KAAM,IAAb,EAakB,GAAIB,CAAb,C;UACI,OAAO,K;;UAEP,OAAO,I;;QAGX,YA AuC,Y;QACvC,OAAa,wBAAN,KAAM,EAAiB,GAAjB,C;;K;uDAlrB,0B;MACI,sB;;Q7F+nCY,Q;QAAhB,iD;UA AgB,cAAhB,e;UAAsB,I6F/nCK,aAAS,gB7F+nCA,O6F/nCa,IAAb,M7F+nCd,C;YAAwB,qBAAO,O;YAAP,uB;; QAC9C,qBAAO,I;;M6FhoCH,yB;K;IAIO,8E;MAAA,wD;MACH,aAA,Y,E;MAEZ,YAA0B,MAAA,MAAK,qCAA L,C;MACvC,gBAAe,E;MAEf,oBAA4B,I;MAC5B,eAAc,K;MACd,iBAAgB,E;MAChB,iBAAqC,I;K;yEAErC,Y; MACI,IAAI,6BAAwB,YAA5B,C;QACI,gBAAqB,iBAAqD,O;QAC1E,IAAI,4DAAc,SAAlB,C;UACI,OAAO,C;;

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R,OAAO,S;K;kEAGX,Y;M/E/CR,I+EgDyB,c/EhDrB,QAAJ,C;QACI,cAhByB,0B;QAIbZB,MAAM,6BAAsB,OA  
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FUN,eAAe,kBAAW,GAAX,C;MACf,kBAAW,GAAX,IAAkB,K;MAEIB,IAAI,aAAa,SAAJB,C;QACI,6B;QAEA,  
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C,oBAAuC,I;K;wDAEvC,oB;MACI,WAAmB,iB;MACnB,OAAa,mEAAS,QAAT,C;K;;IAIrB,wC;MAAA,oB;MA  
A+B,8C;K;IAE3B,sD;MAAA,oB;MACI,cACsC,I;MAEtC,cACsC,I;MAGIC,cAAO,iC;K;6DAIX,Y;MACI,OAAO,  
gBAAS,I;K;0DAGpB,Y;MAEI,IAAI,CAAC,cAAL,C;QAAgB,MAAM,6B;MAEtB,cAAc,0B;MACd,cAAO,O;MA  
Ca,gBAAb,OAAQ,a;;MAAf,c/E0DS,S+E1DoB,KAAO,iC/E0DzC,GAAqB,SAArB,GAA+B,I;M+EzD1B,OAAO,O  
;K;4DAGX,Y;MIFwBR,IAAI,EkFvBc,eAAQ,IIFuBtB,CAAJ,C;QACI,cAdW,e;QAEX,MAAM,6BAAsB,OAAQ,W  
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;;iDAIf,mB;MAAyD,MAAM,qCAA8B,iCAA9B,C;K;6CAC/D,Y;MACI,WAAmB,Q;K;6DAGvB,mB;MAAgE,OA  
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,CAAJ,C;QACI,WAAmB,cAAO,OAAQ,IAAf,C;QACnB,OAAO,I;;MAEX,OAAO,K;K;8FAGY,Y;MAAQ,OAAA  
,WAAmB,K;K;sDAEID,Y;MAAsC,WAAmB,iB;K;;iDAa7D,qB;MIFrBA,IAAI,EkF0BM,0BAAQ,IAAR,IAAgB,0  
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Z,IAAI,SAAS,IAAb,C;QACI,sBAAO,S;QACP,yBAAO,S;QACP,yBAAO,S;;QAGK,YAAa,KAAM,a;QIFIBhC,uB  
;QAEp,IAfoB,KAehB,QAAJ,C;UACI,gBAhByB,0B;UAIbZB,MAAM,6BAAsB,SAAQ,WAA9B,C;;UAEN,sBAnB  
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,C;QACI,eAAe,mCAAW,GAAX,EAAGB,KAAhB,C;QACf,kBAAI,aAAI,GAAJ,EAAS,QAAT,C;QACK,wBAAT,

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GC,sD;MAAE,+B;K;;IA5DvH,wC;MAAA,uC;QAAA,sB;;MAAA,gC;K;;ICCA,2B;MAEW,Q;MAAA,IAAI,KAA  
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B;;UAFmE,OAGhE,iB;;K;IAGZ,oC;MAEU,IAAN,I;MAAA,QxEhB0C,OwEgB3B,CAAf,C;aACI,Q;UAA6B,OAA  
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ES,OAAT,QAAS,S;;QAGb,4BAAiB,MAAjB,C;;MATJ,W;K;ICrCJ,0B;MAII,sBAAY,C;K;qEAChB,4B;MAIkE,iB



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B;QQ/XC,0C;QACA,IAAI,E/G8QoC,0BAAU,C+G9Q9C,CAAJ,C;UACI,2BAAO,GAAP,C;;QAEW,sCAAa,GAA  
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2D,E;MAAW,iC;QAAA,oBAA2D,E;MAAW,qC;QAAA,wBAmJvJ,U;;MANJqO,+B;QAAA,kBAmJrO,U;;MANJ6  
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BAAF,IAAuB,e;MACvB,EAAE,cAAF,IAAoB,Y;MACpB,OAAO,C;K;wIAYX,mC;MAEgD,2B;QAAA,cAAuB,E;  
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AF,IAAe,O;MACf,EAAE,YAAF,IAAKB,U;MACIB,EAAE,UAAf,IAAgB,Q;MACHB,OAAO,C;K;4HAWBX,iE;M  
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nB,qB;MAAQ,OAAO,M;K;+FAEd,qB;MAAQ,OAAQ,O;K;iGASF,qB;MAAQ,OAAU,S;K;+FAEnB,qB;MAAQ,O  
AAS,Q;K;mGAS3B,qB;MAAQ,OAAW,U;K;mGAEnB,qB;MAAQ,OAAW,U;K;6GC1D/E,mb;MAEmC,yB;QAA  
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Ac,M;MACd,EAAE,SAAF,IAAe,O;MACf,EAAE,eAAF,IAAqB,a;MACrB,EAAE,QAAF,IAAc,M;MACd,EAAE  
,SAAF,IAAe,O;MACf,EAAE,UAAF,IAAgB,Q;MACHb,EAAE,QAAF,IAAc,M;MACd,EAAE,SAAF,IAAe,O;MA



Cf,EAAE,kBAAF,IAAwB,gB;MACxB,EAAE,kBAAF,IAAwB,gB;MACxB,EAAE,YAAF,IAAkB,U;MACIB,EAAE,gBAAF,IAAsB,c;MACtB,EAAE,eAAF,IAAqB,a;MACrB,EAAE,iBAAF,IAAuB,e;MACvB,EAAE,oBAAF,IAA0B,kB;MAC1B,EAAE,eAAF,IAAqB,a;MACrB,EAAE,gBAAF,IAAsB,c;MACtB,EAAE,oBAAF,IAA0B,kB;MAC1B,EAAE,MAAF,IAAY,I;MACZ,EAAE,QAAF,IAAc,M;MACd,EAAE,SAAF,IAAe,O;MACf,EAAE,YAAF,IAAkB,U;MACIB,EAAE,UAAF,IAAgB,Q;MACHB,OAAO,C;K;6GC1BX,0C;MAEwC,oB;QAAA,OAAiB,I;MAAM,sB;QAAA,SAAmB,K;MAAO,uB;QAAA,UAAoB,K;MAAO,uB;QAAA,UAAoB,K;MACpI,QAAQ,E;MACR,EAAE,MAAF,IAAY,I;MACZ,EAAE,QAAF,IAAc,M;MACd,EAAE,SAAF,IAAe,O;MACf,EAAE,SAAF,IAAe,O;MACf,OAAO,C;K;4EAmIX,4B;MAEKe,iBAAY,KAAZ,C;K;4EAEIE,qC;MAE2E,UAAAY,KAAZ,IAAqB,O;K;4EAIbHG,4B;MAEuE,iBAAY,KAAZ,C;K;4EAEvE,qC;MAE+E,UAAAY,KAAZ,IAAqB,O;K;4EAIbPg,4B;MAEuE,iBAAY,KAAZ,C;K;4EAEvE,qC;MAE+E,UAAAY,KAAZ,IAAqB,O;K;4EAIgP,4B;MAEoE,iBAAY,KAAZ,C;K;2EAEpE,qC;MAE4E,UAAAY,KAAZ,IAAqB,O;K;4EAKcJ,4B;MAE6E,iBAAY,KAAZ,C;K;4EAE7E,qC;MAEqF,UAAAY,KAAZ,IAAqB,O;K;4EAgP1G,4B;MAEqE,iBAAY,KAAZ,C;K;4EAErE,qC;MAE6E,UAAAY,KAAZ,IAAqB,O;K;uFJ57BIG,+H;MAE8B,sB;QAAA,SAAkB,S;MAAW,uB;QAAA,UAAmB,S;MAAW,oB;QAAA,OAAgB,S;MAAW,wB;QAAA,WAAoB,S;MAAW,8B;QAAA,iBAA0B,S;MAAW,oB;QAAA,OAAqB,S;MAAW,2B;QAAA,cAAmC,S;MAAW,qB;QAAA,QAAuB,S;MAAW,wB;QAAA,WAA6B,S;MAAW,yB;QAAA,YAAqB,S;MAAW,yB;QAAA,YAAsB,S;MAAW,wB;QAAA,WAAe,S;MAC5Z,QAAQ,E;MACR,EAAE,QAAF,IAAc,M;MACd,EAAE,SAAF,IAAe,O;MACf,EAAE,MAAF,IAAY,I;MACZ,EAAE,UAAF,IAAgB,Q;MACHB,EAAE,gBAAF,IAAsB,c;MACtB,EAAE,MAAF,IAAY,I;MACZ,EAAE,aAAF,IAAmB,W;MACnB,EAAE,OAAF,IAAa,K;MACb,EAAE,UAAF,IAAgB,Q;MACHB,EAAE,WAAF,IAAiB,S;MACjB,EAAE,WAAF,IAAiB,S;MACjB,EAAE,QAAF,IAAc,Q;MACd,OAAO,C;K;yFA0CX,uC;MAE+B,sB;QAAA,SAAiB,G;MAAK,0B;QAAA,aAAsB,I;MAAM,uB;QAAA,UAAmB,S;MACHG,QAAQ,E;MACR,EAAE,QAAF,IAAc,M;MACd,EAAE,YAAF,IAAkB,U;MACIB,EAAE,SAAF,IAAe,O;MACf,OAAO,C;K;qFAUgD,qB;MAAQ,OAAG,E;K;mFAEX,qB;MAAQ,OAAQ,O;K;iFAEjB,qB;MAAQ,OAAO,M;K;mFAEd,qB;MAAQ,OAAQ,O;K;qFAEf,qB;MAAQ,OAAS,Q;K;mFAEIB,qB;MAAQ,OAAQ,O;K;mFAEhB,qB;MAAQ,OAAQ,O;K;mFAEhB,qB;MAAQ,OAAQ,O;K;qFASF,qB;MAAQ,OAAG,E;K;yFAER,qB;MAAQ,OAAW,U;K;mFAEtB,qB;MAAQ,OAAQ,O;K;mFAEjB,qB;MAAQ,OAAO,M;K;qFAEd,qB;MAAQ,OAAQ,O;K;yFAEb,qB;MAAQ,OAAW,U;K;mFAEtB,qB;MAAQ,OAAQ,O;K;qFAEf,qB;MAAQ,OAAS,Q;K;qFAEjB,qB;MAAQ,OAAS,Q;K;uFAEjB,qB;MAAQ,OAAS,Q;K;mGAEV,qB;MAAQ,OAAgB,e;K;iGAEzB,qB;MAAQ,OAAe,c;K;qFAE9B,qB;MAAQ,OAAQ,O;K;qFAEf,qB;MAAQ,OAAS,Q;K;iFAEnB,qB;MAAQ,OAAO,M;K;yFASzB,qB;MAAQ,OAAW,U;K;+FAEhB,qB;MAAQ,OAAc,a;K;uFAE1B,qB;MAAQ,OAAU,S;K;iFAErB,qB;MAAQ,OAAO,M;K;iFASD,qB;MAAQ,OAAO,M;K;iGAER,qB;MAAQ,OAAc,a;K;uFAE1B,qB;MAAQ,OAAU,S;K;yFAS9B,qB;MAAQ,OAAU,S;K;yFAEjB,qB;MAAQ,OAAW,U;K;qFAErB,qB;MAAQ,OAAS,Q;K;yFAEf,qB;MAAQ,OAAW,U;K;+FAEhB,qB;MAAQ,OAAc,a;K;qGAEnB,qB;MAAQ,OAAiB,gB;K;qFAS3B,qB;MAAQ,OAAS,Q;K;mFAEIB,qB;MAAQ,OAAQ,O;K;uFAEf,qB;MAAQ,OAAS,Q;K;mFASxB,qB;MAAQ,OAAQ,O;K;mFAEjB,qB;MAAQ,OAAO,M;K;yFAEZ,qB;MAAQ,OAAU,S;K;qFAEpB,qB;MAAQ,OAAQ,O;K;qFAEf,qB;MAAQ,OAAS,Q;K;qGAET,qB;MAAQ,OAAiB,gB;K;+FKnR/F,gB;MAEkC,oB;QAAA,OAAgB,E;MAC9C,QAAQ,E;MACR,EAAE,MAAF,IAAY,I;MACZ,OAAO,C;K;+FAiBX,8B;MAEkC,4B;QAAA,eAAqB,S;MAAW,oB;QAAA,OAAgB,E;MAC9E,QAAQ,E;MACR,EAAE,cAAF,IAAoB,Y;MACpB,EAAE,MAAF,IAAY,I;MACZ,OAAO,C;K;0EAUX,4B;MAE6D,iBAAY,KAAZ,C;K;+GC6B7D,sJ;MAEsC,mB;QAAA,MA4GuD,M;MA5GG,oB;QAAA,OAAgB,E;MAAI,oB;QAAA,OAAgB,E;MAAI,mB;QAAA,MAAe,E;MAAI,qB;QAAA,QAAiB,S;MAAW,oB;QAAA,OAAgB,S;MAAW,qB;QAAA,QAAiB,S;MAAW,qB;QAAA,QAAiB,S;MAAW,uB;QAAA,UAAmB,S;MAAW,yB;QAAA,YAAqB,S;MAAW,wB;QAAA,WAAqB,K;MAAO,sB;QAAA,SAAmB,K;MAAO,wB;QAAA,WAAqB,K;MAAO,kC;QAAA,qBAA+B,K;MAAO,sB;QAAA,SAAmB,K;MAAO,oB;QAAA,OAAa,I;MAAM,uB;QAAA,UAAc,E;MAC/gB,QAAQ,E;MACR,EAAE,KAAF,IAAW,G;MACX,EAAE,MAAF,IAAY,I;MACZ,EAAE,MAAF,IAAY,I;MACZ,EAAE,KAAF,IAAW,G;MACX,EAAE,OAAF,IAAa,K;MACb,EAAE,MAAF,IAAY,I;MACZ,EAAE,OAAF,IAAa,K;MACb,EAAE,OAAF,IAAa,K;MACb,EAAE,SAAF,IAAe,O;MACf,EAAE,WAAF,IAAiB,S;MACjB,EAAE,UAAF,IAAgB,Q;MACHB,EAAE,QAAF,IAAc,M;MACd,EAAE,UAAF,IAAgB,Q;MACHB,EAAE,oBAAF,IAA0B,kB;MAC1B,EAAE,QAAF,IAAc,M;MACd,EAAE,MAAF,IAAY,I;MACZ,EAAE,SAAF,IAAe,O;MACf,OAAO,C;K;6GAWX,+B;MAEsE,oB;QAAA,OAAgB,S;MACIF,QAAQ,E;MACR,EAAE,QAAF,IAAc,M;MACd,EAAE,OAAF,IAAa,K;MACb,EAA

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MAKI,0E;MAEA,sE;K;;IAFA,kD;MAAA,+B;MAAA,0C;K;;IAEA,gD;MAAA,+B;MAAA,wC;K;;IAPJ,qC;MAA  
A,yF;K;;IAAA,0C;MAAA,a;AAAA,S;UAAA,+C;aAAA,O;UAAA,6C;;UAAA,8D;;K;;IA0BmC,sC;MACnC,8B;K;  
;IAMqC,sC;MACrC,8B;K;;IC5DJ,iC;K;;ICMA,4B;K;;IA6BA,gD;K;;IC5BA,qC;K;;IA0BA,+B;K;;ICNqC,uC;MA  
CjC,uB;QAAA,UAAaB,E;MACtB,qB;QAAA,+C;MADA,sB;MACA,kB;K;IAEA,4C;MAAA,e;MAAA,iB;MAAA,  
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;MAAA,yC;K;;IARJ,sC;MAAA,2F;K;;IAAA,2C;MAAA,a;AAAA,S;UAAA,gD;aAAA,O;UAAA,8C;;UAAA,+D;;  
K;;IAyByB,4B;MACzB,8B;K;;IC/C4C,8B;K;kDAI5C,mB;MAA6D,c;;QrJ2rD7C,Q;QADhB,IAAI,mCAAsB,cAA  
1B,C;UAAqC,aAAO,K;UAAP,e;;QACrB,sB;QAAhB,OAAgB,cAAhB,C;UAAgB,2B;UAAM,IqJ3rD6C,OrJ2rD/B,  
SqJ3rD+B,UrJ2rD7C,C;YAAwB,aAAO,I;YAAP,e;;;QAC9C,aAAO,K;;;MqJ5rDsD,iB;K;uDAE7D,oB;MACa,c;;Qr  
JmqDG,Q;QADhB,IAAI,cqJlqDA,QrJkqDA,iBqJlqDA,QrJkqDsB,UAA1B,C;UAAqC,aAAO,I;UAAP,e;;QACrB,O  
qJnqDZ,QrJmqDY,W;QAAhB,OAAgB,cAAhB,C;UAAgB,yB;UAAM,IAAI,CqJnqDP,oBrJmqDkB,OqJnqDIB,CrJ  
mqDG,C;YAAyB,aAAO,K;YAAP,e;;;QAC/C,aAAO,I;;;MqJpDqDH,iB;K;2CAEJ,Y;MAAkC,qBAAQ,C;K;IAEqB,q  
E;MAAA,qB;QAC3D,OAAI,OAAO,uBAAX,GAAiB,mBAAjB,GAA6C,SAAH,EAAG,C;O;K;4CADjD,Y;MAAk  
C,4BAAa,IAAb,EAAMb,GAAnB,EAawB,GAAXb,kBAA6B,wCAA7B,C;K;2CAIIC,Y;MAI4C,uBAAgB,IAAhB,  
C;K;mDAE5C,iB;MAI4D,yBAAgB,IAAhB,EAAsB,KAAtB,C;K;;IC/BhE,8B;MAAA,e;MAAA,iB;MAAA,uB;K;I  
AAA,4B;MAAA,+B;O;MACI,4C;MACA,kD;MACA,0C;MACA,8C;K;;IAHA,mC;MAAA,kB;MAAA,2B;K;;IAC  
A,sC;MAAA,kB;MAAA,8B;K;;IACA,kC;MAAA,kB;MAAA,0B;K;;IACA,oC;MAAA,kB;MAAA,4B;K;;IAJJ,wB;  
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iC;;UAAA,6D;;K;;IAOA,4B;MAKI,mD;MACA,2BAA4B,I;K;yCAE5B,Y;MAEiB,IAAN,I;M5JUX,IAAI,E4JXQ,  
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M;UAAc,Y;UAAAd,K;aACA,O;UAAe,W;UAAf,K;;UACQ,wC;UAHL,K;;MAAP,W;K;sCAOJ,Y;MAIW,Q;MAHP,  
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CA,OAAO,kD;K;+CAeX,iB;MAII,2BAAY,K;MACZ,gD;K;sCAGJ,Y;MAII,+C;K;;ICjDkC,wB;MAoFtC,oC;MAp  
FgE,6B;K;sCAIhE,Y;MAAuC,0C;K;2CAEvC,mB;MAAwD,uB;;QvJkU3C,Q;QADb,YAAyC;QACC,sB;QAAb,O  
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;;QAEJ,sBAAO,E;;MuJvUiD,0B;K;+CAExD,mB;MAA4D,sB;;QvJ2V5D,eAAoB,0BAAa,SAAb,C;QACpB,OAA  
O,QAAS,cAAhB,C;UACI,IuJ7VsE,OvJ6VxD,QAAS,WuJ7V+C,UvJ6VtE,C;YACI,qBAAO,QAAS,Y;YAAhB,uB;  
;;QAGR,qBAAO,E;;MuJwQD,yB;K;0CAE5D,Y;MAA+C,+CAAiB,CAAjB,C;K;kDAE/C,iB;MAAyD,+CAAiB,  
KAAjB,C;K;6CAEzD,8B;MAA8D,gCAAQ,IAAR,EAAC,SAAd,EAAYB,OAAzB,C;K;IAEIC,wD;MAAgF,uB;MA  
A/E,kB;MAAmC,4B;MAC5D,eAAyB,C;MAGrB,+DAAkB,gBAAIB,EAA6B,OAA7B,EAAsC,WAAK,KAA3C,C;  
MACA,eAAa,UAAU,gBAAV,I;K;iDAGjB,iB;MACI,+DAAkB,KAAIB,EAAYB,YAAzB,C;MAEA,OAAO,wBAA  
K,mBAAY,KAAZ,IAAL,C;K;4FAGY,Y;MAAQ,mB;K;;oCAGnC,iB;MAMI,IAAI,UAAU,IAAd,C;QAAoB,OAA  
O,I;MAC3B,IAAI,2BAAJ,C;QAAuB,OAAO,K;MAE9B,OAAO,2DAAC,IAAd,EAAoB,KAApB,C;K;sCAGX,Y;M  
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C,Y;MAEe,gB;MADX,IAAI,CAAC,cAAL,C;QAAgB,MAAM,6B;MACX,iE;MAAX,OAAO,+B;K;;IAO0B,sD;M  
AHZC,oB;MAGwD,iD;MAGhD,gEAAmB,KAAAnB,EAA0B,WAAkB,KAA5C,C;MACA,eAAa,K;K;0DAGjB,Y;M  
AAsC,sBAAQ,C;K;wDAE9C,Y;MAAgC,mB;K;uDAEhC,Y;MACI,IAAI,CAAC,kBAAL,C;QAAoB,MAAM,6B;  
MAC1B,OAAO,yBAAL,mCAAJ,EAAL,YAAJ,E;K;4DAGX,Y;MAAoC,sBAAQ,CAAR,I;K;;IAGxC,kC;MAAA,sC  
;K;iEACI,uB;MACI,IAAI,QAAQ,CAAR,IAAa,SAAS,IAA1B,C;QACI,MAAM,8BAA0B,YAAS,KAAT,gBAAuB,  
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yB,iBAAc,UAAAd,qBAAsC,QAA/D,C;;K;+DAId,a;MAEc,UACsB,M;MAFhC,iBA Ae,C;MACL,mB;MAAV,OAA  
U,cAAV,C;QAAU,mB;QACN,aAAW,MAAK,UAAAL,SAAiB,6DAAiB,CAAIC,K;;MAEf,OAAO,U;K;6DAGX,oB  
;MAIiB,Q;MAHb,IAAI,CAAE,KAAF,KAAU,KAAM,KAApB,C;QAA0B,OAAO,K;MAEjC,oBAAoB,KAAM,W;  
MACb,mB;MAAb,OAAa,cAAb,C;QAAa,sB;QACT,gBAAgB,aAAc,O;QAC9B,IAAI,cAAQ,SAAR,CAAJ,C;UAC

I,OAAO,K;;;MAGf,OAAO,I;K;;;IAjDf,8C;MAAA,6C;QAAA,4B;;MAAA,sC;K;;ICnFwC,uB;MAyHxC,mC;MAz  
CA,uBAC6B,I;MAMc7B,yBACsC,I;K;8CAnHtC,e;MACI,OAAO,6BAAc,GAAd,S;K;gDAGX,iB;MAAwE,gBAA  
R,Y;MAAQ,c;;QxJkrDxD,Q;QADhB,IAAI,wCAAsB,mBAA1B,C;UAAqC,aAAO,K;UAAP,e;;QACrB,2B;QAAhB  
,OAAgB,cAAhB,C;UAAgB,yB;UAAM,IwJlrDwD,OxJkrD1C,OwJlrD6C,MAAH,QxJkrDxD,C;YAAwB,aAAO,I;  
YAAP,e;;QAC9C,aAAO,K;;;MwJnrDyD,iB;K;kDAEhE,iB;MAEI,IAAI,gCAAJ,C;QAA+B,OAAO,K;MACtC,UA  
AU,KAAM,I;MACHb,YAAY,KAAM,M;MrKiNO,Q;MqKhNzB,erKgN4C,CAAnB,mDAAmB,YqKhNzB,GrKgN  
yB,C;MqK9M5C,IAAI,eAAS,QAAT,CAAJ,C;QACI,OAAO,K;;MAIP,6B;MAAA,W;QrK0NqB,U;QqK1ND,UrK0  
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wC,Q;MAAA,4CAAc,GAAd,8B;K;qCAGxC,Y;MAK+B,OAAQ,SAAR,YAAQ,C;K;oCAEvC,Y;MAAkC,qBAAQ  
,C;K;mFACnB,Y;MAAQ,OAAA,YAAQ,K;K;IAWnB,0E;MAAA,wC;MAAS,sB;K;8EACb,mB;MAAsD,+CAAY,  
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OAAO,I;K;;wEAItd,Y;MACI,oBAAoB,6BAAQ,W;MAC5B,+F;K;SHAMmB,Y;MAAQ,OAAA,qBAAiB,K;K;;mF  
Ab5D,Y;MACI,IAAI,4BAAJ,C;QACI,+E;;MAcJ,OAAO,mC;K;IAOwD,uD;MAAA,qB;QAAE,2CAAS,EAAT,C;  
O;K;qCAAzE,Y;MAAkC,OAAQ,eAAR,YAAQ,EAAa,IAAb,EAAmB,GAAnB,EAAwB,GAAxB,kBAA6B,iCAA7  
B,C;K;+CAE1C,iB;MAAuD,+BAAS,KAAM,IAAf,IAAsB,GAAtB,GAA4B,wBAAS,KAAM,MAAf,C;K;+CAEnF,  
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ChD,Y;MAAyB,OAAA,0BAAc,OAAO,M;K;;0EAItd,Y;MACI,oBAAoB,6BAAQ,W;MAC5B,iG;K;wHAMmB,Y  
;MAAQ,OAAA,qBAAiB,K;K;;qFAb5D,Y;MACI,IAAI,8BAAJ,C;QACI,mF;;MAcJ,OAAO,qC;K;oDAMf,e;MAA  
8D,gBAAR,Y;MAAQ,sB;;QxJiJ9C,Q;QAAA,2B;QAAhB,OAAgB,cAAhB,C;UAAgB,yB;UAAM,IwJjJsD,OxJiJx  
C,OwJjJ2C,IAAH,MxJiJtd,C;YAAwB,qBAAO,O;YAAP,uB;;;QAC9C,qBAAO,I;;MwJlJ+C,yB;K;IAEtD,iC;MA  
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iC,8DAAqB,CAAjD,C;K;4DACHe,a;MAAyD,OAAU,SAAL,CAAO,IAAF,mBAAL,CAAY,MAAP,C;K;0DACnE,  
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C;QAAsB,OAAO,K;MAC7B,OAAO,sDAAU,IAAV,EAAGB,KAAhB,C;K;qCAGX,Y;MAG+B,qEAAkB,IAAIB,C  
;K;IAE/B,iC;MAAA,qC;K;gEACI,a;MAEOB,Q;MADhB,iBAAE,C;MACC,mB;MAAhB,OAAgB,cAAhB,C;QAAg  
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B,WAA9B,C;MACIB,oBAAa,WAAb,C;K;0CAGJ,uB;MAII,kBAAkB,gBAAmB,WAAAnB,O;M/J20BtB,U+J10BI,k  
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AA,U+Jz0BI,kB/Jy0BJ,E+Jz0ByB,W/Jy0BzB,E+Jz0BsC,kBAAY,OAAZ,GAAMB,WAAAnB,I/Jy0BtC,E+Jz0B+D,  
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B/JulBhB,E+JvlBqC,kB/JulBrC,E+JvlBkD,kBAAy,OAAZ,GAAMB,YAAAnB,I/JulBiD,E+JvlBmF,C/JulBnF,E+Jvl

BsF, Y/JulBtF, C; YAAA, U+JtlBgB, kB/JslBhB, E+JtlBqC, kB/JslBrC, E+JtlBkD, C/JslBID, E+JtlBqD, Y/JslBrD, E+JtlBmE, a/JslBnE, C;; Q+JnlBQ, cAAO, W; QACP, 8BAAuB, mBAAy, gBAAGb, YAAhB, IAAZ, CAAvB, EAAKE, QAAIE, C;; QAIA, 2BAA2B, gBAAGb, YAAhB, I; QAE3B, IAAI, gBAAGb, IAAPb, C; UACI, IAAI, QAAO, YAAP, SAAuB, kBAAY, OAAvC, C; Y/J2kBZ, U+J1kBgB, kB/J0kBhB, E+J1kBqC, kB/J0kBrC, E+J1kBkD, oB/J0kBID, E+J1kBwE, a/J0kBxE, E+J1kBuF, I/J0kBvF, C;; Y+JxkBgB, IAAI, wBAAwB, kBAAY, OAAx, C; c/JwkBhB, U+JvkBoB, kB/JukBpB, E+JvkByC, kB/JukBzC, E+JvkBsD, uBAAuB, kBAAY, OAAnc, I/JukBtD, E+JvkB+F, a/JukB/F, E+JvkB8G, I/JukB9G, C;; c+JrkBoB, mBAAmB, OAAO, YAAP, GAASb, kBAAY, OAAIC, I; c/JqkBVc, U+JpkBoB, kB/JokBpB, E+JpkByC, kB/JokBzC, E+JpkBsD, C/JokBtD, E+JpkByD, OAAO, YAAP, I/JokBzD, E+JpkB8E, I/JokB9E, C; cAAA, U+JnkBoB, kB/JmkBpB, E+JnkByC, kB/JmkBzC, E+JnkBsD, oB/JmkBtD, E+JnkB4E, a/JmkB5E, E+JnkB2F, OAAO, YAAP, I/JmkB3F, C;; UAAA, U+J/jBY, kB/J+jBZ, E+J/jBiC, kB/J+jBjC, E+J/jB8C, Y/J+jB9C, E+J/jB4D, C/J+jB5D, E+J/jB+D, I/J+jB/D, C; U+J9jBY, IAAI, wBAAwB, kBAAY, OAAx, C; Y/J8jBZ, U+J7jBgB, kB/J6jBhB, E+J7jBqC, kB/J6jBrC, E+J7jBkD, uBAuB, kBAAY, OAAnc, I/J6jBID, E+J7jB2F, a/J6jB3F, E+J7jB0G, kBAAY, O/J6jBtH, C;; YAAA, U+J3jBgB, kB/J2jBhB, E+J3jBqC, kB/J2jBrC, E+J3jBkD, C/J2jBID, E+J3jBqD, kBAAY, OAAZ, GAAMb, YAAAnB, I/J2jBrD, E+J3jBsF, kBAAY, O/J2jBIG, C; YAAA, U+J1jBgB, kB/J0jBhB, E+J1jBqC, kB/J0jBrC, E+J1jBkD, oB/J0jBID, E+J1jBwE, a/J0jBxE, E+J1jBuF, kBAAY, OAAZ, GAAMb, YAAAnB, I/J0jBvF, C;; Q+JvjBQ, 8BAAuB, aAAvB, EAAsC, QAAc, C;; MAGJ, OAAO, I; K; uCAGX, iB; MACI, oCAAa, 2BAAk, KAAIB, EAAyB, SAAzB, C; MAjRN, Q; MAmRP, OAnRO, 2BAQyC, mBAAy, cA2Q3B, KA3Q2B, IAAZ, CARzC, 4D; K; uCAsRX, 0B; MACI, oCAAa, 2BAAk, KAAIB, EAAyB, SAAzB, C; MAEb, oBAjRgD, mBAAy, cAiR1B, KAjR0B, IAAZ, C; MARzC, Q; MA0RP, iBA1RO, 2BA0RsB, aA1RtB, 4D; MA2RP, mBAAy, aAAZ, IAA6B, O; MAE7B, OAAO, U; K; OCAGX, mB; MAAoD, 0BAAQ, OAAr, MAAoB, E; K; yCAExE, mB; MAIsB, IAIA, IAJA, EAiuB, M; MAPzC, WA3RgD, mBAAy, cA2RnC, SA3RmC, IAAZ, C; MA6RhD, IAAI, cAAO, IAAx, C; QACI, iBAAc, WAAAd, UAAyB, IAAzB, U; UACI, IAAI, gBAAW, mBAAy, KAAZ, CAAX, CAAJ, C; YAAmC, OAAO, QAAQ, WAAR, I;; aAE3C, IAAI, eAAQ, IAAZ, C; QACW, kB; QAAuB, SAAZ, kBAAY, O; QAArC, qD; UACI, IAAI, gBAAW, mBAAy, OAAZ, CAAX, CAAJ, C; YAAmC, OAAO, UAAQ, WAAR, I;; QAE9C, mBAAC, CAAd, YAASB, IAAtB, Y; UACI, IAAI, gBAAW, mBAAy, OAAZ, CAAX, CAAJ, C; YAAmC, OAAO, UAAQ, kBAAY, OAApB, GAA2B, WAA3B, I;; MAIID, OAAO, E; K; 6CAGX, mB; MAIsC, UAOJ, MAPI, EA0a, M; MAV/C, WA9SgD, mBAAy, cA8SnC, SA9SmC, IAAZ, C; MAgThD, IAAI, cAAO, IAAX, C; QACkC, kB; QAA9B, iBAAc, OAAO, CAAP, IAAd, yB; UACI, IAAI, gBAAW, mBAAy, KAAZ, CAAX, CAAJ, C; YAAmC, OAAO, QAAQ, WAAR, I;; aAE3C, IAAI, cAAO, IAAX, C; QACH, mBAAC, OAAO, CAAP, IAAd, aAA8B, CAA9B, Y; UACI, IAAI, gBAAW, mBAAy, OAAZ, CAAX, CAAJ, C; YAAmC, OAAO, UAAQ, kBAAY, OAApB, GAA2B, WAA3B, I;; QAEpB, uBAAZ, kBAAY, C; QAAiB, oB; QAA3C, wD; UACI, IAAI, gBAAW, mBAAy, OAAZ, CAAX, CAAJ, C; YAAmC, OAAO, UAAQ, WAAR, I;; MAIID, OAAO, E; K; wCAGX, mB; MACI, YAAy, mBAAQ, OAAr, C; MACZ, IAAI, UAAS, EAAb, C; QAAiB, OAAO, K; MACxB, sBAAS, KAAT, C; MACA, OAAO, I; K; 4CAGX, iB; MACI, oCAAa, 2BAAk, KAAIB, EAAyB, SAAzB, C; MAEb, IAAI, UAAS, sBAAb, C; QACI, OAAO, iB; aACJ, IAAI, UAAS, CAAb, C; QACH, OAAO, kB;; MAGX, oBAhVgD, mBAAy, cAgV1B, KAhV0B, IAAZ, C; MARzC, Q; MAyVP, cAzVO, 2BAyVmB, aAzVnB, 4D; MA2VP, IAAI, QAAQ, aAAS, CAARb, C; QAEI, IAAI, iBAAiB, WAARb, C; U/Joer, U+JneY, kB/JmeZ, E+JneiC, kB/JmejC, E+Jne8C, cAAO, CAAP, I/Jme9C, E+JnewD, W/JmexD, E+Jne8D, a/Jme9D, C;; UAAA, U+JjeY, kB/JjeZ, E+JjeiC, kB/JiejC, E+Jje8C, C/Jje9C, E+JjeiD, C/JiejD, E+JjeoD, a/JjepD, C; U+JheY, mBAAy, CAAZ, IAAiB, mBAAy, kBAAY, OAAZ, GAAMb, CAAnB, IAAZ, C; U/Jge7B, U+JdY, kB/J+dZ, E+J/diC, kB/J+djC, E+J/d8C, cAAO, CAAP, I/J+d9C, E+J/dwD, W/J+dxD, E+J/d8D, kBAAY, OAAZ, GAAMb, CAAnB, I/J+d9D, C;; Q+J5dQ, mBAAy, WAAZ, IAAoB, I; QACPb, cAAO, mBAAy, WAAZ, C;; QAGP, wBAjW4C, mBAAy, cAiWlB, sBAjWk, IAAZ, C; QAmW5C, IAAI, iBAAiB, iBAArB, C; U/JsdR, U+JrdY, kB/JqdZ, E+JrdiC, kB/JqdjC, E+Jrd8C, a/Jqd9C, E+Jrd6D, gBAAGb, CAAhB, I/Jqd7D, E+JrdgF, oBAAoB, CAAPb, I/JqdhF, C;; UAAA, U+JndY, kB/JmdZ, E+JndiC, kB/JmdjC, E+Jnd8C, a/Jmd9C, E+Jnd6D, gBAAGb, CAAhB, I/Jmd7D, E+JndgF, kBAAY, O/Jmd5F, C; U+JldY, mBAAy, kBAAY, OAAZ, GAAMb, CAAnB, IAAZ, IAAoC, mBAAy, CAAZ, C; U/JkdhD, U+JjdY, kB/JidZ, E+JjdiC, kB/JidjC, E+Jjd8C, C/Jid9C, E+JjdiD, C/JidjD, E+JjdoD, oBAAoB, CAAPb, I/JidpD, C;; Q+J9cQ, mBAAy, iBAAZ, IAAiC, I;; MAErC, wBAAQ, CAAR, I; MAEA, OAAO, O; K; 6CAGX, oB; MAAkE, 0B;; QAa5C, wD; QART, aAAL, IAAK, U; QAAL, Y; UAA8B, SAAZ, kB9K6wOnB, YAAQ, C;; Q8K7wOX, W; UACI, yBAAO, K; UAAP, 2B;; QAEJ, WA1XgD, mBAAy, cA0XnC, SA1XmC, IAAZ, C; QA2XhD, cAAc, W; QACd, eAAe, K; QAEf, IAAI, cAAO, IAAX, C; UACI, iBAAc, WAAAd, UAAyB, IAAzB, U; YACI, cAAc, mBAAy, KAAZ, C; YAGd, IAjBsE, CAAU, wBAiBIE, 0EAjBkE, CAi

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C;MAMoE,4BAAiB,SAAjB,C;K;uFAEpE,gC;MAKI,OAAGB,mBAAhB,C;QAAGB,8B;QAAM,UAAU,OAAP,C;;

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C,gCAAqB,SAArB,C;K;IAE/C,iC;MAM6D,wBAAa,SAAb,C;K;;;IxKpC7D,oD;MAQuF,wC;K;IARvF,8CASI,Y;  
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O;MAT3C,8E;MyKiB2I,qD;QAAA,mB;UAAE,gBAAS,qBAAT,C;S;O;MAH7I,gC;QAGkI,kCAAS,mCAAT,C;O;  
KAHII,C;IAKA,2B;MAQI,eAAe,6B;MACf,oBAA0B,+BAAN,KAAM,EAAwC,QAAXC,EAA+D,QAA/D,C;MAC  
1B,OAAO,Q;K;8FAGX,yB;MAAA,kD;MAAA,gC;QAGkI,gBAAS,aAAT,C;O;KAHII,C;IAGB0C,yB;K;+CAoBtC,  
kC;MAOI,IAAI,uCAA0B,QAAS,UAAvC,C;QAAkD,M;MACID,OAAO,sBAAS,QAAS,WAAIB,e;K;+CAGX,kC;  
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,QAAM,YAAN,C;aACI,C;aAAA,C;UAAsC,OAAO,qB;aAC7C,C;UACI,eAAQ,C;UACR,OAAO,kCAAe,O;aAEI  
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,IAAI,CAAC,cAAL,C;QAAgB,MAAM,6B;;QAA8B,OAAO,W;K;2DAG/D,Y;MAA4C,QAAM,YAAN,C;aACxC,  
C;UADwC,OAC1B,6B;aACd,C;UAFwC,OAExB,6BAAsB,sBAATb,C;;UAFwB,OAGhC,6BAAsB,uCAAoC,YAA  
ID,C;;K;IAOqC,4E;MAAA,oB;QACzC,wCAAW,C;QAAX,OACA,yB;O;K;oDALR,+B;MACI,mBAAY,K;MACZ  
,eAAQ,C;MACR,OAA6C,0CAAtC,c;K;IAUsC,+E;MAAA,oB;QACzC,wCAAW,C;QAAX,OACA,yB;O;K;yDAN  
R,kC;MACI,IAAI,CAAC,QAAS,UAAAd,C;QAAYB,M;MACzB,sBAAe,Q;MACf,eAAQ,C;MACR,OAA6C,6CAAt  
C,c;K;2DAMX,kB;M1HjBO,Q;MADP,e0HoBI,M1HpBJ,C;MACO,Q0HmBH,M1HnBG,+D;M0HoBH,eAAQ,C;K  
;kGAIR,Y;MAAQ,0C;K;;IzK1LhB,oD;MAQuF,wC;K;IARvF,8CASI,Y;MAAuC,8B;K;IAT3C,gF;sFAAA,yB;MA  
AA,kC;MAAA,0C;MAAA,kD;QAQuF,wC;O;MARvF,4CASI,Y;QAAuC,8B;O;MAT3C,8E;MAAA,2B;QAQuF,2  
C;O;KARvF,C;IAiBGe,+C;MAAA,mB;QAAE,sB;O;K;IALIE,kC;MAKuD,OAAkB,2CAAT,+BAAS,E;K;IAEzE,8  
B;MAK6D,OAAI,Qb2rPtD,YAAQ,Ca3rP0C,GAAwB,eAAxB,GAAsD,WAAT,QAAS,C;K;IAEnH,yB;MAG8C,kC  
;K;IAE9C,yB;MAAA,6B;K;uCACI,Y;MAA6C,kC;K;2CAC7C,a;MAA4B,kC;K;2CAC5B,a;MAA4B,kC;K;;IAHh  
C,qC;MAAA,oC;QAAA,mB;;MAAA,6B;K;oFAMA,yB;MAAA,2D;MAAA,4B;QAM4D,uCAAQ,e;O;KANpE,C;I  
AgB4F,mH;MAAA,wC;MAAA,6B;MAAA,yB;MAAA,wC;MAAA,wD;MAAA,kC;K;;;kDAAA,Y;;;cACxFeA  
Ae,uBAAa,W;cAC5B,IAAI,QAAS,UAAb,C;gBACI,gB;gCAAA,sCAAS,QAAT,O;oBAAA,2C;yBAAA,yB;gBAA  
A,Q;;gBAEA,gB;gCAAA,sCAAS,iCAAT,O;oBAAA,2C;yBAAA,yB;gBAAA,Q;;;cAJJ,W;;cAAA,W;;;  
K;IADwF,gE;MAAA,yD;uBAAA,uG;YAAA,S;iBAAA,Q;;iBAAA,uB;O;K;IAP5F,4C;MAOmF,gBAAS,uCAAT,  
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CAAJ,C;QACI,OAA4C,CAApC,2EAAoC,kBAAQ,QAAR,C;;MAEHd,OAAO,uBAAMb,SAAnB,EAAYB,gBAAz  
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C;QAAA,sB;QACT,KAAM,WAAI,IAAK,MAAT,C;QACN,KAAM,WAAI,IAAK,OAAT,C;;MAEV,OAAO,UAA  
S,KAAT,C;K;IAGX,+B;MAQqD,6BAAS,4BAAT,C;K;IAW0B,+G;MAAA,wC;MAAA,6B;MAAA,yB;MAAA,0C;  
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C;gBAAA,gB;;;cACI,QAAQ,yBAAO,iBAAQ,iBAAO,KAAf,C;cACf,WAAkB,WAAP,iBAAO,C;cACIB,YAAgB,  
IAAI,iBAAO,KAAf,GAAqB,iBAAO,aAAI,CAAJ,EAAO,IAAP,CAA5B,GAA8C,I;cAC1D,gB;8BAAA,iCAAM,K  
AAN,O;kBAAA,2C;uBAAA,yB;cAAA,Q;;cAJJ,gB;;cAMJ,W;;;K;IAR+E,4D;MAAA,yD;uBAAA,mG;Y  
AAA,S;iBAAA,Q;;iBAAA,uB;O;K;IAT/E,uC;MASmE,gBAAY,kCAAZ,C;K;IAkBhC,0D;MAE/B,wB;QAAA,WA  
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E;MACrB,gBAAMb,I;K;oEAEnB,Y;MACI,OAAO,aAAS,UAAhB,C;QACI,WAAW,aAAS,O;QACpB,IAAI,wCA  
AU,IAAV,MAAMb,sCAAvB,C;UACI,gBAAW,I;UACX,iBAAY,C;UACZ,M;;MAGR,iBAAY,C;K;8DAGhB,Y;  
MASW,Q;MARP,IAAI,mBAAa,EAAjB,C;QACI,iB;MACJ,IAAI,mBAAa,CAAjB,C;QACI,MAAM,6B;MACV,aA  
Aa,a;MACb,gBAAW,I;MACX,iBAAY,E;MAEZ,OAAO,yE;K;IEAGX,Y;MACI,IAAI,mBAAa,EAAjB,C;QACI,iB  
;MACJ,OAAO,mBAAa,C;K;;2CAhC5B,Y;MAAuC,yD;K;;IA2C3C,qD;MAAY,0B;MAAMC,gC;K;IACJ,gF;MAA

A,0D;MACnC,gBA Ae,oCAAS,W;K;iEACxB,Y;MACI,OAAO,6CAAY,aAAS,OAArB,C;K;oEAGX,Y;MACI,OA  
AO,aAAS,U;K;;8CAPxB,Y;MAAuC,4D;K;qDAWvC,oB;MACI,OAAO,uBAA4B,eAA5B,EAAsC,kBAAtC,EAA  
mD,QAAAnD,C;K;;IAUf,4D;MAAY,0B;MAAmC,gC;K;IACJ,8F;MAAA,wE;MACnC,gBA Ae,2CAAS,W;MACxB,  
aAAY,C;K;wEACZ,Y;MAC0C,Q;MAAtC,OAAO,oDAAY,oBAAmB,iBAAnB,EAAMb,yBAAnB,QAAZ,EAAyC,  
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mB,iBAAnB,EAAMb,yBAAnB,QAAb,EAA0C,aAAS,OAAAnD,C;K;gEAGX,Y;MACI,OAAO,aAAS,U;K;;0CARx  
B,Y;MAAqD,wD;K;;IAmBzD,0D;MACI,4B;MACA,4B;MACA,4B;K;IAEuC,sE;MAAA,gD;MACnC,iBAAgB,gC  
AAU,W;MAC1B,iBAAgB,gCAAU,W;K;4DAC1B,Y;MACI,OAAO,sCAAU,cAAU,OAApB,EAA4B,cAAU,OAAt  
C,C;K;+DAGX,Y;MACI,OAAO,cAAU,UAAV,IAAuB,cAAU,U;K;;yCARhD,Y;MAAuC,uD;K;;IAc3C,6D;MACI,  
0B;MACA,gC;MACA,0B;K;IAEuC,4E;MAAA,sD;MACnC,gBA Ae,kCAAS,W;MACxB,oBAAiC,I;K;+DAEjC,Y;  
MACI,IAAI,CAAC,2BAAL,C;QACI,MAAM,6B;MACV,OAAO,gCA Ae,O;K;kEAG1B,Y;MACI,OAAO,2B;K;+E  
AGX,Y;MACQ,Q;MAAJ,IAAI,iEAA2B,KAA/B,C;QACI,oBAAe,I;MAEnB,OAAO,yBAAP,C;QACI,IAAI,CAAC  
,aAAS,UAA d,C;UACI,OAAO,K;;UAEP,cAAc,aAAS,O;UACvB,uBAAuB,wCAAS,2CAAY,OAAZ,CAAT,C;UA  
CvB,IAAI,gBAAiB,UAArB,C;YACI,oBAAe,gB;YACf,OAAO,I;;;MAInB,OAAO,I;K;;4CA9Bf,Y;MAAuC,0D;K;  
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A,sCAAS,4BAAS,MAAT,CAAT,O;kBAAA,2C;uBAAA,yB;cAAA,Q;cAFJ,gB;;;cAIJ,W;;;K;IANS,0F;M  
AAA,yD;uBAAA,i;YAAA,S;iBAAA,Q;;iBAAA,uB;O;K;IADb,wD;MACI,gBAAS,kDAAT,C;K;;;IAoByB,qD;M  
ACzB,0B;MACA,8B;MACA,0B;MC3TA,IAAI,ED+TQ,qBAAc,CC/TtB,CAAJ,C;QACI,cD8T2B,+CAA4C,iB;QC  
7TvE,MAAM,gCAAYB,OAAQ,WAAjC,C;;MAFV,IAAI,EDgUQ,mBAAy,CChUpB,CAAJ,C;QACI,gBD+TyB,6  
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V,UAAU,I;MACV,WAAW,C;MACX,OAAO,IAAP,C;QACU,uBAAI,OAAJ,GAAL,OAAJ,gC;QAAA,mB;UAAgC  
,OAAO,I;;QAA7C,MAAM,M;QACN,mB;;K;2CAIR,mB;MACI,+BAAI,OAAQ,IAAZ,GAAoB,OAAPB,C;K;8CA  
EJ,mB;MAQ4B,Q;MAPxB,UAAU,O;MACV,OAAO,IAAP,C;QACI,IAAI,CAAC,gBAAS,GAAL,UAAAb,CAAL,C;  
UAA4B,OAAO,K;QACnC,WAAW,GAAL,O;QACf,IAAI,oCAAJ,C;UACI,MAAM,I;;UAEN,OAAO,gBAAS,0EA  
AT,C;;K;uCAKnB,iB;MACI,gBAAS,KAAT,KAaKB,yCAA4B,KAAM,SAAN,KAAgB,aAA5C,IAASD,KAAM,e  
AAY,IAAZ,CAA9E,C;K;yCAEJ,Y;MAA+B,OAAK,SAAL,WAAK,CAAL,GAA0B,SAAR,cAAQ,CAA1B,I;K;IA  
GZ,uD;MACX,OAAI,G5JyHoC,YAAU,C4JzHID,GAAMB,OAAQ,WAA3B,GAA6C,GAAF,UAAQ,O;K;yCAF3D  
,Y;MACI,aAAM,kBAAK,EAAL,EAAS,+BAAT,CAAN,GAEL,G;K;IAMO,8E;MAAA,6B;QAAyB,Q;QAAT,iBA  
AS,sBAAT,EAAS,8BAAT,UAAoB,O;QAAQ,W;O;K;+CAJ3D,Y;MAOsB,Q;MANIB,QAAQ,a;MACR,eAAe,gBA  
A+B,CAA/B,O;MACf,gBAAY,CAAZ,C;MACA,kBAAK,kBAAL,EAAY,oDAAX,C;M/KtFJ,IAAI,E+KuFM,YA  
AS,C/KvFf,CAAJ,C;QACI,cAdW,e;QAEX,MAAM,6BAASB,OAAQ,WAA9B,C;;M+KuFN,OAAO,+BAAW,qDA  
AX,C;K;IAGa,8C;MACpB,kD;MADqB,wB;K;IACrB,gD;MAAA,oD;MACI,4B;K;;IADJ,4D;MAAA,2D;QAAA,0  
C;;MAAA,oD;K;yDAIA,Y;MAA0C,gBAAT,a;M7Lm9YrB,Q;MADhB,kB6Ll9YmD,mC;M7Lm9YnD,wBAAgB,S  
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E;MA4BI,MAAM,wBAAoB,sEAApB,C;K;8GA5BV,yB;MAAA,2D;MAAA,sC;QA4BI,MAAM,6BAAoB,sEAAp  
B,C;O;KA5BV,C;IA0CoC,mC;MAAQ,4D;K;IAE5C,4C;MAAA,e;MAAA,iB;MAAA,uB;K;IAAA,0C;MAAA,6C;  
O;MAK0C,oG;MAAqB,gF;MAAW,4E;K;IAAhC,+D;MAAA,gC;MAAA,uD;K;;IAAqB,qD;MAAA,gC;MAAA,6  
C;K;;IAAW,mD;MAAA,gC;MAAA,2C;K;;IAL1E,sC;MAAA,sJ;K;;IAAA,2C;MAAA,a;AAA,qB;UAAA,4D;aA  
AA,W;UAAA,kD;aAAA,S;UAAA,gD;;UAAA,qF;;K;;6ECnDA,yB;MAAA,0B;MAAA,mC;QAGsD,OAAiC,OAA  
3B,SAAL,GAAuB,KAAS,C;O;KAHvF,C;2EAKA,yB;MAAA,0B;MAAA,mC;QAGqD,OAAgC,OAA1B,SAAL,G  
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C;O;KAHvF,C;6EAKA,yB;MAAA,0B;MAAA,4B;QAGqC,OAAqB,OAAP,CAAR,SAAE,C;O;KAH1D,C;+EAMA  
,yB;MAAA,4B;MAAA,mC;QAGyD,OAAiC,QAA3B,SAAL,GAAuB,KAAS,C;O;KAH1F,C;6EAKA,yB;MAAA,4  
B;MAAA,mC;QAGwD,OAAgC,QAA1B,SAAL,GAASB,KAAS,C;O;KAHxF,C;+EAKA,yB;MAAA,4B;MAAA,m  
C;QAGyD,OAAiC,QAA3B,SAAL,GAAuB,KAAS,C;O;KAH1F,C;+EAKA,yB;MAAA,4B;MAAA,4B;QAGuC,O  
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AQA,0B;K;;IAOA,sB;K;;IAOA,4B;K;;IAOA,6C;K;;IA+BuC,wE;MAEnC,uB;QAAA,UASB,E;MACTB,qB;QAA

A,8B;MACA,2B;QAAA,qE;MACA,yB;QAAA,YAAqB,E;MAJrB,sB;MACA,sB;MACA,kB;MACA,8B;MACA,0  
B;K;;IAGJ,iD;MAAA,e;MAAA,iB;MAAA,uB;K;IAAA,+C;MAAA,kD;O;MAKI,wG;MACA,wG;MACA,8F;K;;I  
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C;MAAA,6K;K;;IAAA,gD;MAAA,a;aAAA,kB;UAAA,8D;aAAA,kB;UAAA,8D;aAAA,a;UAAA,yD;;UAAA,6E;;  
K;;IAUA,wB;K;;ICjGA,qB;MAAA,yB;K;0CAII,Y;MAO6D,uB;K;2HAE7D,yB;MAAA,+D;MAAA,kC;MAAA,0F  
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6B;;K;;;;;;iEA+CA,6B;;K;;ICrDuC,0C;MACvC,uBAAoB,Y;K;wDAEpB,wC;MAM6F,W;K;uDAE7F,wC;K;oDA  
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C,C;K;;4EC9BR,wC;MAqBI,OAAO,e;K;4EAGX,+C;MAuBI,cAAI,KAAJ,C;K;4EAIJ,wC;MAMBI,OAAO,cAAI,  
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X,CAAhB,C;;YoL8BH,OAI5C,oB;;K;IAGZ,sC;MAQI,4BAAU,KjK4+FH,QiK5+FP,C;MACA,OAAO,K;K;IAGX  
,uC;MAKsD,OjK2iG3C,eiK3iG2C,4BAAU,IAAV,CjK2iG3C,C;K;IiKziGX,4D;MAOGD,yB;QAAA,YAAiB,C;M  
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A,OAAO,K;K;IAIX,2C;MzLrHI,IAAI,EX2B8D,YoM0FD,KpM1FkB,KAAjB,EoM0FO,IpM1FsB,KAA7B,CoM0F  
D,IzLrH7D,CAAJ,C;QACI,cyLoH6E,+B;QzLnH7E,MAAM,gCAAyB,OAAQ,WAAjC,C;;K;IyLoHd,4C;MzLrHI,I  
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F,+B;QzLpHhF,MAAM,gCAAyB,OAAQ,WAAjC,C;;K;I0LpBc,6C;MAcxB,oC;MA/BA,iB;MANA,Y;MACA,Y;  
MACA,Y;MACA,Y;MACA,Y;MACA,sB;M1LYA,IAAI,E0LLQ,CAAC,WAAK,QAAL,GAAU,QAAY,GAAe,QA  
Af,GAAoB,QAARb,MAA2B,C1LKnC,CAAJ,C;QACI,c0LNwC,wD;QILOxC,MAAM,gCAAyB,OAAQ,WAAjC,  
C;;MGoHV,iBAAc,CAAd,UuLxHW,EvLwHX,U;QuLxHiB,c;;K;qCAGjB,Y;MAGI,QAAQ,Q;MACR,IAAI,IAAO,  
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hC,C;K;yCAIX,Y;MACI,OAAW,cAAJ,GAAe,EAaf,GAAuB,MAAW,SAAN,UAAAM,CAAX,QAAqC,SAAb,iBA  
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C;K;iDAC7E,Y;MAAkC,QAAC,8BAAiB,UAAjB,EAAwB,iBAAXB,C;K;;IACr,gD;MAI3B,gBAAqB,K;MACrB,u  
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C,SAAE,iBAAU,oBAAZ,C;K;wCAEIC,iB;MACI,OAAO,2CAA8B,kBAaA,KAAM,UAAAnB,KAC7B,kBAAU,KA  
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IAGvB,+C;MACI,IAAI,CAAC,UAAAL,C;QAAiB,MAAM,gCAAyB,iCAA8B,IAA9B,iBAAzB,C;K;IC5I3B,gC;MA  
cW,Q;MADP,IAAI,CAAC,6BAAW,KAAX,CAAL,C;QAAwB,MAAM,uBAAMb,sC/EjBzC,oB+EiByC,CAAnB,C  
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liB,Q;MAAb,wBAaA,KAAb,gB;QAAa,WAAA,KAAb,M;QACI,yBAAO,IAAP,C;;MACJ,OAAO,S;K;mFAGX,qB  
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K;qFAiB9D,4B;MAG8E,OAAA,yBAAO,KAAP,CApBhB,gBAAO,EAAP,C;K;qFAsB9D,4B;MAGyE,OAAA,yB  
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AS6D,sB;MAT7D,+B;MgBjRA,gD;MhBCA,wB;QAM0D,OgBAS,aAAkB,ChBmRhD,eAAW,oBAAL,SAAK,CAAL,iBAAN,CgBnRgD,MAAIB,EhBAGB,KgBAC,KAA9B,C;O;KhBNnE,C;0FAQA,yB;MD00A,6B;MC10A,wB;QAEsD,OAMD,cAAK,IAAK,KAAK,GAAW,CD205C,cCjP6B,KDiPnB,KAAL,GAAiB,GAAtB,CC304C,MAAX,IAAf,C;O;KARrD,C;0FAGA,yB;MCwOA,6B;MDxOA,wB;QAEuD,OAGF,cAAK,IAAK,KAAK,GAAW,CC405C,cD/08B,KC+OpB,KAAL,GAAiB,KAAtB,CD504C,MAAX,IAAf,C;O;KALrD,C;0FAGA,yB;MAAA,6B;MAAA,wB;QAEqD,qBAAK,IAAK,KAAK,GAAM,KAAX,IAAf,C;O;KAFrD,C;0FAGA,yB;MA+PA,kBAS6D,sB;MAT7D,+B;MA/PA,wB;QAEuD,OgBAA,eAAW,ChBsQ7B,eAAW,oBAAL,SAAK,CAAL,iBAAN,CgBtQ6B,MAAK,KhBAI,KgBAO,KAAZ,CAAHb,C;O;KhBFvD,C;4FAIA,yB;MD6NA,6B;MC7NA,wB;QAEuD,OAMD,cAAK,IAAK,KAAK,GAAY,CD8N9C,cCpO+B,KDoOrB,KAAL,GAAiB,GAAtB,CC9N8C,MAAZ,IAAf,C;O;KARtD,C;4FAGA,yB;MC2NA,6B;MD3NA,wB;QAEwD,OAGF,cAAK,IAAK,KAAK,GAAY,CC+N9C,cDI0gC,KCkOtB,KAAL,GAAiB,KAAtB,CD/N8C,MAAZ,IAAf,C;O;KALtD,C;4FAGA,yB;MAAA,6B;MAAA,wB;QAEsD,qBAAK,IAAK,KAAK,GAAM,KAAM,KAAX,IAAf,C;O;KAFtD,C;4FAGA,yB;MAkPA,kBAS6D,sB;MAT7D,+B;MAIPA,wB;QAEwD,OgBAA,eAAW,ChByP9B,eAAW,oBAAL,SAAK,CAAL,iBAAN,CgBzP8B,MAAK,UhBAK,KgBAO,KAAZ,CAAHb,C;O;KhBFxD,C;4FAIA,yB;MDgNA,6B;MChNA,wB;QAEuD,OAMD,cAAe,YAAV,IAAK,KAAK,EAAY,CDiN9C,cCvN+B,KDuNrB,KAAL,GAAiB,GAAtB,CCjN8C,MAAZ,CAAf,C;O;KARtD,C;4FAGA,yB;MC8MA,6B;MD9MA,wB;QAEwD,OAGF,cAAe,YAAV,IAAK,KAAK,EAAY,CCKn9C,cDrNgC,KCqNtB,KAAL,GAAiB,KAAtB,CDiN8C,MAAZ,CAAf,C;O;KALtD,C;4FAGA,yB;MAAA,6B;MAAA,wB;QAEsD,qBAAE,YAAV,IAAK,KAAK,EAAM,KAAM,KAAX,CAAf,C;O;KAFtD,C;4FAGA,yB;MAqOA,kBAS6D,sB;MAT7D,+B;MAROA,wB;QAEwD,OgBAA,eAAW,ChB409B,eAAW,oBAAL,SAAK,CAAL,iBAAN,CgB508B,MAAK,UhBAK,KgBAO,KAAZ,CAAHb,C;O;KhBFxD,C;wFAIA,yB;MDmMA,6B;MC7LA,4C;MANA,wB;QAEqD,OAMD,WAAW,IAAX,EDoMjB,cC1M2B,KD0MjB,KAAL,GAAiB,GAAtB,CCpMiB,C;O;KARpD,C;wFAGA,yB;MCiMA,6B;MD9LA,4C;MAHA,wB;QAEsD,OAGF,WAAW,IAAX,ECqMjB,cDxM4B,KCwMIB,KAAL,GAAiB,KAAtB,CDrMiB,C;O;KALpD,C;wFAGA,yB;MAAA,4C;MAAA,wB;QAEoD,kBAAW,IAAX,EAaiB,KAAjB,C;O;KAFpD,C;wFAGA,yB;MAwNA,kBAS6D,sB;MAT7D,+B;MgBxNA,8C;MhBAA,wB;QAEsD,OgBAA,YhB+NjB,eAAW,oBAAL,SAAK,CAAL,iBAAN,CgB/NiB,EhBAmb,KgBAnB,C;O;KhBFtD,C;wFAIA,yB;MDsLA,6B;MCxKA,kD;MAdA,wB;QAMqD,OAcD,cAAc,IAAd,ED2KjB,cCzL2B,KDyLjB,KAAL,GAAiB,GAAtB,CC3KiB,C;O;KApBpD,C;wFAOA,yB;MCgLA,6B;MDzKA,kD;MAPA,wB;QAMsD,OAO,cAAc,IAAd,EC4KjB,cDnL4B,KCmLiB,KAAL,GAAiB,KAAtB,CD5KiB,C;O;KAbpD,C;wFAOA,yB;MAAA,kD;MAAA,wB;QAMoD,qBAAc,IAAd,EAoB,KAApB,C;O;KANpD,C;wFAOA,yB;MA+LA,kBAS6D,sB;MAT7D,+B;MgB/LA,oD;MhBAA,wB;QAMsD,OgBAA,ehBkMjB,eAAW,oBAAL,SAAK,CAAL,iBAAN,CgBIMiB,EhBAmb,KgBAnB,C;O;KhBNtD,C;kgAQA,yB;MDyJA,6B;MC7LA,4C;MAoCA,wB;QAMiD,OAxCG,WAAW,IAAX,EDoMjB,cC5J4B,KD4JIB,KAAL,GAAiB,GAAtB,CpMiB,C;O;KAKpD,C;kgAOA,yB;MCmJA,6B;MD9LA,4C;MA2CA,wB;QAMkD,OA/CE,WAAW,IAAX,ECqMjB,cDtJ6B,KCsJnB,KAAL,GAAiB,KAAtB,CDrMiB,C;O;KAYCpD,C;kgAOA,yB;MAIDA,4C;MAkDA,wB;QAMgD,OAtDI,WAAW,IAAX,EAsDA,KAtDA,C;O;KAGpD,C;kgAOA,yB;MAkKA,kBAS6D,sB;MAT7D,+B;MgBxNA,8C;MhBsDA,wB;QAMkD,OgB1DI,YhB+NjB,eAAW,oBAAL,SAAK,CAAL,iBAAN,CgB/NiB,EhB0DoB,KgB1DpB,C;O;KhBoDtD,C;wFAQA,yB;MD4HA,6B;MCxKA,kD;MDuOJ,0B;MAAA,+B;MC3LI,wB;QAQ6C,OD8LR,eAAW,OC5OI,cAAc,IAAd,ED2KjB,cC7HmB,KD6HT,KAAL,GAAiB,GAAtB,CC3KiB,CAkLf,KD0DW,CAX,C;O;KCtMrC,C;wFASA,yB;MCoha,6B;MDzKA,kD;MCwOJ,4B;MAAA,iC;MDnLI,wB;QAQ+C,OCsLR,gBAAY,QD7OC,cAAc,IAAd,EC4KjB,cDrHqB,KCqHX,KAAL,GAAiB,KAAtB,CD5KiB,CA4Lb,KCiDY,CAAZ,C;O;KD9LvC,C;wFASA,yB;MA9DA,kD;MA8DA,wB;QAQ2C,OAhES,cAAc,IAAd,EAGEL,KAHEK,C;O;KAWDpD,C;wFASA,yB;MA+HA,kBAS6D,sB;MAT7D,+B;MgB/LA,oD;MhBgEA,wB;QAQ6C,OgBIES,ehBkMjB,eAAW,oBAAL,SAAK,CAAL,iBAAN,CgBIMiB,EhBkEU,KgBIEV,C;O;KhB0DtD,C;wEAUA,yB;MAAA,6B;MAAA,mB;QAMyC,qBAAK,SAAK,QAAY,C;O;KANzC,C;wEAQA,yB;MAAA,6B;MAAA,mB;QAMyC,qBAAK,SAAK,QAAY,C;O;KANzC,C;gGAQA,yB;MAAA,8C;MAAA,wB;QAE6D,0BAAU,IAAV,EAAGB,KAAHb,C;O;KAF7D,C;wFAIA,yB;MAAA,6B;MAAA,2B;QAOmD,qBAAK,aAAS,QAAd,C;O;KAPnD,C;wFASA,yB;MAAA,6B;MAAA,2B;QAOmD,qBAAK,cAAU,QAaf,C;O;KAPnD,C;wFASA,yB;MAAA,6B;MAAA,wB;QAEiD,qBAAK,IAAK,KAAL,GAAc,KAAM,KAAZB,C;O;KAFjD,C;SFAGA,yB;MAAA,6B;MAAA,wB;QAEgD,qBAAK,IAAK,KAAL,GAAa,KAAM,KAAxB,C;O;KAFhD,C;wFAGA,yB;MAAA,6B;MAAA,wB;QAEiD,qBAAK,IAAK,KAAL,GAAc,KA

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CAGJ,Y;MACI,OAAl,cAAJ,GAAe,EAAf,GAAwB,MAAK,U7NyQA,K6NzQL,QAAqB,S7NyQhB,K6NzQL,I;K;  
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K;IAEHf,qC;MAAA,yC;K;kEACI,sC;MAQ2F,2BAAgB,UAAhB,EAA4B,QAA5B,EAA5C,IAAtC,C;K;;IAT/F,iD;  
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II,Y;MAA4B,uB;K;;IAMhC,0B;K;oCAII,Y;MAA4B,wB;K;;IAMhC,wB;K;kCAII,Y;MAA4B,sB;K;;IAMhC,yB;K;  
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C,iBAGoC,c;MAEpC,kBAGmC,C;MAEnC,iBAGkC,E;K;;IANbtC,uC;MAAA,sC;QAAA,qB;;MAAA,+B;K;sGAs  
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8B,CjB+P5D,eAAW,oBiBxRyB,KjBwR9B,KAAK,CAAL,UAAN,CiB/P4D,MAA9B,C;O;KA/BnE,C;sGAQA,yB;  
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,sB;MAT7D,+B;MgBjRA,gD;MARA,wB;QAMyD,OASU,aAAa,IAAK,KAAIB,EAA8B,ChBmR5D,eAAW,oBgB5  
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,+B;MiBpPA,wB;QAEuD,OASA,eAAM,IAAK,KAAK,KAAW,CjBkP7C,eAAW,oBiB3PiB,KjB2PtB,KAAK,CAA  
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wD,OAMD,eAAM,IAAK,KAAK,KAAW,CfmP7C,eAAW,oBezPkB,KfyPvB,KAAK,CAAL,YAAN,CenP6C,MA  
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C;O;KALvD,C;4FAGA,yB;MAAA,+B;MAAA,wB;QAEuD,sBAAM,IAAK,KAAK,KAAK,KAAM,KAAX,CAAh  
B,C;O;KAFvD,C;8FAIA,yB;MjBuOA,WAS6D,wB;MAT7D,+B;MiBvOA,wB;QAEwD,OASA,eAAM,IAAK,KAA  
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AS6D,sB;MAT7D,+B;MgBrPA,wB;QAEuD,OAGC,eAAM,IAAK,KAAK,UAAY,ChByP/C,eAAW,oBgB5PkB,Kh  
B4PvB,KAAK,CAAL,iBAAN,CgBzP+C,MAAZ,CAAhB,C;O;KALxD,C;8FAGA,yB;MAAA,+B;MAAA,wB;QA  
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,yB;Mf2MA,aAS6D,0B;MAT7D,+B;MerMA,8C;MANA,wB;QAEuD,OAMD,YAAY,IAAZ,Ef4MjB,eAAW,oBel  
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,C;0FAIA,yB;MjBgMA,WAS6D,wB;MAT7D,+B;MiB3KA,oD;MArBA,wB;QAMsD,OAqBA,eAAe,IAAf,EjB8Kj  
B,eAAW,oBiBnMe,KjBmMpB,KAAK,CAAL,UAAN,CiB9KiB,C;O;KA3BtD,C;0FAOA,yB;Mf0LA,aAS6D,0B;M  
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D,wB;MAT7D,+B;MiBpMA,8C;MAiCA,wB;QAMkD,OArCI,YAAY,IAAZ,EjB2MjB,eAAW,oBiBtKgB,KjBsKr  
B,KAAK,CAAL,UAAN,CiB3MiB,C;O;KA+BtD,C;oGAOA,yB;Mf6JA,aAS6D,0B;MAT7D,+B;MerMA,8C;MAw  
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```

Found in path(s):

```
* /opt/cola/permits/1455481167_1667022567.4713087/0/gson-2-10-sources-
jar/com/google/gson/internal/bind/MapTypeAdapterFactory.java
* /opt/cola/permits/1455481167_1667022567.4713087/0/gson-2-10-sources-
jar/com/google/gson/TypeAdapterFactory.java
* /opt/cola/permits/1455481167_1667022567.4713087/0/gson-2-10-sources-
jar/com/google/gson/internal/JsonReaderInternalAccess.java
*
/opt/cola/permits/1455481167_1667022567.4713087/0/gson-2-10-sources-jar/com/google/gson/TypeAdapter.java
* /opt/cola/permits/1455481167_1667022567.4713087/0/gson-2-10-sources-
jar/com/google/gson/internal/bind/TypeAdapters.java
* /opt/cola/permits/1455481167_1667022567.4713087/0/gson-2-10-sources-
jar/com/google/gson/internal/bind/JsonTreeReader.java
* /opt/cola/permits/1455481167_1667022567.4713087/0/gson-2-10-sources-
jar/com/google/gson/internal/bind/ObjectTypeAdapter.java
* /opt/cola/permits/1455481167_1667022567.4713087/0/gson-2-10-sources-
jar/com/google/gson/internal/bind/TypeAdapterRuntimeTypeWrapper.java
* /opt/cola/permits/1455481167_1667022567.4713087/0/gson-2-10-sources-
jar/com/google/gson/internal/bind/ReflectiveTypeAdapterFactory.java
* /opt/cola/permits/1455481167_1667022567.4713087/0/gson-2-10-sources-
jar/com/google/gson/internal/bind/ArrayTypeAdapter.java
* /opt/cola/permits/1455481167_1667022567.4713087/0/gson-2-10-sources-
jar/com/google/gson/internal/bind/JsonTreeWriter.java
*
```



/opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-  
jar/com/google/gson/internal/bind/CollectionTypeAdapterFactory.java

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jar/com/google/gson/internal/GsonBuildConfig.java

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jar/com/google/gson/internal/bind/DateTypeAdapter.java  
\* /opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-  
jar/com/google/gson/internal/LazilyParsedNumber.java  
\* /opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-  
jar/com/google/gson/internal/bind/TreeTypeAdapter.java  
\*

/opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-  
jar/com/google/gson/internal/sql/SqlDateTypeAdapter.java  
\* /opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-  
jar/com/google/gson/internal/ConstructorConstructor.java  
\* /opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-  
jar/com/google/gson/internal/UnsafeAllocator.java  
\* /opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-  
jar/com/google/gson/internal/sql/SqlTimeTypeAdapter.java

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\* /opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-jar/com/google/gson/internal/PreJava9DateFormatProvider.java

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\* /opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-jar/com/google/gson/FieldNamingPolicy.java  
\* /opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-jar/com/google/gson/internal/Primitives.java  
\*  
/opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-jar/com/google/gson/FieldNamingStrategy.java  
\* /opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-jar/com/google/gson/annotations/Expose.java  
\* /opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-jar/com/google/gson/internal/ObjectConstructor.java  
\* /opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-jar/com/google/gson/internal/bind/DefaultDateTypeAdapter.java  
\* /opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-jar/com/google/gson/annotations/Until.java  
\* /opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-jar/com/google/gson/JsonSerializationContext.java  
\* /opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-jar/com/google/gson/ExclusionStrategy.java  
\* /opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-jar/com/google/gson/internal/\$Gson\$Preconditions.java  
\* /opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-jar/com/google/gson/JsonElement.java  
\*  
/opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-jar/com/google/gson/JsonPrimitive.java  
\* /opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-jar/com/google/gson/JsonSerializer.java  
\* /opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-jar/com/google/gson/InstanceCreator.java  
\* /opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-jar/com/google/gson/internal/Excluder.java  
\* /opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-jar/com/google/gson/JsonDeserializationContext.java  
\* /opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-jar/com/google/gson/JsonIOException.java  
\* /opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-jar/com/google/gson/JsonArray.java  
\* /opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-jar/com/google/gson/JsonObject.java  
\* /opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-jar/com/google/gson/JsonDeserializer.java  
\*  
/opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-jar/com/google/gson/GsonBuilder.java  
\* /opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-jar/com/google/gson/JsonParseException.java  
\* /opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-jar/com/google/gson/annotations/SerializedName.java  
\* /opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-jar/com/google/gson/Gson.java  
\* /opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-

jar/com/google/gson/reflect/TypeToken.java

\* /opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-jar/com/google/gson/JsonNull.java

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jar/com/google/gson/internal/\$Gson\$Types.java

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\* /opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-

jar/com/google/gson/ToNumberPolicy.java

\* /opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-

jar/com/google/gson/ToNumberStrategy.java

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```
*/opt/cola/permits/1455481167_1667022567.4713087/0/gson-2-10-sources-
jar/com/google/gson/FieldAttributes.java
*/opt/cola/permits/1455481167_1667022567.4713087/0/gson-2-10-sources-
jar/com/google/gson/JsonStreamParser.java
*/opt/cola/permits/1455481167_1667022567.4713087/0/gson-2-10-sources-
jar/com/google/gson/LongSerializationPolicy.java
*
```

```
*/opt/cola/permits/1455481167_1667022567.4713087/0/gson-2-10-sources-jar/com/google/gson/JsonParser.java
```

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jar/com/google/gson/stream/JsonReader.java
*/opt/cola/permits/1455481167_1667022567.4713087/0/gson-2-10-sources-
jar/com/google/gson/stream/JsonScope.java
```

\* /opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-jar/com/google/gson/stream/JsonToken.java

\*

/opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-jar/com/google/gson/stream/MalformedJsonException.java

\* /opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-jar/com/google/gson/stream/JsonWriter.java

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jar/com/google/gson/internal/bind/JsonAdapterAnnotationTypeAdapterFactory.java

\* /opt/cola/permits/1455481167\_1667022567.4713087/0/gson-2-10-sources-

jar/com/google/gson/annotations/JsonAdapter.java

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## 1.56 jctools-core 4.0.1

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Manifest-Version: 1.0  
Bnd-LastModified: 1662622707903  
Build-Jdk-Spec: 11  
Bundle-Description: Java Concurrency Tools Core Library  
Bundle-License: <http://www.apache.org/licenses/LICENSE-2.0.txt>  
Bundle-ManifestVersion: 2  
Bundle-Name: Java Concurrency Tools Core Library  
Bundle-SymbolicName: org.jctools.core  
Bundle-Version: 4.0.1  
Created-By: Apache Maven Bundle Plugin 5.1.6  
Export-Package: org.jctools.maps;version="4.0.1",org.jctools.util;uses:="sun.misc";version="4.0.1",org.jctools.queues;version="4.0.1",org.jctools.queues.atomic;uses:="org.jctools.queues";version="4.0.1",org.jctools.queues.unpadded;uses:="org.jctools.queues";version="4.0.1",org.jctools.counters;version="4.0.1"  
Import-Package: sun.misc;resolution:=optional  
Require-Capability: osgi.ee;filter:="(&(osgi.ee=JavaSE)(version=1.6))"  
Tool: Bnd-6.2.0.202202251641

Found in path(s):

\* /opt/cola/permits/1500645298\_1670406227.9308958/0/jctools-core-4-0-1-jar/META-INF/MANIFEST.MF

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## 1.57 slf4j 1.6.6

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```
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/IMarkerFactory.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-
jar/org/slf4j/helpers/BasicMDCAdapter.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-
jar/org/slf4j/helpers/MarkerIgnoringBase.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/spi/MDCAdapter.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-
jar/org/slf4j/helpers/SubstituteLoggerFactory.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/LoggerFactory.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-
jar/org/slf4j/impl/StaticLoggerBinder.java
*
/opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-
jar/org/slf4j/helpers/NOPMDCAdapter.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/MarkerFactory.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-
jar/org/slf4j/impl/StaticMDCBinder.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-
```

jar/org/slf4j/helpers/BasicMarkerFactory.java  
\* /opt/cola/permits/1512417657\_1673636624.6005318/0/slf4j-api-1-6-6-sources-  
jar/org/slf4j/spi/LocationAwareLogger.java  
\* /opt/cola/permits/1512417657\_1673636624.6005318/0/slf4j-api-1-6-6-sources-  
jar/org/slf4j/helpers/FormattingTuple.java  
\* /opt/cola/permits/1512417657\_1673636624.6005318/0/slf4j-api-1-6-6-sources-  
jar/org/slf4j/spi/MarkerFactoryBinder.java  
\* /opt/cola/permits/1512417657\_1673636624.6005318/0/slf4j-api-1-6-6-sources-  
jar/org/slf4j/helpers/MessageFormatter.java  
\*  
/opt/cola/permits/1512417657\_1673636624.6005318/0/slf4j-api-1-6-6-sources-  
jar/org/slf4j/helpers/NamedLoggerBase.java  
\* /opt/cola/permits/1512417657\_1673636624.6005318/0/slf4j-api-1-6-6-sources-  
jar/org/slf4j/spi/LoggerFactoryBinder.java  
\* /opt/cola/permits/1512417657\_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/MDC.java  
\* /opt/cola/permits/1512417657\_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/helpers/Util.java  
\* /opt/cola/permits/1512417657\_1673636624.6005318/0/slf4j-api-1-6-6-sources-  
jar/org/slf4j/helpers/NOPLogger.java  
\* /opt/cola/permits/1512417657\_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/ILoggerFactory.java  
\* /opt/cola/permits/1512417657\_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/Logger.java  
\* /opt/cola/permits/1512417657\_1673636624.6005318/0/slf4j-api-1-6-6-sources-  
jar/org/slf4j/helpers/NOPLoggerFactory.java  
\* /opt/cola/permits/1512417657\_1673636624.6005318/0/slf4j-api-1-6-6-sources-  
jar/org/slf4j/helpers/BasicMarker.java  
\*  
/opt/cola/permits/1512417657\_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/Marker.java  
\* /opt/cola/permits/1512417657\_1673636624.6005318/0/slf4j-api-1-6-6-sources-  
jar/org/slf4j/impl/StaticMarkerBinder.java

# 1.58 commons-fileupload 1.5

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## 1.59 snake-yaml 2.0

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```
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```

Found in path(s):

```
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/representer/SafeRepresenter.java
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/parser/Parser.java
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/env/EnvScalarConstructor.java
*
/opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/nodes/ScalarNode.java
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/tokens/ValueToken.java
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/events/StreamEndEvent.java
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/constructor/AbstractConstruct.java
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/events/CollectionEndEvent.java
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\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/emitter/ScalarAnalysis.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/events/AliasEvent.java  
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\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/DirectiveToken.java  
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\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/events/CommentEvent.java  
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\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/events/ImplicitTuple.java  
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jar/org/yaml/snakeyaml/representer/BaseRepresenter.java

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\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/representer/Representer.java

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/opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/constructor/DuplicateKeyException.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/extensions/compactnotation/CompactConstructor.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/comments/CommentType.java  
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\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/external/com/google/gdata/util/common/base/PercentEscaper.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/external/com/google/gdata/util/common/base/UnicodeEscaper.java

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/**
 * A Base64 encoder/decoder.
 *
 * <p>
 * This class is used to encode and decode data in Base64 format as described in RFC 1521.
 *
 * <p>
 * Project home page: www.
 * source-code.biz/base64coder/java

 * Author: Christian d'Heureuse, Inventec Informatik AG, Zurich, Switzerland

 * Multi-licensed: EPL / LGPL / GPL / AL / BSD.
 */
```

Found in path(s):

```
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/external/biz/base64Coder/Base64Coder.java
```

# 1.60 opentelemetry-proto 0.11.0

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```
</pre>
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|                | GL/gltext.h        | Khronos        |
|                | GL/wgltext.h       | Khronos        |
|                | KHR/khrplatform.h  | Khronos        |

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----  
include/GL/gl.h :

Mesa 3-D

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```
include/GL/glex.h
include/GL/glxext.h
include/GL/wglxext.h :
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Device drivers src/ mesa/drivers/\* MIT, generally

Gallium code src/gallium/ MIT

Ext headers GL/gltext.h Khronos  
GL/gltext.h Khronos  
GL/wgltext.h Khronos  
KHR/khrplatform.h Khronos

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include/GL/gl.h :

Mesa 3-D  
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include/GL/gltext.h  
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## Bert Belder: wepoll v 1.5.8

### wepoll License

...

wepoll - epoll for Windows

<https://github.com/piscisaureus/wepoll>

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## 1.74 ca-certificates 20230506-r0

## 1.74.1 Available under license :

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#
certdata.txt
#
This file contains the object definitions for the certs and other
information "built into" NSS.
#
Object definitions:
#
Certificates
#
-- Attribute -- -- type -- -- value --
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 (varies)
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT DER+base64 (varies)
CKA_ID byte array (varies)
#
CKA_ISSUER DER+base64 (varies)
CKA_SERIAL_NUMBER DER+base64 (varies)
CKA_VALUE DER+base64 (varies)
CKA_NSS_EMAIL ASCII7 (unused here)
CKA_NSS_SERVER_DISTRUST_AFTER DER+base64 (varies)
CKA_NSS_EMAIL_DISTRUST_AFTER DER+base64 (varies)
#
Trust
#
-- Attribute -- -- type -- -- value --
CKA_CLASS CK_OBJECT_CLASS CKO_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 (varies)
CKA_ISSUER DER+base64 (varies)
CKA_SERIAL_NUMBER DER+base64 (varies)
CKA_CERT_HASH binary+base64 (varies)
CKA_EXPIRES CK_DATE
```

```

(not used here)
CKA_TRUST_DIGITAL_SIGNATURE CK_TRUST (varies)
CKA_TRUST_NON_REPUDIATION CK_TRUST (varies)
CKA_TRUST_KEY_ENCIPHERMENT CK_TRUST (varies)
CKA_TRUST_DATA_ENCIPHERMENT CK_TRUST (varies)
CKA_TRUST_KEY_AGREEMENT CK_TRUST (varies)
CKA_TRUST_KEY_CERT_SIGN CK_TRUST (varies)
CKA_TRUST_CRL_SIGN CK_TRUST (varies)
CKA_TRUST_SERVER_AUTH CK_TRUST (varies)
CKA_TRUST_CLIENT_AUTH CK_TRUST (varies)
CKA_TRUST_CODE_SIGNING CK_TRUST (varies)
CKA_TRUST_EMAIL_PROTECTION CK_TRUST (varies)
CKA_TRUST_IPSEC_END_SYSTEM CK_TRUST (varies)
CKA_TRUST_IPSEC_TUNNEL CK_TRUST (varies)
CKA_TRUST_IPSEC_USER CK_TRUST (varies)
CKA_TRUST_TIME_STAMPING CK_TRUST (varies)
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL (varies)
(other
trust attributes can be defined)
#

#
The object to tell NSS that this is a root list and we don't
have to go looking for others.
#
BEGINDATA
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_BUILTIN_ROOT_LIST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Mozilla Builtin Roots"

#
Certificate "GlobalSign Root CA"
#
Issuer: CN=GlobalSign Root CA,OU=Root CA,O=GlobalSign nv-sa,C=BE
Serial Number:04:00:00:00:00:01:15:4b:5a:c3:94
Subject: CN=GlobalSign Root CA,OU=Root CA,O=GlobalSign nv-sa,C=BE
Not Valid Before: Tue Sep 01 12:00:00 1998
Not Valid After : Fri Jan 28 12:00:00 2028
Fingerprint (SHA-256):
EB:D4:10:40:E4:BB:3E:C7:42:C9:E3:81:D3:1E:F2:A4:1A:48:B6:68:5C:96:E7:CE:F3:C1:DF:6C:D4:33:1C:99
Fingerprint (SHA1): B1:BC:96:8B:D4:F4:9D:62:2A:A8:9A:81:F2:15:01:52:A4:1D:82:9C
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign

```

Root CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\127\061\013\060\011\006\003\125\004\006\023\002\102\105\061  
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154  
\123\151\147\156\040\156\166\055\163\141\061\020\060\016\006\003  
\125\004\013\023\007\122\157\157\164\040\103\101\061\033\060\031  
\006\003\125\004\003\023\022\107\154\157\142\141\154\123\151\147  
\156\040\122\157\157\164\040\103\101

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\127\061\013\060\011\006\003\125\004\006\023\002\102\105\061  
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154  
\123\151\147\156\040\156\166\055\163\141\061\020\060\016\006\003  
\125\004\013\023\007\122\157\157\164\040\103\101\061\033\060\031  
\006\003\125\004\003\023\022\107\154\157\142\141\154\123\151\147  
\156\040\122\157\157\164\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\013\004\000\000\000\000\001\025\113\132\303\224

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\165\060\202\002\135\240\003\002\001\002\002\013\004  
\000\000\000\000\001\025\113\132\303\224\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\060\127\061\013\060\011\006  
\003\125\004\006\023\002\102\105\061\031\060\027\006\003\125\004  
\012\023\020\107\154\157\142\141\154\123\151\147\156\040\156\166  
\055\163\141\061\020\060\016\006\003\125\004\013\023\007\122\157  
\157\164\040\103\101\061\033\060\031\006\003\125\004\003\023\022  
\107\154\157\142\141\154\123\151\147\156\040\122\157\157\164\040  
\103\101\060\036\027\015\071\070\060\071\060\061\061\062\060\060  
\060\060\132\027\015\062\070\060\061\062\070\061\062\060\060\060  
\060\132\060\127\061\013\060\011\006\003\125\004\006\023\002\102  
\105\061\031\060\027\006\003\125\004\012\023\020\107\154\157\142  
\141\154\123\151\147\156\040\156\166\055\163\141\061\020\060\016  
\006\003\125\004\013\023\007\122\157\157\164\040\103\101\061\033  
\060\031\006\003\125\004\003\023\022\107\154\157\142\141\154\123  
\151\147\156\040\122\157\157\164\040\103\101\060\202\001\042\060  
\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202  
\001\017\000\060\202\001\012\002\202\001\001\000\332\016\346\231  
\215\316\243\343\117\212\176\373\361\213\203\045\153\352\110\037  
\361\052\260\271\225\021\004\275\360\143\321\342\147\146\317\034  
\335\317\033\110\053\356\215\211\216\232\257\051\200\145\253\351  
\307\055\022\313\253\034\114\160\007\241\075\012\060\315\025\215  
\117\370\335\324\214\120\025\034\357\120\356\304\056\367\374\351  
\122\362\221\175\340\155\325\065\060\216\136\103\163\362\101\351  
\325\152\343\262\211\072\126\071\070\157\006\074\210\151\133\052

\115\305\247\124\270\154\211\314\233\371\074\312\345\375\211\365  
\022\074\222\170\226\326\334\164\156\223\104\141\321\215\307\106  
\262\165\016\206\350\031\212\325\155\154\325\170\026\225\242\351  
\310\012\070\353\362\044\023\117\163\124\223\023\205\072\033\274  
\036\064\265\213\005\214\271\167\213\261\333\037\040\221\253\011  
\123\156\220\316\173\067\164\271\160\107\221\042\121\143\026\171  
\256\261\256\101\046\010\310\031\053\321\106\252\110\326\144\052  
\327\203\064\377\054\052\301\154\031\103\112\007\205\347\323\174  
\366\041\150\357\352\362\122\237\177\223\220\317\002\003\001\000  
\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004  
\024\140\173\146\032\105\015\227\312\211\120\057\175\004\315\064  
\250\377\374\375\113\060\015\006\011\052\206\110\206\367\015\001  
\001\005\005\000\003\202\001\001\000\326\163\347\174\117\166\320  
\215\277\354\272\242\276\064\305\050\062\265\174\374\154\234\054  
\053\275\011\236\123\277\153\136\252\021\110\266\345\010\243\263  
\312\075\141\115\323\106\011\263\076\303\240\343\143\125\033\362  
\272\357\255\071\341\103\271\070\243\346\057\212\046\073\357\240  
\120\126\371\306\012\375\070\315\304\013\160\121\224\227\230\004  
\337\303\137\224\325\025\311\024\101\234\304\135\165\144\025\015  
\377\125\060\354\206\217\377\015\357\054\271\143\106\366\252\374  
\337\274\151\375\056\022\110\144\232\340\225\360\246\357\051\217  
\001\261\025\265\014\035\245\376\151\054\151\044\170\036\263\247  
\034\161\142\356\312\310\227\254\027\135\212\302\370\107\206\156  
\052\304\126\061\225\320\147\211\205\053\371\154\246\135\106\235  
\014\252\202\344\231\121\335\160\267\333\126\075\141\344\152\341  
\134\326\366\376\075\336\101\314\007\256\143\122\277\123\123\364  
\053\351\307\375\266\367\202\137\205\322\101\030\333\201\263\004  
\034\305\037\244\200\157\025\040\311\336\014\210\012\035\326\146  
\125\342\374\110\311\051\046\151\340

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign Root CA"

# Issuer: CN=GlobalSign Root CA,OU=Root CA,O=GlobalSign nv-sa,C=BE

# Serial Number:04:00:00:00:01:15:4b:5a:c3:94

# Subject: CN=GlobalSign Root CA,OU=Root CA,O=GlobalSign nv-sa,C=BE

# Not Valid Before: Tue Sep 01 12:00:00 1998

#

Not Valid After : Fri Jan 28 12:00:00 2028

# Fingerprint (SHA-256):

EB:D4:10:40:E4:BB:3E:C7:42:C9:E3:81:D3:1E:F2:A4:1A:48:B6:68:5C:96:E7:CE:F3:C1:DF:6C:D4:33:1C:99

# Fingerprint (SHA1): B1:BC:96:8B:D4:F4:9D:62:2A:A8:9A:81:F2:15:01:52:A4:1D:82:9C

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

```

CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\261\274\226\213\324\364\235\142\052\250\232\201\362\025\001\122
\244\035\202\234
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\076\105\122\025\011\121\222\341\267\135\067\237\261\207\051\212
END
CKA_ISSUER MULTILINE_OCTAL
\060\127\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\020\060\016\006\003
\125\004\013\023\007\122\157\157\164\040\103\101\061\033\060\031
\006\003\125\004\003\023\022\107\154\157\142\141\154\123\151\147
\156\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\013\004\000\000\000\000\001\025\113\132\303\224
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Verisign Class 1 Public Primary Certification Authority - G3"
#
Issuer: CN=VeriSign Class 1 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
Serial Number:00:8b:5b:75:56:84:54:85:0b:00:cf:af:38:48:ce:b1:a4
Subject: CN=VeriSign Class 1 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
Not Valid Before: Fri Oct 01 00:00:00 1999
Not Valid After : Wed Jul 16 23:59:59 2036
Fingerprint (SHA-256):
CB:B5:AF:18:5E:94:2A:24:02:F9:EA:CB:C0:ED:5B:B8:76:EE:A3:C1:22:36:23:D0:04:47:E4:F3:BA:55:4B:65
#
Fingerprint (SHA1): 20:42:85:DC:F7:EB:76:41:95:57:8E:13:6B:D4:B7:D1:E9:8E:46:A5
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verisign Class 1 Public Primary Certification Authority - G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

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CKA\_SUBJECT MULTILINE\_OCTAL

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CKA\_ID

UTF8 "0"

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CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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CKA\_VALUE MULTILINE\_OCTAL

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\131\015\254\006\010\302\224\321\063\037\360\203\065\037\156\033  
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END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# For Email Distrust After: Wed Aug 31 00:00:00 2022

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER MULTILINE\_OCTAL

\062\062\060\070\063\061\060\060\060\060\060\060\132

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# Trust for "Verisign Class 1 Public Primary Certification Authority - G3"

# Issuer: CN=VeriSign Class 1 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US

# Serial Number:00:8b:5b:75:56:84:54:85:0b:00:cf:af:38:48:ce:b1:a4

# Subject: CN=VeriSign Class 1 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US

# Not Valid Before: Fri Oct 01 00:00:00 1999

# Not Valid After : Wed Jul 16 23:59:59 2036

# Fingerprint (SHA-256):

CB:B5:AF:18:5E:94:2A:24:02:F9:EA:CB:C0:ED:5B:B8:76:EE:A3:C1:22:36:23:D0:04:47:E4:F3:BA:55:4B:65

# Fingerprint (SHA1): 20:42:85:DC:F7:EB:76:41:95:57:8E:13:6B:D4:B7:D1:E9:8E:46:A5

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Verisign Class 1 Public Primary Certification Authority - G3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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CKA\_ISSUER

MULTILINE\_OCTAL

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CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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CKA\_TRUST\_SERVER\_AUTH

CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

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# Certificate "Verisign Class 2 Public Primary Certification Authority - G3"

#

# Issuer: CN=VeriSign Class 2 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US

# Serial Number:61:70:cb:49:8c:5f:98:45:29:e7:b0:a6:d9:50:5b:7a

# Subject: CN=VeriSign Class 2 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US

# Not Valid Before: Fri Oct 01 00:00:00 1999

# Not Valid After : Wed Jul 16 23:59:59 2036

# Fingerprint (SHA-256):

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# Fingerprint (SHA1): 61:EF:43:D7:7F:CA:D4:61:51:BC:98:E0:C3:59:12:AF:9F:EB:63:11

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CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Verisign Class 2 Public Primary Certification Authority - G3"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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CKA\_ID

UTF8 "0"

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CKA\_SERIAL\_NUMBER

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\356\005\074\244\063\077\013\071\254\160\170\163\113\231\053\337  
\060\302\124\260\250\073\125\241\376\026\050\315\102\275\164\156  
\200\333\047\104\247\316\104\135\324\033\220\230\015\036\102\224  
\261\000\054\004\320\164\243\002\005\042\143\143\315\203\265\373  
\301\155\142\153\151\165\375\135\160\101\271\365\277\174\337\276  
\301\062\163\042\041\213\130\201\173\025\221\172\272\343\144\110  
\260\177\373\066\045\332\225\320\361\044\024\027\335\030\200\153  
\106\043\071\124\365\216\142\011\004\035\224\220\246\233\346\045  
\342\102\105\252\270\220\255\276\010\217\251\013\102\030\224\317  
\162\071\341\261\103\340\050\317\267\347\132\154\023\153\111\263  
\377\343\030\174\211\213\063\135\254\063\327\247\371\332\072\125  
\311\130\020\371\252\357\132\266\317\113\113\337\052

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

```

CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
For Email Distrust After: Wed Aug 31 00:00:00 2022
CKA_NSS_EMAIL_DISTRICT_AFTER MULTILINE_OCTAL
\062\062\060\070\063\061\060\060\060\060\060\060\132
END

Trust for "Verisign Class 2 Public Primary Certification Authority - G3"
Issuer: CN=VeriSign Class 2 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
Serial Number:61:70:cb:49:8c:5f:98:45:29:e7:b0:a6:d9:50:5b:7a
#
Subject: CN=VeriSign Class 2 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
Not Valid Before: Fri Oct 01 00:00:00 1999
Not Valid After : Wed Jul 16 23:59:59 2036
Fingerprint (SHA-256):
92:A9:D9:83:3F:E1:94:4D:B3:66:E8:BF:AE:7A:95:B6:48:0C:2D:6C:6C:2A:1B:E6:5D:42:36:B6:08:FC:A1:BB
Fingerprint (SHA1): 61:EF:43:D7:7F:CA:D4:61:51:BC:98:E0:C3:59:12:AF:9F:EB:63:11
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verisign Class 2 Public Primary Certification Authority - G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\141\357\103\327\177\312\324\141\121\274\230\340\303\131\022\257
\237\353\143\021
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\370\276\304\143\042\311\250\106\164\213\270\035\036\112\053\366
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\062\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\055\040\107\063
END
CKA_SERIAL_NUMBER

```

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MULTILINE_OCTAL
\002\020\141\160\313\111\214\137\230\105\051\347\260\246\331\120
\133\172
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Entrust.net Premium 2048 Secure Server CA"
#
Issuer: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net
Limited,OU=www.entrust.net/CPS_2048 incorp. by ref. (limits liab.),O=Entrust.net
Serial Number: 946069240 (0x3863def8)
Subject: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net
Limited,OU=www.entrust.net/CPS_2048 incorp. by ref. (limits liab.),O=Entrust.net
Not Valid Before: Fri Dec 24 17:50:51 1999
Not Valid After : Tue Jul 24 14:15:12 2029
Fingerprint (SHA-256):
6D:C4:71:72:E0:1C:BC:B0:BF:62:58:0D:89:5F:E2:B8:AC:9A:D4:F8:73:80:1E:0C:10:B9:C8:37:D2:1E:B1:77
Fingerprint (SHA1): 50:30:06:09:1D:97:D4:F5:AE:39:F7:CB:E7:92:7D:7D:65:2D:34:31
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL
UTF8 "Entrust.net Premium 2048 Secure Server CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\264\061\024\060\022\006\003\125\004\012\023\013\105\156
\164\162\165\163\164\056\156\145\164\061\100\060\076\006\003\125
\004\013\024\067\167\167\167\056\145\156\164\162\165\163\164\056
\156\145\164\057\103\120\123\137\062\060\064\070\040\151\156\143
\157\162\160\056\040\142\171\040\162\145\146\056\040\050\154\151
\155\151\164\163\040\154\151\141\142\056\051\061\045\060\043\006
\003\125\004\013\023\034\050\143\051\040\061\071\071\071\040\105
\156\164\162\165\163\164\056\156\145\164\040\114\151\155\151\164
\145\144\061\063\060\061\006\003\125\004\003\023\052\105\156\164
\162\165\163\164\056\156\145\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\050\062\060\064\070\051
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\264\061\024\060\022\006\003\125\004\012\023\013\105\156
\164\162\165\163\164\056\156\145\164\061\100\060\076\006\003\125

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\004\013\024\067\167\167\167\056\145\156\164\162\165\163\164\056  
\156\145\164\057\103\120\123\137\062\060\064\070\040\151\156\143  
\157\162\160\056\040\142\171\040\162\145\146\056\040\050\154\151  
\155\151\164\163\040\154\151\141\142\056\051\061\045\060\043\006  
\003\125\004\013\023\034\050\143\051\040\061\071\071\071\040\105  
\156\164\162\165\163\164\056\156\145\164\040\114\151\155\151\164  
\145\144\061\063\060\061\006\003\125\004\003\023\052\105\156\164  
\162\165\163\164\056\156\145\164\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\040\050\062\060\064\070\051

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\004\070\143\336\370

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\052\060\202\003\022\240\003\002\001\002\002\004\070  
\143\336\370\060\015\006\011\052\206\110\206\367\015\001\001\005  
\005\000\060\201\264\061\024\060\022\006\003\125\004\012\023\013  
\105\156\164\162\165\163\164\056\156\145\164\061\100\060\076\006  
\003\125\004\013\024\067\167\167\167\056\145\156\164\162\165\163  
\164\056\156\145\164\057\103\120\123\137\062\060\064\070\040\151  
\156\143\157\162\160\056\040\142\171\040\162\145\146\056\040\050  
\154\151\155\151\164\163\040\154\151\141\142\056\051\061\045\060  
\043\006\003\125\004\013\023\034\050\143\051\040\061\071\071\071  
\040\105\156\164\162\165\163\164\056\156\145\164\040\114\151\155  
\151\164\145\144\061\063\060\061\006\003\125\004\003\023\052\105  
\156\164\162\165\163\164\056\156\145\164\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\050\062\060\064\070\051\060\036\027\015\071\071\061  
\062\062\064\061\067\065\060\065\061\132\027\015\062\071\060\067  
\062\064\061\064\061\065\061\062\132\060\201\264\061\024\060\022  
\006\003\125\004\012\023\013\105\156\164\162\165\163\164\056\156  
\145\164\061\100\060\076\006\003\125\004\013\024\067\167\167\167  
\056\145\156\164\162\165\163\164\056\156\145\164\057\103\120\123  
\137\062\060\064\070\040\151\156\143\157\162\160\056\040\142\171  
\040\162\145\146\056\040\050\154\151\155\151\164\163\040\154\151  
\141\142\056\051\061\045\060\043\006\003\125\004\013\023\034\050  
\143\051\040\061\071\071\071\040\105\156\164\162\165\163\164\056  
\156\145\164\040\114\151\155\151\164\145\144\061\063\060\061\006  
\003\125\004\003\023\052\105\156\164\162\165\163\164\056\156\145  
\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040  
\101\165\164\150\157\162\151\164\171\040\050\062\060\064\070\051  
\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001  
\000\255\115\113\251\022\206\262\352\243\040\007\025\026\144\052  
\053\113\321\277\013\112\115\216\355\200\166\245\147\267\170\100  
\300\163\102\310\150\300\333\123\053\335\136\270\166\230\065\223

\213\032\235\174\023\072\016\037\133\267\036\317\345\044\024\036  
\261\201\251\215\175\270\314\153\113\003\361\002\014\334\253\245  
\100\044\000\177\164\224\241\235\010\051\263\210\013\365\207\167  
\235\125\315\344\303\176\327\152\144\253\205\024\206\225\133\227  
\062\120\157\075\310\272\146\014\343\374\275\270\111\301\166\211  
\111\031\375\300\250\275\211\243\147\057\306\237\274\161\031\140  
\270\055\351\054\311\220\166\146\173\224\342\257\170\326\145\123  
\135\074\326\234\262\317\051\003\371\057\244\120\262\324\110\316  
\005\062\125\212\375\262\144\114\016\344\230\007\165\333\177\337  
\271\010\125\140\205\060\051\371\173\110\244\151\206\343\065\077  
\036\206\135\172\172\025\275\357\000\216\025\042\124\027\000\220  
\046\223\274\016\111\150\221\277\370\107\323\235\225\102\301\016  
\115\337\157\046\317\303\030\041\142\146\103\160\326\325\300\007  
\341\002\003\001\000\001\243\102\060\100\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125  
\035\016\004\026\004\024\125\344\201\321\021\200\276\330\211\271  
\010\243\061\371\241\044\011\026\271\160\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\073\233  
\217\126\233\060\347\123\231\174\172\171\247\115\227\327\031\225  
\220\373\006\037\312\063\174\106\143\217\226\146\044\372\100\033  
\041\047\312\346\162\163\362\117\376\061\231\375\310\014\114\150  
\123\306\200\202\023\230\372\266\255\332\135\075\361\316\156\366  
\025\021\224\202\014\356\077\225\257\021\253\017\327\057\336\037  
\003\217\127\054\036\311\273\232\032\104\225\353\030\117\246\037  
\315\175\127\020\057\233\004\011\132\204\265\156\330\035\072\341  
\326\236\321\154\171\136\171\034\024\305\343\320\114\223\073\145  
\074\355\337\075\276\246\345\225\032\303\265\031\303\275\136\133  
\273\377\043\357\150\031\313\022\223\047\134\003\055\157\060\320  
\036\266\032\254\336\132\367\321\252\250\047\246\376\171\201\304  
\171\231\063\127\272\022\260\251\340\102\154\223\312\126\336\376  
\155\204\013\010\213\176\215\352\327\230\041\306\363\347\074\171  
\057\136\234\321\114\025\215\341\354\042\067\314\232\103\013\227  
\334\200\220\215\263\147\233\157\110\010\025\126\317\277\361\053  
\174\136\232\166\351\131\220\305\174\203\065\021\145\121

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Entrust.net Premium 2048 Secure Server CA"

# Issuer: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net  
Limited,OU=www.entrust.net/CPS\_2048 incorp. by ref. (limits liab.),O=Entrust.net

# Serial Number: 946069240 (0x3863def8)

# Subject: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net  
Limited,OU=www.entrust.net/CPS\_2048 incorp. by ref. (limits liab.),O=Entrust.net

# Not Valid Before: Fri Dec 24 17:50:51 1999



```

Not Valid After : Tue Jul 24 14:15:12 2029
Fingerprint (SHA-256):
6D:C4:71:72:E0:1C:BC:B0:BF:62:58:0D:89:5F:E2:B8:AC:9A:D4:F8:73:80:1E:0C:10:B9:C8:37:D2:1E:B1:77
Fingerprint (SHA1): 50:30:06:09:1D:97:D4:F5:AE:39:F7:CB:E7:92:7D:7D:65:2D:34:31
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN
CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust.net Premium 2048 Secure Server CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\120\060\006\011\035\227\324\365\256\071\367\313\347\222\175\175
\145\055\064\061
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\356\051\061\274\062\176\232\346\350\265\367\121\264\064\161\220
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\264\061\024\060\022\006\003\125\004\012\023\013\105\156
\164\162\165\163\164\056\156\145\164\061\100\060\076\006\003\125
\004\013\024\067\167\167\167\056\145\156\164\162\165\163\164\056
\156\145\164\057\103\120\123\137\062\060\064\070\040\151\156\143
\157\162\160\056\040\142\171\040\162\145\146\056\040\050\154\151
\155\151\164\163\040\154\151\141\142\056\051\061\045\060\043\006
\003\125\004\013\023\034\050\143\051\040\061\071\071\071\040\105
\156\164\162\165\163\164\056\156\145\164\040\114\151\155\151\164
\145\144\061\063\060\061\006\003\125\004\003\023\052\105\156\164
\162\165\163\164\056\156\145\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\050\062\060\064\070\051
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\004\070\143\336\370
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Baltimore CyberTrust Root"
#
Issuer: CN=Baltimore CyberTrust Root,OU=CyberTrust,O=Baltimore,C=IE
Serial Number: 33554617 (0x20000b9)
Subject: CN=Baltimore CyberTrust Root,OU=CyberTrust,O=Baltimore,C=IE
Not Valid Before: Fri May 12 18:46:00 2000
Not Valid After : Mon May 12 23:59:00 2025

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```

Fingerprint (SHA-256):
16:AF:57:A9:F6:76:B0:AB:12:60:95:AA:5E:BA:DE:F2:2A:B3:11:19:D6:44:AC:95:CD:4B:93:DB:F3:F2:6A:EB
Fingerprint (SHA1): D4:DE:20:D0:5E:66:FC:53:FE:1A:50:88:2C:78:DB:28:52:CA:E4:74
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN
CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Baltimore CyberTrust Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\111\105\061
\022\060\020\006\003\125\004\012\023\011\102\141\154\164\151\155
\157\162\145\061\023\060\021\006\003\125\004\013\023\012\103\171
\142\145\162\124\162\165\163\164\061\042\060\040\006\003\125\004
\003\023\031\102\141\154\164\151\155\157\162\145\040\103\171\142
\145\162\124\162\165\163\164\040\122\157\157\164
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\111\105\061
\022\060\020\006\003\125\004\012\023\011\102\141\154\164\151\155
\157\162\145\061\023\060\021\006\003\125\004\013\023\012\103\171
\142\145\162\124\162\165\163\164\061\042\060\040\006\003\125\004
\003\023\031\102\141\154\164\151\155\157\162\145\040\103\171\142
\145\162\124\162\165\163\164\040\122\157\157\164
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\004\002\000\000\271
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\167\060\202\002\137\240\003\002\001\002\002\004\002
\000\000\271\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\060\132\061\013\060\011\006\003\125\004\006\023\002\111
\105\061\022\060\020\006\003\125\004\012\023\011\102\141\154\164
\151\155\157\162\145\061\023\060\021\006\003\125\004\013\023\012
\103\171\142\145\162\124\162\165\163\164\061\042\060\040\006\003
\125\004\003\023\031\102\141\154\164\151\155\157\162\145\040\103
\171\142\145\162\124\162\165\163\164\040\122\157\157\164\060\036
\027\015\060\060\060\065\061\062\061\070\064\066\060\060\132\027
\015\062\065\060\065\061\062\062\063\065\071\060\060\132\060\132
\061\013\060\011\006\003\125\004\006\023\002\111\105\061\022\060
\020\006\003\125\004\012\023\011\102\141\154\164\151\155\157\162
\145\061\023\060\021\006\003\125\004\013\023\012\103\171\142\145
\162\124\162\165\163\164\061\042\060\040\006\003\125\004\003\023
\031\102\141\154\164\151\155\157\162\145\040\103\171\142\145\162
\124\162\165\163\164\040\122\157\157\164\060\202\001\042\060\015

```

\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001  
\017\000\060\202\001\012\002\202\001\001\000\243\004\273\042\253  
\230\075\127\350\046\162\232\265\171\324\051\342\341\350\225\200  
\261\260\343\133\216\053\051\232\144\337\241\135\355\260\011\005  
\155\333\050\056\316\142\242\142\376\264\210\332\022\353\070\353  
\041\235\300\101\053\001\122\173\210\167\323\034\217\307\272\271  
\210\265\152\011\347\163\350\021\100\247\321\314\312\142\215\055  
\345\217\013\246\120\322\250\120\303\050\352\365\253\045\207\212  
\232\226\034\251\147\270\077\014\325\367\371\122\023\057\302\033  
\325\160\160\360\217\300\022\312\006\313\232\341\331\312\063\172  
\167\326\370\354\271\361\150\104\102\110\023\322\300\302\244\256  
\136\140\376\266\246\005\374\264\335\007\131\002\324\131\030\230  
\143\365\245\143\340\220\014\175\135\262\006\172\363\205\352\353  
\324\003\256\136\204\076\137\377\025\355\151\274\371\071\066\162  
\165\317\167\122\115\363\311\220\054\271\075\345\311\043\123\077  
\037\044\230\041\134\007\231\051\275\306\072\354\347\156\206\072  
\153\227\164\143\063\275\150\030\061\360\170\215\166\277\374\236  
\216\135\052\206\247\115\220\334\047\032\071\002\003\001\000\001  
\243\105\060\103\060\035\006\003\125\035\016\004\026\004\024\345  
\235\131\060\202\107\130\314\254\372\010\124\066\206\173\072\265  
\004\115\360\060\022\006\003\125\035\023\001\001\377\004\010\060  
\006\001\001\377\002\001\003\060\016\006\003\125\035\017\001\001  
\377\004\004\003\002\001\006\060\015\006\011\052\206\110\206\367  
\015\001\001\005\005\000\003\202\001\001\000\205\014\135\216\344  
\157\121\150\102\005\240\335\273\117\047\045\204\003\275\367\144  
\375\055\327\060\343\244\020\027\353\332\051\051\266\171\077\166  
\366\031\023\043\270\020\012\371\130\244\324\141\160\275\004\141  
\152\022\212\027\325\012\275\305\274\060\174\326\351\014\045\215  
\206\100\117\354\314\243\176\070\306\067\021\117\355\335\150\061  
\216\114\322\263\001\164\356\276\165\136\007\110\032\177\160\377  
\026\134\204\300\171\205\270\005\375\177\276\145\021\243\017\300  
\002\264\370\122\067\071\004\325\251\061\172\030\277\240\052\364  
\022\231\367\243\105\202\343\074\136\365\235\236\265\310\236\174  
\056\310\244\236\116\010\024\113\155\375\160\155\153\032\143\275  
\144\346\037\267\316\360\362\237\056\273\033\267\362\120\210\163  
\222\302\342\343\026\215\232\062\002\253\216\030\335\351\020\021  
\356\176\065\253\220\257\076\060\224\172\320\063\075\247\145\017  
\365\374\216\236\142\317\107\104\054\001\135\273\035\265\062\322  
\107\322\070\056\320\376\201\334\062\152\036\265\356\074\325\374  
\347\201\035\031\303\044\102\352\143\071\251

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Baltimore CyberTrust Root"

# Issuer: CN=Baltimore CyberTrust Root,OU=CyberTrust,O=Baltimore,C=IE

```

Serial Number: 33554617
(0x20000b9)
Subject: CN=Baltimore CyberTrust Root,OU=CyberTrust,O=Baltimore,C=IE
Not Valid Before: Fri May 12 18:46:00 2000
Not Valid After : Mon May 12 23:59:00 2025
Fingerprint (SHA-256):
16:AF:57:A9:F6:76:B0:AB:12:60:95:AA:5E:BA:DE:F2:2A:B3:11:19:D6:44:AC:95:CD:4B:93:DB:F3:F2:6A:EB
Fingerprint (SHA1): D4:DE:20:D0:5E:66:FC:53:FE:1A:50:88:2C:78:DB:28:52:CA:E4:74
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Baltimore CyberTrust Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\324\336\040\320\136\146\374\123\376\032\120\210\054\170\333\050
\122\312\344\164
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\254\266\224\245\234\027\340\327\221\122\233\261\227\006\246\344
END
CKA_ISSUER MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\111\105\061
\022\060\020\006\003\125\004\012\023\011\102\141\154\164\151\155
\157\162\145\061\023\060\021\006\003\125\004\013\023\012\103\171
\142\145\162\124\162\165\163\164\061\042\060\040\006\003\125\004
\003\023\031\102\141\154\164\151\155\157\162\145\040\103\171\142
\145\162\124\162\165\163\164\040\122\157\157\164
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\004\002\000\000\271
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Entrust Root Certification Authority"
#
Issuer: CN=Entrust Root Certification Authority,OU="(c) 2006 Entrust, Inc.",OU=www.entrust.net/CPS is
incorporated by reference,O="Entrust, Inc.",C=US
Serial Number: 1164660820 (0x456b5054)
Subject: CN=Entrust Root Certification Authority,OU="(c) 2006 Entrust, Inc.",OU=www.entrust.net/CPS is
incorporated by reference,O="Entrust, Inc.",C=US
Not Valid Before: Mon Nov 27 20:23:42 2006
Not Valid After : Fri Nov 27 20:53:42 2026
Fingerprint (SHA-256):

```

73:C1:76:43:4F:1B:C6:D5:AD:F4:5B:0E:76:E7:27:28:7C:8D:E5:76:16:C1:E6:E6:14:1A:2B:2C:BC:7D:8E:4C

#

Fingerprint (SHA1): B3:1E:B1:B7:40:E3:6C:84:02:DA:DC:37:D4:4D:F5:D4:67:49:52:F9

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Entrust Root Certification Authority"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\260\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165  
\163\164\054\040\111\156\143\056\061\071\060\067\006\003\125\004  
\013\023\060\167\167\167\056\145\156\164\162\165\163\164\056\156  
\145\164\057\103\120\123\040\151\163\040\151\156\143\157\162\160  
\157\162\141\164\145\144\040\142\171\040\162\145\146\145\162\145  
\156\143\145\061\037\060\035\006\003\125\004\013\023\026\050\143  
\051\040\062\060\060\066\040\105\156\164\162\165\163\164\054\040  
\111\156\143\056\061\055\060\053\006\003\125\004\003\023\044\105  
\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162  
\151\164\171

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\260\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165  
\163\164\054\040\111\156\143\056\061\071\060\067\006\003\125\004  
\013\023\060\167\167\167\056\145\156\164\162\165\163\164\056\156  
\145\164\057\103\120\123\040\151\163\040\151\156\143\157\162\160  
\157\162\141\164\145\144\040\142\171\040\162\145\146\145\162\145  
\156\143\145\061\037\060\035\006\003\125\004\013\023\026\050\143  
\051\040\062\060\060\066\040\105\156\164\162\165\163\164\054\040  
\111\156\143\056\061\055\060\053\006\003\125\004\003\023\044\105  
\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162  
\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\004\105\153\120\124

END

CKA\_VALUE

MULTILINE\_OCTAL

\060\202\004\221\060\202\003\171\240\003\002\001\002\002\004\105  
\153\120\124\060\015\006\011\052\206\110\206\367\015\001\001\005  
\005\000\060\201\260\061\013\060\011\006\003\125\004\006\023\002  
\125\123\061\026\060\024\006\003\125\004\012\023\015\105\156\164

\162\165\163\164\054\040\111\156\143\056\061\071\060\067\006\003  
\125\004\013\023\060\167\167\167\056\145\156\164\162\165\163\164  
\056\156\145\164\057\103\120\123\040\151\163\040\151\156\143\157  
\162\160\157\162\141\164\145\144\040\142\171\040\162\145\146\145  
\162\145\156\143\145\061\037\060\035\006\003\125\004\013\023\026  
\050\143\051\040\062\060\060\066\040\105\156\164\162\165\163\164  
\054\040\111\156\143\056\061\055\060\053\006\003\125\004\003\023  
\044\105\156\164\162\165\163\164\040\122\157\157\164\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171\060\036\027\015\060\066\061\061\062\067\062\060  
\060\062\063\064\062\132\027\015\062\066\061\061\062\067\062\060  
\065\063\064\062\132\060\201\260\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\026\060\024\006\003\125\004\012\023\015  
\105\156\164\162\165\163\164\054\040\111\156\143\056\061\071\060  
\067\006\003\125\004\013\023\060\167\167\167\056\145\156\164\162  
\165\163\164\056\156\145\164\057\103\120\123\040\151\163\040\151  
\156\143\157\162\160\157\162\141\164\145\144\040\142\171\040\162  
\145\146\145\162\145\156\143\145\061\037\060\035\006\003\125\004  
\013\023\026\050\143\051\040\062\060\060\066\040\105\156\164\162  
\165\163\164\054\040\111\156\143\056\061\055\060\053\006\003\125  
\004\003\023\044\105\156\164\162\165\163\164\040\122\157\157\164  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171\060\202\001\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000  
\060\202\001\012\002\202\001\001\000\266\225\266\103\102\372\306  
\155\052\157\110\337\224\114\071\127\005\356\303\171\021\101\150  
\066\355\354\376\232\001\217\241\070\050\374\367\020\106\146\056  
\115\036\032\261\032\116\306\321\300\225\210\260\311\377\061\213  
\063\003\333\267\203\173\076\040\204\136\355\262\126\050\247\370  
\340\271\100\161\067\305\313\107\016\227\052\150\300\042\225\142  
\025\333\107\331\365\320\053\377\202\113\311\255\076\336\114\333  
\220\200\120\077\011\212\204\000\354\060\012\075\030\315\373\375  
\052\131\232\043\225\027\054\105\236\037\156\103\171\155\014\134  
\230\376\110\247\305\043\107\134\136\375\156\347\036\264\366\150  
\105\321\206\203\133\242\212\215\261\343\051\200\376\045\161\210  
\255\276\274\217\254\122\226\113\252\121\215\344\023\061\031\350  
\116\115\237\333\254\263\152\325\274\071\124\161\312\172\172\177  
\220\335\175\035\200\331\201\273\131\046\302\021\376\346\223\342  
\367\200\344\145\373\064\067\016\051\200\160\115\257\070\206\056  
\236\177\127\257\236\027\256\353\034\313\050\041\137\266\034\330  
\347\242\004\042\371\323\332\330\313\002\003\001\000\001\243\201  
\260\060\201\255\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\053\006\003\125\035\020\004\044\060\042  
\200\017\062\060\060\066\061\061\062\067\062\060\062\063\064\062  
\132\201\017\062\060\062\066\061\061\062\067\062\060\065\063\064  
\062\132\060\037\006\003\125\035\043\004\030\060\026\200\024\150  
\220\344\147\244\246\123\200\307\206\146\244\361\367\113\103\373

\204\275\155\060\035\006\003\125\035\016\004\026\004\024\150\220  
\344\147\244\246\123\200\307\206\146\244\361\367\113\103\373\204  
\275\155\060\035\006\011\052\206\110\206\366\175\007\101\000\004  
\020\060\016\033\010\126\067\056\061\072\064\056\060\003\002\004  
\220\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000  
\003\202\001\001\000\223\324\060\260\327\003\040\052\320\371\143  
\350\221\014\005\040\251\137\031\312\173\162\116\324\261\333\320  
\226\373\124\132\031\054\014\010\367\262\274\205\250\235\177\155  
\073\122\263\052\333\347\324\204\214\143\366\017\313\046\001\221  
\120\154\364\137\024\342\223\164\300\023\236\060\072\120\343\264  
\140\305\034\360\042\104\215\161\107\254\310\032\311\351\233\232  
\000\140\023\377\160\176\137\021\115\111\033\263\025\122\173\311  
\124\332\277\235\225\257\153\232\330\236\351\361\344\103\215\342  
\021\104\072\277\257\275\203\102\163\122\213\252\273\247\051\317  
\365\144\034\012\115\321\274\252\254\237\052\320\377\177\177\332  
\175\352\261\355\060\045\301\204\332\064\322\133\170\203\126\354  
\234\066\303\046\342\021\366\147\111\035\222\253\214\373\353\377  
\172\356\205\112\247\120\200\360\247\134\112\224\056\137\005\231  
\074\122\101\340\315\264\143\317\001\103\272\234\203\334\217\140  
\073\363\132\264\264\173\256\332\013\220\070\165\357\201\035\146  
\322\367\127\160\066\263\277\374\050\257\161\045\205\133\023\376  
\036\177\132\264\074

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Entrust Root Certification Authority"

# Issuer: CN=Entrust

Root Certification Authority,OU="(c) 2006 Entrust, Inc.",OU=www.entrust.net/CPS is incorporated by  
reference,O="Entrust, Inc.",C=US

# Serial Number: 1164660820 (0x456b5054)

# Subject: CN=Entrust Root Certification Authority,OU="(c) 2006 Entrust, Inc.",OU=www.entrust.net/CPS is  
incorporated by reference,O="Entrust, Inc.",C=US

# Not Valid Before: Mon Nov 27 20:23:42 2006

# Not Valid After : Fri Nov 27 20:53:42 2026

# Fingerprint (SHA-256):

73:C1:76:43:4F:1B:C6:D5:AD:F4:5B:0E:76:E7:27:28:7C:8D:E5:76:16:C1:E6:E6:14:1A:2B:2C:BC:7D:8E:4C

# Fingerprint (SHA1): B3:1E:B1:B7:40:E3:6C:84:02:DA:DC:37:D4:4D:F5:D4:67:49:52:F9

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Entrust Root Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\263\036\261\267\100\343\154\204\002\332\334\067\324\115\365\324  
\147\111\122\371

```

END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\326\245\303\355\135\335\076\000\301\075\207\222\037\035\077\344
END
CKA_ISSUER
MULTILINE_OCTAL
\060\201\260\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\071\060\067\006\003\125\004
\013\023\060\167\167\167\056\145\156\164\162\165\163\164\056\156
\145\164\057\103\120\123\040\151\163\040\151\156\143\157\162\160
\157\162\141\164\145\144\040\142\171\040\162\145\146\145\162\145
\156\143\145\061\037\060\035\006\003\125\004\013\023\026\050\143
\051\040\062\060\060\066\040\105\156\164\162\165\163\164\054\040
\111\156\143\056\061\055\060\053\006\003\125\004\003\023\044\105
\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\105\153\120\124
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST
CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Certum Root CA"
#
Issuer: CN=Certum CA,O=Unizeto Sp. z o.o.,C=PL
Serial Number: 65568 (0x10020)
Subject: CN=Certum CA,O=Unizeto Sp. z o.o.,C=PL
Not Valid Before: Tue Jun 11 10:46:39 2002
Not Valid After : Fri Jun 11 10:46:39 2027
Fingerprint (SHA-256):
D8:E0:FE:BC:1D:B2:E3:8D:00:94:0F:37:D2:7D:41:34:4D:99:3E:73:4B:99:D5:65:6D:97:78:D4:D8:14:36:24
Fingerprint (SHA1): 62:52:DC:40:F7:11:43:A2:2F:DE:9E:F7:34:8E:06:42:51:B1:81:18
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145\164

```



```
\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060\020
\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103\101
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145\164
\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060\020
\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\001\000\040
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\014\060\202\001\364\240\003\002\001\002\002\003\001
\000\040\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145
\164\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060
\020\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103
\101\060\036\027\015\060\062\060\066\061\061\061\060\064\066\063
\071\132\027\015\062\067\060\066\061\061\061\060\064\066\063\071
\132\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145
\164\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060
\020\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103
\101\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001
\001\000\316\261\301\056\323\117\174\315\045\316\030\076\117\304
\214\157\200\152\163\310\133\121\370\233\322\334\273\000\134\261
\240\374\165\003\356\201\360\210\356\043\122\351\346\025\063\215
\254\055\011\305\166\371\053\071\200\211\344\227\113\220\245\250
\170\370\163\103\173\244\141\260\330\130\314\341\154\146\176\234
\363\011\136\125\143\204\325\250\357\363\261\056\060\150\263\304
\074\330\254\156\215\231\132\220\116\064\334\066\232\217\201\210
\120\267\155\226\102\011\363\327\225\203\015\101\113\260\152\153
\370\374\017\176\142\237\147\304\355\046\137\020\046\017\010\117
\360\244\127\050\316\217\270\355\105\366\156\356\045\135\252\156
\071\276\344\223\057\331\107\240\162\353\372\246\133\257\312\123
\077\342\016\306\226\126\021\156\367\351\146\251\046\330\177\225
\123\355\012\205\210\272\117\051\245\102\214\136\266\374\205\040
\000\252\150\013\241\032\205\001\234\304\106\143\202\210\266\042
\261\356\376\252\106\131\176\317\065\054\325\266\332\135\367\110
\063\024\124\266\353\331\157\316\315\210\326\253\033\332\226\073
\035\131\002\003\001\000\001\243\023\060\021\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\015\006\011
\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000
```

```
\270\215\316\357\347\024\272\317\356\260\104\222\154\264\071\076
\242\204\156\255\270\041\167\322\324\167\202\207\346\040\101\201
\356\342\370\021\267\143\321\027\067\276\031\166\044\034\004\032
\114\353\075\252\147\157\055\324\315\376\145\061\160\305\033\246
\002\012\272\140\173\155\130\302\232\111\376\143\062\013\153\343
\072\300\254\253\073\260\350\323\011\121\214\020\203\306\064\340
\305\053\340\032\266\140\024\047\154\062\167\214\274\262\162\230
\317\315\314\077\271\310\044\102\024\326\127\374\346\046\103\251
\035\345\200\220\316\003\124\050\076\367\077\323\370\115\355\152
\012\072\223\023\233\073\024\043\023\143\234\077\321\207\047\171
\345\114\121\343\001\255\205\135\032\073\261\325\163\020\244\323
\362\274\156\144\365\132\126\220\250\307\016\114\164\017\056\161
\073\367\310\107\364\151\157\025\362\021\136\203\036\234\174\122
\256\375\002\332\022\250\131\147\030\333\274\160\335\233\261\151
\355\200\316\211\100\110\152\016\065\312\051\146\025\041\224\054
\350\140\052\233\205\112\100\363\153\212\044\354\006\026\054\163
END
```

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certum Root CA"

# Issuer: CN=Certum CA,O=Unizeto Sp. z o.o.,C=PL

# Serial Number: 65568 (0x10020)

# Subject: CN=Certum CA,O=Unizeto Sp. z o.o.,C=PL

# Not Valid Before: Tue Jun 11 10:46:39 2002

# Not Valid After : Fri Jun 11

10:46:39 2027

# Fingerprint (SHA-256):

D8:E0:FE:BC:1D:B2:E3:8D:00:94:0F:37:D2:7D:41:34:4D:99:3E:73:4B:99:D5:65:6D:97:78:D4:D8:14:36:24

# Fingerprint (SHA1): 62:52:DC:40:F7:11:43:A2:2F:DE:9E:F7:34:8E:06:42:51:B1:81:18

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certum Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\142\122\334\100\367\021\103\242\057\336\236\367\064\216\006\102
\121\261\201\030
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\054\217\237\146\035\030\220\261\107\046\235\216\206\202\214\251
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145\164
\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060\020
```

```

\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\001\000\040
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Comodo AAA Services root"
#
Issuer: CN=AAA Certificate Services,O=Comodo CA Limited,L=Salford,ST=Greater Manchester,C=GB
Serial Number: 1 (0x1)
Subject: CN=AAA Certificate Services,O=Comodo CA Limited,L=Salford,ST=Greater Manchester,C=GB
Not Valid Before: Thu Jan 01 00:00:00 2004
Not Valid After : Sun Dec 31 23:59:59 2028
Fingerprint (SHA-256):
D7:A7:A0:FB:5D:7E:27:31:D7:71:E9:48:4E:BC:DE:F7:1D:5F:0C:3E:0A:29:48:78:2B:C8:3E:E0:EA:69:9E:F4
Fingerprint (SHA1): D1:EB:23:A4:6D:17:D6:8F:D9:25:64:C2:F1:F1:60:17:64:D8:E3:49
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Comodo AAA Services root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040
\103\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003
\125\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151
\143\141\164\145\040\123\145\162\166\151\143\145\163
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040
\103\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003
\125\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151

```

\143\141\164\145\040\123\145\162\166\151\143\145\163  
END  
CKA\_SERIAL\_NUMBER  
MULTILINE\_OCTAL  
\002\001\001  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\004\062\060\202\003\032\240\003\002\001\002\002\001\001  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060  
\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061\033  
\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145\162  
\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016\006  
\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032\060  
\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040\103  
\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003\125  
\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151\143  
\141\164\145\040\123\145\162\166\151\143\145\163\060\036\027\015  
\060\064\060\061\060\061\060\060\060\060\060\132\027\015\062  
\070\061\062\063\061\062\063\065\071\065\071\132\060\173\061\013  
\060\011\006\003\125\004\006\023\002\107\102\061\033\060\031\006  
\003\125\004\010\014\022\107\162\145\141\164\145\162\040\115\141  
\156\143\150\145\163\164\145\162\061\020\060\016\006\003\125\004  
\007\014\007\123\141\154\146\157\162\144\061\032\060\030\006\003  
\125\004\012\014\021\103\157\155\157\144\157\040\103\101\040\114  
\151\155\151\164\145\144\061\041\060\037\006\003\125\004\003\014  
\030\101\101\101\040\103\145\162\164\151\146\151\143\141\164\145  
\040\123\145\162\166\151\143\145\163\060\202\001\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017  
\000\060\202\001\012\002\202\001\001\000\276\100\235\364\156\341  
\352\166\207\034\115\105\104\216\276\106\310\203\006\235\301\052  
\376\030\037\216\344\002\372\363\253\135\120\212\026\061\013\232  
\006\320\305\160\042\315\111\055\124\143\314\266\156\150\106\013  
\123\352\313\114\044\300\274\162\116\352\361\025\256\364\124\232  
\022\012\303\172\262\063\140\342\332\211\125\363\042\130\363\336  
\334\317\357\203\206\242\214\224\117\237\150\362\230\220\106\204  
\047\307\166\277\343\314\065\054\213\136\007\144\145\202\300\110  
\260\250\221\371\141\237\166\040\120\250\221\307\146\265\353\170  
\142\003\126\360\212\032\023\352\061\243\036\240\231\375\070\366  
\366\047\062\130\157\007\365\153\270\373\024\053\257\267\252\314  
\326\143\137\163\214\332\005\231\250\070\250\313\027\170\066\121  
\254\351\236\364\170\072\215\317\017\331\102\342\230\014\253\057  
\237\016\001\336\357\237\231\111\361\055\337\254\164\115\033\230  
\265\107\305\345\051\321\371\220\030\307\142\234\276\203\307\046  
\173\076\212\045\307\300\335\235\346\065\150\020\040\235\217\330  
\336\322\303\204\234\015\136\350\057\311\002\003\001\000\001\243  
\201\300\060\201\275\060\035\006\003\125\035\016\004\026\004\024  
\240\021\012\043\076\226\361\007\354\342\257\051\357\202\245\177  
\320\060\244\264\060\016\006\003\125\035\017\001\001\377\004\004

\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\173\006\003\125\035\037\004\164\060\162  
\060\070\240\066\240\064\206\062\150\164\164\160\072\057\057\143  
\162\154\056\143\157\155\157\144\157\143\141\056\143\157\155\057  
\101\101\101\103\145\162\164\151\146\151\143\141\164\145\123\145  
\162\166\151\143\145\163\056\143\162\154\060\066\240\064\240\062  
\206\060\150\164\164\160\072\057\057\143\162\154\056\143\157\155  
\157\144\157\056\156\145\164\057\101\101\101\103\145\162\164\151  
\146\151\143\141\164\145\123\145\162\166\151\143\145\163\056\143  
\162\154\060\015\006\011\052\206\110\206\367\015\001\001\005\005  
\000\003\202\001\001\000\010\126\374\002\360\233\350\377\244\372  
\326\173\306\104\200\316\117\304\305\366\000\130\314\246\266\274  
\024\111\150\004\166\350\346\356\135\354\002\017\140\326\215\120  
\030\117\046\116\001\343\346\260\245\356\277\274\164\124\101\277  
\375\374\022\270\307\117\132\364\211\140\005\177\140\267\005\112  
\363\366\361\302\277\304\271\164\206\266\055\175\153\314\322\363  
\106\335\057\306\340\152\303\303\064\003\054\175\226\335\132\302  
\016\247\012\231\301\005\213\253\014\057\363\134\072\317\154\067  
\125\011\207\336\123\100\154\130\357\374\266\253\145\156\004\366  
\033\334\074\340\132\025\306\236\331\361\131\110\060\041\145\003  
\154\354\351\041\163\354\233\003\241\340\067\255\240\025\030\217  
\372\272\002\316\247\054\251\020\023\054\324\345\010\046\253\042  
\227\140\370\220\136\164\324\242\232\123\275\362\251\150\340\242  
\156\302\327\154\261\243\017\236\277\353\150\347\126\362\256\362  
\343\053\070\072\011\201\265\153\205\327\276\055\355\077\032\267  
\262\143\342\365\142\054\202\324\152\000\101\120\361\071\203\237  
\225\351\066\226\230\156

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Comodo AAA Services root"

# Issuer: CN=AAA Certificate Services,O=Comodo CA Limited,L=Salford,ST=Greater Manchester,C=GB

# Serial Number: 1 (0x1)

# Subject: CN=AAA Certificate Services,O=Comodo CA Limited,L=Salford,ST=Greater Manchester,C=GB

# Not Valid Before: Thu Jan 01 00:00:00 2004

# Not Valid After : Sun Dec 31 23:59:59 2028

# Fingerprint

(SHA-256):

D7:A7:A0:FB:5D:7E:27:31:D7:71:E9:48:4E:BC:DE:F7:1D:5F:0C:3E:0A:29:48:78:2B:C8:3E:E0:EA:69:9E:F4

# Fingerprint (SHA1): D1:EB:23:A4:6D:17:D6:8F:D9:25:64:C2:F1:F1:60:17:64:D8:E3:49

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Comodo AAA Services root"

```

CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\321\353\043\244\155\027\326\217\331\045\144\302\361\361\140\027
\144\330\343\111
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\111\171\004\260\353\207\031\254\107\260\274\021\121\233\164\320
END
CKA_ISSUER MULTILINE_OCTAL
\060\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040
\103\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003
\125\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151
\143\141\164\145\040\123\145\162\166\151\143\145\163
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "QuoVadis Root CA 2"
#
Issuer: CN=QuoVadis Root CA 2,O=QuoVadis Limited,C=BM
Serial Number: 1289 (0x509)
Subject: CN=QuoVadis Root CA 2,O=QuoVadis Limited,C=BM
Not Valid Before: Fri Nov 24 18:27:00 2006
Not Valid After : Mon Nov 24 18:23:33 2031
Fingerprint (SHA-256):
85:A0:DD:7D:D7:20:AD:B7:FF:05:F8:3D:54:2B:20:9D:C7:FF:45:28:F7:D6:77:B1:83:89:FE:A5:E5:C4:9E:86
Fingerprint (SHA1): CA:3A:FB:CF:12:40:36:4B:44:B2:16:20:88:80:48:39:19:93:7C:F7
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL
CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003

```

```
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\005\011
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\267\060\202\003\237\240\003\002\001\002\002\002\005
\011\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062\060\036\027\015\060\066\061\061\062
\064\061\070\062\067\060\060\132\027\015\063\061\061\061\062\064
\061\070\062\063\063\063\132\060\105\061\013\060\011\006\003\125
\004\006\023\002\102\115\061\031\060\027\006\003\125\004\012\023
\020\121\165\157\126\141\144\151\163\040\114\151\155\151\164\145
\144\061\033\060\031\006\003\125\004\003\023\022\121\165\157\126
\141\144\151\163\040\122\157\157\164\040\103\101\040\062\060\202
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\232
\030\312\113\224\015\000\055\257\003\051\212\360\017\201\310\256
\114\031\205\035\010\237\253\051\104\205\363\057\201\255\062\036
\220\106\277\243\206\046\032\036\376\176\034\030\072\134\234\140
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\272\027\102\202\227\161\201\123\061\251\237\366\175\142\277\162
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END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "QuoVadis Root CA 2"

# Issuer: CN=QuoVadis Root

CA 2,O=QuoVadis Limited,C=BM

# Serial Number: 1289 (0x509)

# Subject: CN=QuoVadis Root CA 2,O=QuoVadis Limited,C=BM

# Not Valid Before: Fri Nov 24 18:27:00 2006

# Not Valid After : Mon Nov 24 18:23:33 2031

# Fingerprint (SHA-256):

85:A0:DD:7D:D7:20:AD:B7:FF:05:F8:3D:54:2B:20:9D:C7:FF:45:28:F7:D6:77:B1:83:89:FE:A5:E5:C4:9E:86

# Fingerprint (SHA1): CA:3A:FB:CF:12:40:36:4B:44:B2:16:20:88:80:48:39:19:93:7C:F7

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "QuoVadis Root CA 2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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\312\072\373\317\022\100\066\113\104\262\026\040\210\200\110\071
\031\223\174\367
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END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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\136\071\173\335\370\272\354\202\351\254\142\272\014\124\000\053
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END

CKA\_ISSUER MULTILINE\_OCTAL

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\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062
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END

CKA\_SERIAL\_NUMBER

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MULTILINE_OCTAL
\002\002\005\011
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "QuoVadis Root CA 3"
#
Issuer: CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM
Serial Number: 1478 (0x5c6)
Subject: CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM
Not Valid Before: Fri Nov 24 19:11:23 2006
Not Valid After : Mon Nov 24 19:06:44 2031
Fingerprint (SHA-256):
18:F1:FC:7F:20:5D:F8:AD:DD:EB:7F:E0:07:DD:57:E3:AF:37:5A:9C:4D:8D:73:54:6B:F4:F1:FE:D1:E1:8D:35
Fingerprint (SHA1): 1F:49:14:F7:D8:74:95:1D:DD:AE:02:C0:BE:FD:3A:2D:82:75:51:85
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL
UTF8 "QuoVadis Root CA 3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\005\306
END
CKA_VALUE MULTILINE_OCTAL
\060\202\006\235\060\202\004\205\240\003\002\001\002\002\002\005
\306\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
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\064\061\071\061\061\062\063\132\027\015\063\061\061\061\062\064  
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\020\121\165\157\126\141\144\151\163\040\114\151\155\151\164\145  
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\024\355\005\122\132\131\126\247\227\374\235\077\012\051\330\334  
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END
CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "QuoVadis Root CA 3"
Issuer: CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM
Serial Number: 1478 (0x5c6)
Subject:
 CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM
Not Valid Before: Fri Nov 24 19:11:23 2006
Not Valid After : Mon Nov 24 19:06:44 2031
Fingerprint (SHA-256):
18:F1:FC:7F:20:5D:F8:AD:DD:EB:7F:E0:07:DD:57:E3:AF:37:5A:9C:4D:8D:73:54:6B:F4:F1:FE:D1:E1:8D:35
Fingerprint (SHA1): 1F:49:14:F7:D8:74:95:1D:DD:AE:02:C0:BE:FD:3A:2D:82:75:51:85
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\037\111\024\367\330\164\225\035\335\256\002\300\276\375\072\055
\202\165\121\205
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\061\205\074\142\224\227\143\271\252\375\211\116\257\157\340\317
END
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\002\005\306
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

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CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Security Communication Root CA"
#
Issuer: OU=Security Communication RootCA1,O=SECOM Trust.net,C=JP
Serial Number: 0 (0x0)
Subject: OU=Security Communication RootCA1,O=SECOM Trust.net,C=JP
Not Valid Before: Tue Sep 30 04:20:49 2003
Not Valid After : Sat Sep 30 04:20:49 2023
Fingerprint (SHA-256):
E7:5E:72:ED:9F:56:0E:EC:6E:B4:80:00:73:A4:3F:C3:AD:19:19:5A:39:22:82:01:78:95:97:4A:99:02:6B:6C
Fingerprint (SHA1): 36:B1:2B:49:F9:81:9E:D7:4C:9E:BC:38:0F:C6:56:8F:5D:AC:B2:F7
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication
Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040
\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125
\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155
\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103
\101\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040
\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125
\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155
\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103
\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\132\060\202\002\102\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061\030
\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040\124
\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125\004

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\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155\155  
\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103\101  
\061\060\036\027\015\060\063\060\071\063\060\060\064\062\060\064  
\071\132\027\015\062\063\060\071\063\060\060\064\062\060\064\071  
\132\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120  
\061\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115  
\040\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003  
\125\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157  
\155\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164  
\103\101\061\060\202\001\042\060\015\006\011\052\206\110\206\367  
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002  
\202\001\001\000\263\263\376\177\323\155\261\357\026\174\127\245  
\014\155\166\212\057\113\277\144\373\114\356\212\360\363\051\174  
\365\377\356\052\340\351\351\272\133\144\042\232\232\157\054\072  
\046\151\121\005\231\046\334\325\034\152\161\306\232\175\036\235  
\335\174\154\306\214\147\147\112\076\370\161\260\031\047\251\011  
\014\246\225\277\113\214\014\372\125\230\073\330\350\042\241\113  
\161\070\171\254\227\222\151\263\211\176\352\041\150\006\230\024  
\226\207\322\141\066\274\155\047\126\236\127\356\300\300\126\375  
\062\317\244\331\216\302\043\327\215\250\363\330\045\254\227\344  
\160\070\364\266\072\264\235\073\227\046\103\243\241\274\111\131  
\162\114\043\060\207\001\130\366\116\276\034\150\126\146\257\315  
\101\135\310\263\115\052\125\106\253\037\332\036\342\100\075\333  
\315\175\271\222\200\234\067\335\014\226\144\235\334\042\367\144  
\213\337\141\336\025\224\122\025\240\175\122\311\113\250\041\311  
\306\261\355\313\303\225\140\321\017\360\253\160\370\337\313\115  
\176\354\326\372\253\331\275\177\124\362\245\351\171\372\331\326  
\166\044\050\163\002\003\001\000\001\243\077\060\075\060\035\006  
\003\125\035\016\004\026\004\024\240\163\111\231\150\334\205\133  
\145\343\233\050\057\127\237\275\063\274\007\110\060\013\006\003  
\125\035\017\004\004\003\002\001\006\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\150\100  
\251\250\273\344\117\135\171\263\005\265\027\263\140\023\353\306  
\222\135\340\321\323\152\376\373\276\233\155\277\307\005\155\131  
\040\304\034\360\267\332\204\130\002\143\372\110\026\357\117\245  
\013\367\112\230\362\077\236\033\255\107\153\143\316\010\107\353  
\122\077\170\234\257\115\256\370\325\117\317\232\230\052\020\101  
\071\122\304\335\331\233\016\357\223\001\256\262\056\312\150\102  
\044\102\154\260\263\072\076\315\351\332\110\304\025\313\351\371  
\007\017\222\120\111\212\335\061\227\137\311\351\067\252\073\131  
\145\227\224\062\311\263\237\076\072\142\130\305\111\255\142\016  
\161\245\062\252\057\306\211\166\103\100\023\023\147\075\242\124  
\045\020\313\361\072\362\331\372\333\111\126\273\246\376\247\101  
\065\303\340\210\141\311\210\307\337\066\020\042\230\131\352\260  
\112\373\126\026\163\156\254\115\367\042\241\117\255\035\172\055  
\105\047\345\060\301\136\362\332\023\313\045\102\121\225\107\003  
\214\154\041\314\164\102\355\123\377\063\213\217\017\127\001\026

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\057\317\246\356\311\160\042\024\275\375\276\154\013\003
END
CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Security Communication Root CA"
Issuer: OU=Security Communication RootCA1,O=SECOM Trust.net,C=JP
Serial Number: 0 (0x0)
Subject: OU=Security Communication RootCA1,O=SECOM Trust.net,C=JP
Not Valid Before: Tue Sep 30 04:20:49 2003
Not Valid After : Sat Sep 30 04:20:49 2023
Fingerprint (SHA-256):
E7:5E:72:ED:9F:56:0E:EC:6E:B4:80:00:73:A4:3F:C3:AD:19:19:5A:39:22:82:01:78:95:97:4A:99:02:6B:6C
Fingerprint (SHA1): 36:B1:2B:49:F9:81:9E:D7:4C:9E:BC:38:0F:C6:56:8F:5D:AC:B2:F7
CKA_CLASS
CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\066\261\053\111\371\201\236\327\114\236\274\070\017\306\126\217
\135\254\262\367
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\361\274\143\152\124\340\265\047\365\315\347\032\343\115\156\112
END
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040
\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125
\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155
\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103
\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

#
Certificate "Camerfirma Chambers of Commerce Root"

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#
Issuer: CN=Chambers of Commerce Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF
A82743287,C=EU
Serial Number: 0 (0x0)
Subject: CN=Chambers of Commerce Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF
A82743287,C=EU
Not Valid Before: Tue Sep 30 16:13:43 2003
Not Valid After : Wed Sep 30 16:13:44 2037
Fingerprint (SHA-256):
0C:25:8A:12:A5:67:4A:EF:25:F2:8B:A7:DC:FA:EC:EE:A3:48:E5:41:E6:F5:CC:4E:E6:3B:71:B3:61:60:6A:C3
Fingerprint (SHA1): 6E:3A:55:A4:19:0C:19:5C:93:84:3C:C0:DB:72:2E:31:30:61:F0:B1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Camerfirma Chambers of Commerce Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060
\040\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157
\164
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060
\040\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157
\164
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\275\060\202\003\245\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
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\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061\047  
\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155\145  
\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101\070  
\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004\013  
\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150\141  
\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060\040  
\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163\040  
\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157\164  
\060\036\027\015\060\063\060\071\063\060\061\066\061\063\064\063  
\132\027\015\063\067\060\071\063\060\061\066\061\063\064\064\132  
\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061  
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155  
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101  
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004  
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150  
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060  
\040\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163  
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157  
\164\060\202\001\040\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\001\015\000\060\202\001\010\002\202\001  
\001\000\267\066\125\345\245\135\030\060\340\332\211\124\221\374  
\310\307\122\370\057\120\331\357\261\165\163\145\107\175\033\133  
\272\165\305\374\241\210\044\372\057\355\312\010\112\071\124\304  
\121\172\265\332\140\352\070\074\201\262\313\361\273\331\221\043  
\077\110\001\160\165\251\005\052\255\037\161\363\311\124\075\035  
\006\152\100\076\263\014\205\356\134\033\171\302\142\304\270\066  
\216\065\135\001\014\043\004\107\065\252\233\140\116\240\146\075  
\313\046\012\234\100\241\364\135\230\277\161\253\245\000\150\052  
\355\203\172\017\242\024\265\324\042\263\200\260\074\014\132\121  
\151\055\130\030\217\355\231\236\361\256\342\225\346\366\107\250  
\326\014\017\260\130\130\333\303\146\067\236\233\221\124\063\067  
\322\224\034\152\110\311\311\362\245\332\245\014\043\367\043\016  
\234\062\125\136\161\234\204\005\121\232\055\375\346\116\052\064  
\132\336\312\100\067\147\014\124\041\125\167\332\012\014\314\227  
\256\200\334\224\066\112\364\076\316\066\023\036\123\344\254\116  
\072\005\354\333\256\162\234\070\213\320\071\073\211\012\076\167  
\376\165\002\001\003\243\202\001\104\060\202\001\100\060\022\006  
\003\125\035\023\001\001\377\004\010\060\006\001\001\377\002\001  
\014\060\074\006\003\125\035\037\004\065\060\063\060\061\240\057  
\240\055\206\053\150\164\164\160\072\057\057\143\162\154\056\143  
\150\141\155\142\145\162\163\151\147\156\056\157\162\147\057\143  
\150\141\155\142\145\162\163\162\157\157\164\056\143\162\154\060  
\035\006\003\125\035\016\004\026\004\024\343\224\365\261\115\351  
\333\241\051\133\127\213\115\166\006\166\341\321\242\212\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\021  
\006\011\140\206\110\001\206\370\102\001\001\004\004\003\002\000  
\007\060\047\006\003\125\035\021\004\040\060\036\201\034\143\150  
\141\155\142\145\162\163\162\157\157\164\100\143\150\141\155\142

\145\162\163\151\147\156\056\157\162\147\060\047\006\003\125\035  
\022\004\040\060\036\201\034\143\150\141\155\142\145\162\163\162  
\157\157\164\100\143\150\141\155\142\145\162\163\151\147\156\056  
\157\162\147\060\130\006\003\125\035\040\004\121\060\117\060\115  
\006\013\053\006\001\004\001\201\207\056\012\003\001\060\076\060  
\074\006\010\053\006\001\005\005\007\002\001\026\060\150\164\164  
\160\072\057\057\143\160\163\056\143\150\141\155\142\145\162\163  
\151\147\156\056\157\162\147\057\143\160\163\057\143\150\141\155  
\142\145\162\163\162\157\157\164\056\150\164\155\154\060\015\006  
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001  
\000\014\101\227\302\032\206\300\042\174\237\373\220\363\032\321  
\003\261\357\023\371\041\137\004\234\332\311\245\215\047\154\226  
\207\221\276\101\220\001\162\223\347\036\175\137\366\211\306\135  
\247\100\011\075\254\111\105\105\334\056\215\060\150\262\011\272  
\373\303\057\314\272\013\337\077\167\173\106\175\072\022\044\216  
\226\217\074\005\012\157\322\224\050\035\155\014\300\056\210\042  
\325\330\317\035\023\307\360\110\327\327\005\247\317\307\107\236  
\073\074\064\310\200\117\324\024\273\374\015\120\367\372\263\354  
\102\137\251\335\155\310\364\165\317\173\301\162\046\261\001\034  
\134\054\375\172\116\264\001\305\005\127\271\347\074\252\005\331  
\210\351\007\106\101\316\357\101\201\256\130\337\203\242\256\312  
\327\167\037\347\000\074\235\157\216\344\062\011\035\115\170\064  
\170\064\074\224\233\046\355\117\161\306\031\172\275\040\042\110  
\132\376\113\175\003\267\347\130\276\306\062\116\164\036\150\335  
\250\150\133\263\076\356\142\175\331\200\350\012\165\172\267\356  
\264\145\232\041\220\340\252\320\230\274\070\265\163\074\213\370  
\334

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# For Email Distrust After: Mon Mar 01 00:00:00 2021

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER MULTILINE\_OCTAL

\062\061\060\063\060\061\060\060\060\060\060\060\132

END

# Trust for "Camerfirma Chambers of Commerce Root"

# Issuer: CN=Chambers of Commerce Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF  
A82743287,C=EU

# Serial Number: 0 (0x0)

# Subject: CN=Chambers of Commerce Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF  
A82743287,C=EU

# Not Valid Before: Tue Sep 30 16:13:43 2003

# Not Valid After : Wed Sep 30 16:13:44 2037

# Fingerprint (SHA-256):

0C:25:8A:12:A5:67:4A:EF:25:F2:8B:A7:DC:FA:EC:EE:A3:48:E5:41:E6:F5:CC:4E:E6:3B:71:B3:61:60:6A:C3

# Fingerprint (SHA1): 6E:3A:55:A4:19:0C:19:5C:93:84:3C:C0:DB:72:2E:31:30:61:F0:B1

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

```

CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL
CK_FALSE
CKA_LABEL UTF8 "Camerfirma Chambers of Commerce Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\156\072\125\244\031\014\031\134\223\204\074\300\333\162\056\061
\060\141\360\261
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\260\001\356\024\331\257\051\030\224\166\216\361\151\063\052\204
END
CKA_ISSUER MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060
\040\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157
\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING
CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "XRamp Global CA Root"
#
Issuer: CN=XRamp Global Certification Authority,O=XRamp Security Services
Inc,OU=www.xrampsecurity.com,C=US
Serial Number:50:94:6c:ec:18:ea:d5:9c:4d:d5:97:ef:75:8f:a0:ad
Subject: CN=XRamp Global Certification Authority,O=XRamp Security Services
Inc,OU=www.xrampsecurity.com,C=US
Not Valid Before: Mon Nov 01 17:14:04 2004
Not Valid After : Mon Jan 01 05:37:19 2035
Fingerprint (SHA-256):
CE:CD:DC:90:50:99:D8:DA:DF:C5:B1:D2:09:B7:37:CB:E2:C1:8C:FB:2C:10:C0:FF:0B:CF:0D:32:86:FC:1A:A2
Fingerprint (SHA1): B8:01:86:D1:EB:9C:86:A5:41:04:CF:30:54:F3:4C:52:B7:E5:58:C6
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE

```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "XRamp Global CA Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\036\060\034\006\003\125\004\013\023\025\167\167\167\056\170
\162\141\155\160\163\145\143\165\162\151\164\171\056\143\157\155
\061\044\060\042\006\003\125\004\012\023\033\130\122\141\155\160
\040\123\145\143\165\162\151\164\171\040\123\145\162\166\151\143
\145\163\040\111\156\143\061\055\060\053\006\003\125\004\003\023
\044\130\122\141\155\160\040\107\154\157\142\141\154\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\036\060\034\006\003\125\004\013\023\025\167\167\167\056\170
\162\141\155\160\163\145\143\165\162\151\164\171\056\143\157\155
\061\044\060\042\006\003\125\004\012\023\033\130\122\141\155\160
\040\123\145\143\165\162\151\164\171\040\123\145\162\166\151\143
\145\163\040\111\156\143\061\055\060\053\006\003\125\004\003\023
\044\130\122\141\155\160\040\107\154\157\142\141\154\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\120\224\154\354\030\352\325\234\115\325\227\357\165\217
\240\255
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\060\060\202\003\030\240\003\002\001\002\002\020\120
\224\154\354\030\352\325\234\115\325\227\357\165\217\240\255\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201
\202\061\013\060\011\006\003\125\004\006\023\002\125\123\061\036
\060\034\006\003\125\004\013\023\025\167\167\167\056\170\162\141
\155\160\163\145\143\165\162\151\164\171\056\143\157\155\061\044
\060\042\006\003\125\004\012\023\033\130\122\141\155\160\040\123
\145\143\165\162\151\164\171\040\123\145\162\166\151\143\145\163
\040\111\156\143\061\055\060\053\006\003\125\004\003\023\044\130
\122\141\155\160\040\107\154\157\142\141\154\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171\060\036\027\015\060\064\061\061\060\061\061\067\061
\064\060\064\132\027\015\063\065\060\061\060\061\060\065\063\067
\061\071\132\060\201\202\061\013\060\011\006\003\125\004\006\023
\002\125\123\061\036\060\034\006\003\125\004\013\023\025\167\167
```

\167\056\170\162\141\155\160\163\145\143\165\162\151\164\171\056  
\143\157\155\061\044\060\042\006\003\125\004\012\023\033\130\122  
\141\155\160\040\123\145\143\165\162\151\164\171\040\123\145\162  
\166\151\143\145\163\040\111\156\143\061\055\060\053\006\003\125  
\004\003\023\044\130\122\141\155\160\040\107\154\157\142\141\154  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171\060\202\001\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000  
\060\202\001\012\002\202\001\001\000\230\044\036\275\025\264\272  
\337\307\214\245\047\266\070\013\151\363\266\116\250\054\056\041  
\035\134\104\337\041\135\176\043\164\376\136\176\264\112\267\246  
\255\037\256\340\006\026\342\233\133\331\147\164\153\135\200\217  
\051\235\206\033\331\234\015\230\155\166\020\050\130\344\145\260  
\177\112\230\171\237\340\303\061\176\200\053\265\214\300\100\073  
\021\206\320\313\242\206\066\140\244\325\060\202\155\331\156\320  
\017\022\004\063\227\137\117\141\132\360\344\371\221\253\347\035  
\073\274\350\317\364\153\055\064\174\342\110\141\034\216\363\141  
\104\314\157\240\112\251\224\260\115\332\347\251\064\172\162\070  
\250\101\314\074\224\021\175\353\310\246\214\267\206\313\312\063  
\073\331\075\067\213\373\172\076\206\054\347\163\327\012\127\254  
\144\233\031\353\364\017\004\010\212\254\003\027\031\144\364\132  
\045\042\215\064\054\262\366\150\035\022\155\323\212\036\024\332  
\304\217\246\342\043\205\325\172\015\275\152\340\351\354\354\027  
\273\102\033\147\252\045\355\105\203\041\374\301\311\174\325\142  
\076\372\362\305\055\323\375\324\145\002\003\001\000\001\243\201  
\237\060\201\234\060\023\006\011\053\006\001\004\001\202\067\024  
\002\004\006\036\004\000\103\000\101\060\013\006\003\125\035\017  
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\306\117\242\075\006\143\204\011\234\316\142\344\004\254  
\215\134\265\351\266\033\060\066\006\003\125\035\037\004\057\060  
\055\060\053\240\051\240\047\206\045\150\164\164\160\072\057\057  
\143\162\154\056\170\162\141\155\160\163\145\143\165\162\151\164  
\171\056\143\157\155\057\130\107\103\101\056\143\162\154\060\020  
\006\011\053\006\001\004\001\202\067\025\001\004\003\002\001\001  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003  
\202\001\001\000\221\025\071\003\001\033\147\373\112\034\371\012  
\140\133\241\332\115\227\142\371\044\123\047\327\202\144\116\220  
\056\303\111\033\053\232\334\374\250\170\147\065\361\035\360\021  
\275\267\110\343\020\366\015\337\077\322\311\266\252\125\244\110  
\272\002\333\336\131\056\025\133\073\235\026\175\107\327\067\352  
\137\115\166\022\066\273\037\327\241\201\004\106\040\243\054\155  
\251\236\001\176\077\051\316\000\223\337\375\311\222\163\211\211  
\144\236\347\053\344\034\221\054\322\271\316\175\316\157\061\231  
\323\346\276\322\036\220\360\011\024\171\134\043\253\115\322\332  
\041\037\115\231\171\235\341\317\047\237\020\233\034\210\015\260  
\212\144\101\061\270\016\154\220\044\244\233\134\161\217\272\273  
\176\034\033\333\152\200\017\041\274\351\333\246\267\100\364\262

```
\213\251\261\344\357\232\032\320\075\151\231\356\250\050\243\341
\074\263\360\262\021\234\317\174\100\346\335\347\103\175\242\330
\072\265\251\215\362\064\231\304\324\020\341\006\375\011\204\020
\073\356\304\114\364\354\047\174\102\302\164\174\202\212\011\311
\264\003\045\274
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "XRamp Global CA Root"

# Issuer: CN=XRamp Global Certification Authority,O=XRamp Security Services  
Inc,OU=www.xrampsecurity.com,C=US

# Serial Number:50:94:6c:ec:18:ea:d5:9c:4d:d5:97:ef:75:8f:a0:ad

# Subject: CN=XRamp

Global Certification Authority,O=XRamp Security Services Inc,OU=www.xrampsecurity.com,C=US

# Not Valid Before: Mon Nov 01 17:14:04 2004

# Not Valid After : Mon Jan 01 05:37:19 2035

# Fingerprint (SHA-256):

CE:CD:DC:90:50:99:D8:DA:DF:C5:B1:D2:09:B7:37:CB:E2:C1:8C:FB:2C:10:C0:FF:0B:CF:0D:32:86:FC:1A:A2

# Fingerprint (SHA1): B8:01:86:D1:EB:9C:86:A5:41:04:CF:30:54:F3:4C:52:B7:E5:58:C6

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "XRamp Global CA Root"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\270\001\206\321\353\234\206\245\101\004\317\060\124\363\114\122
\267\345\130\306
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\241\013\104\263\312\020\330\000\156\235\017\330\017\222\012\321
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\036\060\034\006\003\125\004\013\023\025\167\167\167\056\170
\162\141\155\160\163\145\143\165\162\151\164\171\056\143\157\155
\061\044\060\042\006\003\125\004\012\023\033\130\122\141\155\160
\040\123\145\143\165\162\151\164\171\040\123\145\162\166\151\143
\145\163\040\111\156\143\061\055\060\053\006\003\125\004\003\023
\044\130\122\141\155\160\040\107\154\157\142\141\154\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\020\120\224\154\354\030\352\325\234\115\325\227\357\165\217
```

```

\240\255
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Go Daddy Class 2 CA"
#
Issuer: OU=Go Daddy Class 2 Certification Authority,O="The Go Daddy Group, Inc.",C=US
Serial Number: 0 (0x0)
Subject: OU=Go Daddy Class 2 Certification Authority,O="The Go Daddy Group, Inc.",C=US
Not Valid Before: Tue Jun 29 17:06:20 2004
Not Valid After : Thu Jun
29 17:06:20 2034
Fingerprint (SHA-256):
C3:84:6B:F2:4B:9E:93:CA:64:27:4C:0E:C6:7C:1E:CC:5E:02:4F:FC:AC:D2:D7:40:19:35:0E:81:FE:54:6A:E4
Fingerprint (SHA1): 27:96:BA:E6:3F:18:01:E2:77:26:1B:A0:D7:77:70:02:8F:20:EE:E4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Go Daddy Class 2 CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\041\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157
\040\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156
\143\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040
\104\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\041\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157
\040\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156
\143\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040
\104\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\000
END

```



CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\000\060\202\002\350\240\003\002\001\002\002\001\000  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060  
\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061\041  
\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157\040  
\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156\143  
\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040\104  
\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145\162  
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157  
\162\151\164\171\060\036\027\015\060\064\060\066\062\071\061\067  
\060\066\062\060\132\027\015\063\064\060\066\062\071\061\067\060  
\066\062\060\132\060\143\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\041\060\037\006\003\125\004\012\023\030\124\150  
\145\040\107\157\040\104\141\144\144\171\040\107\162\157\165\160  
\054\040\111\156\143\056\061\061\060\057\006\003\125\004\013\023  
\050\107\157\040\104\141\144\144\171\040\103\154\141\163\163\040  
\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040  
\101\165\164\150\157\162\151\164\171\060\202\001\040\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\015  
\000\060\202\001\010\002\202\001\001\000\336\235\327\352\127\030  
\111\241\133\353\327\137\110\206\352\276\335\377\344\357\147\034  
\364\145\150\263\127\161\240\136\167\273\355\233\111\351\160\200  
\075\126\030\143\010\157\332\362\314\320\077\177\002\124\042\124  
\020\330\262\201\324\300\165\075\113\177\307\167\303\076\170\253  
\032\003\265\040\153\057\152\053\261\305\210\176\304\273\036\260  
\301\330\105\047\157\252\067\130\367\207\046\327\330\055\366\251  
\027\267\037\162\066\116\246\027\077\145\230\222\333\052\156\135  
\242\376\210\340\013\336\177\345\215\025\341\353\313\072\325\342  
\022\242\023\055\330\216\257\137\022\075\240\010\005\010\266\134  
\245\145\070\004\105\231\036\243\140\140\164\305\101\245\162\142  
\033\142\305\037\157\137\032\102\276\002\121\145\250\256\043\030  
\152\374\170\003\251\115\177\200\303\372\253\132\374\241\100\244  
\312\031\026\376\262\310\357\136\163\015\356\167\275\232\366\171  
\230\274\261\007\147\242\025\015\335\240\130\306\104\173\012\076  
\142\050\137\272\101\007\123\130\317\021\176\070\164\305\370\377  
\265\151\220\217\204\164\352\227\033\257\002\001\003\243\201\300  
\060\201\275\060\035\006\003\125\035\016\004\026\004\024\322\304  
\260\322\221\324\114\021\161\263\141\313\075\241\376\335\250\152  
\324\343\060\201\215\006\003\125\035\043\004\201\205\060\201\202  
\200\024\322\304\260\322\221\324\114\021\161\263\141\313\075\241  
\376\335\250\152\324\343\241\147\244\145\060\143\061\013\060\011  
\006\003\125\004\006\023\002\125\123\061\041\060\037\006\003\125  
\004\012\023\030\124\150\145\040\107\157\040\104\141\144\144\171  
\040\107\162\157\165\160\054\040\111\156\143\056\061\061\060\057  
\006\003\125\004\013\023\050\107\157\040\104\141\144\144\171\040  
\103\154\141\163\163\040\062\040\103\145\162\164\151\146\151\143  
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\202  
\001\000\060\014\006\003\125\035\023\004\005\060\003\001\001\377

```
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003
\202\001\001\000\062\113\363\262\312\076\221\374\022\306\241\007
\214\216\167\240\063\006\024\134\220\036\030\367\010\246\075\012
\031\371\207\200\021\156\151\344\226\027\060\377\064\221\143\162
\070\356\314\034\001\243\035\224\050\244\061\366\172\304\124\327
\366\345\061\130\003\242\314\316\142\333\224\105\163\265\277\105
\311\044\265\325\202\002\255\043\171\151\215\270\266\115\316\317
\114\312\063\043\350\034\210\252\235\213\101\156\026\311\040\345
\211\236\315\073\332\160\367\176\231\046\040\024\124\045\253\156
\163\205\346\233\041\235\012\154\202\016\250\370\302\014\372\020
\036\154\226\357\207\015\304\017\141\213\255\356\203\053\225\370
\216\222\204\162\071\353\040\352\203\355\203\315\227\156\010\274
\353\116\046\266\163\053\344\323\366\114\376\046\161\342\141\021
\164\112\377\127\032\207\017\165\110\056\317\121\151\027\240\002
\022\141\225\325\321\100\262\020\114\356\304\254\020\103\246\245
\236\012\325\225\142\232\015\317\210\202\305\062\014\344\053\237
\105\346\015\237\050\234\261\271\052\132\127\255\067\017\257\035
\177\333\275\237
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Go Daddy Class 2 CA"

# Issuer: OU=Go Daddy Class 2 Certification Authority,O="The Go Daddy Group, Inc.",C=US

# Serial Number: 0 (0x0)

# Subject: OU=Go Daddy Class 2 Certification Authority,O="The Go Daddy Group, Inc.",C=US

# Not Valid Before: Tue

Jun 29 17:06:20 2004

# Not Valid After : Thu Jun 29 17:06:20 2034

# Fingerprint (SHA-256):

C3:84:6B:F2:4B:9E:93:CA:64:27:4C:0E:C6:7C:1E:CC:5E:02:4F:FC:AC:D2:D7:40:19:35:0E:81:FE:54:6A:E4

# Fingerprint (SHA1): 27:96:BA:E6:3F:18:01:E2:77:26:1B:A0:D7:77:70:02:8F:20:EE:E4

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Go Daddy Class 2 CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\047\226\272\346\077\030\001\342\167\046\033\240\327\167\160\002
\217\040\356\344
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\221\336\006\045\253\332\375\062\027\014\273\045\027\052\204\147
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061
```

```
\041\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157
\040\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156
\143\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040
\104\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\001\000
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Starfield Class 2 CA"

#

# Issuer: OU=Starfield Class 2 Certification Authority,O="Starfield Technologies, Inc.",C=US

# Serial Number: 0 (0x0)

# Subject: OU=Starfield Class 2 Certification Authority,O="Starfield Technologies, Inc.",C=US

# Not Valid Before: Tue Jun 29 17:39:16 2004

# Not Valid After : Thu Jun 29 17:39:16 2034

# Fingerprint (SHA-256):

14:65:FA:20:53:97:B8:76:FA:A6:F0:A9:95:8E:55:90:E4:0F:CC:7F:AA:4F:B7:C2:C8:67:75:21:FB:5F:B6:58

# Fingerprint (SHA1): AD:7E:1C:28:B0:64:EF:8F:60:03:40:20:14:C3:D0:E3:37:0E:B5:8A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE

CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Starfield Class 2 CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\045\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151
\145\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163
\054\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023
\051\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163
\040\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\045\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151
\145\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163
```

\054\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023  
\051\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163  
\040\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156  
\040\101\165\164\150\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\000

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\017\060\202\002\367\240\003\002\001\002\002\001\000  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060  
\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061\045  
\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151\145  
\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163\054  
\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023\051  
\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163\040  
\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040  
\101\165\164\150\157\162\151\164\171\060\036\027\015\060\064\060  
\066\062\071\061\067\063\071\061\066\132\027\015\063\064\060\066  
\062\071\061\067\063\071\061\066\132\060\150\061\013\060\011\006  
\003\125\004\006\023\002\125\123\061\045\060\043\006\003\125\004  
\012\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143  
\150\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061  
\062\060\060\006\003\125\004\013\023\051\123\164\141\162\146\151  
\145\154\144\040\103\154\141\163\163\040\062\040\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162  
\151\164\171\060\202\001\040\060\015\006\011\052\206\110\206\367  
\015\001\001\001\005\000\003\202\001\015\000\060\202\001\010\002  
\202\001\001\000\267\062\310\376\351\161\246\004\205\255\014\021  
\144\337\316\115\357\310\003\030\207\077\241\253\373\074\246\237  
\360\303\241\332\324\330\156\053\123\220\373\044\244\076\204\360  
\236\350\137\354\345\047\104\365\050\246\077\173\336\340\052\360  
\310\257\123\057\236\312\005\001\223\036\217\146\034\071\247\115  
\372\132\266\163\004\045\146\353\167\177\347\131\306\112\231\045  
\024\124\353\046\307\363\177\031\325\060\160\217\257\260\106\052  
\377\255\353\051\355\327\237\252\004\207\243\324\371\211\245\064  
\137\333\103\221\202\066\331\146\074\261\270\271\202\375\234\072  
\076\020\310\073\357\006\145\146\172\233\031\030\075\377\161\121  
\074\060\056\137\276\075\167\163\262\135\006\154\303\043\126\232  
\053\205\046\222\034\247\002\263\344\077\015\257\010\171\202\270  
\066\075\352\234\323\065\263\274\151\312\365\314\235\350\375\144  
\215\027\200\063\156\136\112\135\231\311\036\207\264\235\032\300  
\325\156\023\065\043\136\337\233\137\075\357\326\367\166\302\352  
\076\273\170\015\034\102\147\153\004\330\370\326\332\157\213\362  
\104\240\001\253\002\001\003\243\201\305\060\201\302\060\035\006  
\003\125\035\016\004\026\004\024\277\137\267\321\316\335\037\206  
\364\133\125\254\334\327\020\302\016\251\210\347\060\201\222\006

\003\125\035\043\004\201\212\060\201\207\200\024\277\137\267\321  
\316\335\037\206\364\133\125\254\334\327\020\302\016\251\210\347  
\241\154\244\152\060\150\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\045\060\043\006\003\125\004\012\023\034\123\164  
\141\162\146\151\145\154\144\040\124\145\143\150\156\157\154\157  
\147\151\145\163\054\040\111\156\143\056\061\062\060\060\006\003  
\125\004\013\023\051\123\164\141\162\146\151\145\154\144\040\103  
\154\141\163\163\040\062\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\202\001  
\000\060\014\006\003\125\035\023\004\005\060\003\001\001\377\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202  
\001\001\000\005\235\077\210\235\321\311\032\125\241\254\151\363  
\363\131\332\233\001\207\032\117\127\251\241\171\011\052\333\367  
\057\262\036\314\307\136\152\330\203\207\241\227\357\111\065\076  
\167\006\101\130\142\277\216\130\270\012\147\077\354\263\335\041  
\146\037\311\124\372\162\314\075\114\100\330\201\257\167\236\203  
\172\273\242\307\365\064\027\216\331\021\100\364\374\054\052\115  
\025\177\247\142\135\056\045\323\000\013\040\032\035\150\371\027  
\270\364\275\213\355\050\131\335\115\026\213\027\203\310\262\145  
\307\055\172\245\252\274\123\206\155\335\127\244\312\370\040\101  
\013\150\360\364\373\164\276\126\135\172\171\365\371\035\205\343  
\055\225\276\365\161\220\103\314\215\037\232\000\012\207\051\351  
\125\042\130\000\043\352\343\022\103\051\133\107\010\335\214\101  
\152\145\006\250\345\041\252\101\264\225\041\225\271\175\321\064  
\253\023\326\255\274\334\342\075\071\315\275\076\165\160\241\030  
\131\003\311\042\264\217\234\325\136\052\327\245\266\324\012\155  
\370\267\100\021\106\232\037\171\016\142\277\017\227\354\340\057  
\037\027\224

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Starfield Class 2 CA"

# Issuer: OU=Starfield Class 2 Certification Authority,O="Starfield Technologies, Inc.",C=US

# Serial Number: 0 (0x0)

# Subject: OU=Starfield Class 2 Certification Authority,O="Starfield Technologies, Inc.",C=US

# Not Valid Before: Tue Jun 29 17:39:16 2004

# Not Valid After : Thu Jun 29 17:39:16 2034

# Fingerprint (SHA-256):

14:65:FA:20:53:97:B8:76:FA:A6:F0:A9:95:8E:55:90:E4:0F:CC:7F:AA:4F:B7:C2:C8:67:75:21:FB:5F:B6:58

#

Fingerprint (SHA1): AD:7E:1C:28:B0:64:EF:8F:60:03:40:20:14:C3:D0:E3:37:0E:B5:8A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

```

CKA_LABEL UTF8 "Starfield Class 2 CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\255\176\034\050\260\144\357\217\140\003\100\040\024\303\320\343
\067\016\265\212
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\062\112\113\273\310\143\151\233\276\164\232\306\335\035\106\044
END
CKA_ISSUER MULTILINE_OCTAL
\060\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\045\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151
\145\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163
\054\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023
\051\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163
\040\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DigiCert Assured ID Root CA"
#
Issuer: CN=DigiCert Assured ID Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
Serial Number:0c:e7:e0:e5:17:d8:46:fe:8f:e5:60:fc:1b:f0:30:39
Subject: CN=DigiCert Assured ID Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
Not Valid Before: Fri Nov 10 00:00:00 2006
Not Valid After : Mon Nov 10 00:00:00 2031
Fingerprint (SHA-256):
3E:90:99:B5:01:5E:8F:48:6C:00:BC:EA:9D:11:1E:E7:21:FA:BA:35:5A:89:BC:F1:DF:69:56:1E:3D:C6:32:5C
Fingerprint (SHA1): 05:63:B8:63:0D:62:D7:5A:BB:C8:AB:1E:4B:DF:B5:A8:99:B2:4D:43
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Assured ID Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT
MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023

```

\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151  
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040  
\122\157\157\164\040\103\101

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145  
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151  
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040  
\122\157\157\164\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\014\347\340\345\027\330\106\376\217\345\140\374\033\360  
\060\071

END

CKA\_VALUE

MULTILINE\_OCTAL

\060\202\003\267\060\202\002\237\240\003\002\001\002\002\020\014  
\347\340\345\027\330\106\376\217\345\140\374\033\360\060\071\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\145  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060  
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164  
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167  
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061  
\044\060\042\006\003\125\004\003\023\033\104\151\147\151\103\145  
\162\164\040\101\163\163\165\162\145\144\040\111\104\040\122\157  
\157\164\040\103\101\060\036\027\015\060\066\061\061\061\060\060  
\060\060\060\060\060\132\027\015\063\061\061\061\061\060\060\060  
\060\060\060\060\132\060\145\061\013\060\011\006\003\125\004\006  
\023\002\125\123\061\025\060\023\006\003\125\004\012\023\014\104  
\151\147\151\103\145\162\164\040\111\156\143\061\031\060\027\006  
\003\125\004\013\023\020\167\167\167\056\144\151\147\151\143\145  
\162\164\056\143\157\155\061\044\060\042\006\003\125\004\003\023  
\033\104\151\147\151\103\145\162\164\040\101\163\163\165\162\145  
\144\040\111\104\040\122\157\157\164\040\103\101\060\202\001\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\001\017\000\060\202\001\012\002\202\001\001\000\255\016\025  
\316\344\103\200\134\261\207\363\267\140\371\161\022\245\256\334  
\046\224\210\252\364\316\365\040\071\050\130\140\014\370\200\332  
\251\025\225\062\141\074\265\261\050\204\212\212\334\237\012\014  
\203\027\172\217\220\254\212\347\171\123\134\061\204\052\366\017  
\230\062\066\166\314\336\335\074\250\242\357\152\373\041\362\122  
\141\337\237\040\327\037\342\261\331\376\030\144\322\022\133\137  
\371\130\030\065\274\107\315\241\066\371\153\177\324\260\070\076

\301\033\303\214\063\331\330\057\030\376\050\017\263\247\203\326  
\303\156\104\300\141\065\226\026\376\131\234\213\166\155\327\361  
\242\113\015\053\377\013\162\332\236\140\320\216\220\065\306\170  
\125\207\040\241\317\345\155\012\310\111\174\061\230\063\154\042  
\351\207\320\062\132\242\272\023\202\021\355\071\027\235\231\072  
\162\241\346\372\244\331\325\027\061\165\256\205\175\042\256\077  
\001\106\206\366\050\171\310\261\332\344\127\027\304\176\034\016  
\260\264\222\246\126\263\275\262\227\355\252\247\360\267\305\250  
\077\225\026\320\377\241\226\353\010\137\030\167\117\002\003\001  
\000\001\243\143\060\141\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\105\353\242\257\364\222\313\202\061\055\121\213\247\247  
\041\235\363\155\310\017\060\037\006\003\125\035\043\004\030\060  
\026\200\024\105\353\242\257\364\222\313\202\061\055\121\213\247  
\247\041\235\363\155\310\017\060\015\006\011\052\206\110\206\367  
\015\001\001\005\005\000\003\202\001\001\000\242\016\274\337\342  
\355\360\343\162\163\172\144\224\277\367\162\146\330\062\344\102  
\165\142\256\207\353\362\325\331\336\126\263\237\314\316\024\050  
\271\015\227\140\134\022\114\130\344\323\075\203\111\105\130\227  
\065\151\032\250\107\352\126\306\171\253\022\330\147\201\204\337  
\177\011\074\224\346\270\046\054\040\275\075\263\050\211\367\137  
\377\042\342\227\204\037\351\145\357\207\340\337\301\147\111\263  
\135\353\262\011\052\353\046\355\170\276\175\077\053\363\267\046  
\065\155\137\211\001\266\111\133\237\001\005\233\253\075\045\301  
\314\266\177\302\361\157\206\306\372\144\150\353\201\055\224\353  
\102\267\372\214\036\335\142\361\276\120\147\267\154\275\363\361  
\037\153\014\066\007\026\177\067\174\251\133\155\172\361\022\106  
\140\203\327\047\004\276\113\316\227\276\303\147\052\150\021\337  
\200\347\014\063\146\277\023\015\024\156\363\177\037\143\020\036  
\372\215\033\045\155\154\217\245\267\141\001\261\322\243\046\241  
\020\161\235\255\342\303\371\303\231\121\267\053\007\010\316\056  
\346\120\262\247\372\012\105\057\242\360\362

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert Assured ID Root CA"

# Issuer: CN=DigiCert Assured ID Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:0c:e7:e0:e5:17:d8:46:fe:8f:e5:60:fc:1b:f0:30:39

# Subject: CN=DigiCert Assured ID Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Fri Nov 10 00:00:00 2006

# Not Valid After : Mon Nov 10 00:00:00 2031

# Fingerprint (SHA-256):

3E:90:99:B5:01:5E:8F:48:6C:00:BC:EA:9D:11:1E:E7:21:FA:BA:35:5A:89:BC:F1:DF:69:56:1E:3D:C6:32:5C



```

Fingerprint (SHA1): 05:63:B8:63:0D:62:D7:5A:BB:C8:AB:1E:4B:DF:B5:A8:99:B2:4D:43
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Assured ID Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\005\143\270\143\015\142\327\132\273\310\253\036\113\337\265\250
\231\262\115\103
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\207\316\013\173\052\016\111\000\341\130\161\233\067\250\223\162
END
CKA_ISSUER
MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\014\347\340\345\027\330\106\376\217\345\140\374\033\360
\060\071
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DigiCert Global Root CA"
#
Issuer: CN=DigiCert Global Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
Serial Number:08:3b:e0:56:90:42:46:b1:a1:75:6a:c9:59:91:c7:4a
#
Subject: CN=DigiCert Global Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
Not Valid Before: Fri Nov 10 00:00:00 2006
Not Valid After : Mon Nov 10 00:00:00 2031
Fingerprint (SHA-256):
43:48:A0:E9:44:4C:78:CB:26:5E:05:8D:5E:89:44:B4:D8:4F:96:62:BD:26:DB:25:7F:89:34:A4:43:C7:01:61
Fingerprint (SHA1): A8:98:5D:3A:65:E5:E5:C4:B2:D7:D6:6D:40:C6:DD:2F:B1:9C:54:36
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE

```

```
CKA_LABEL UTF8 "DigiCert Global Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\010\073\340\126\220\102\106\261\241\165\152\311\131\221
\307\112
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\257\060\202\002\227\240\003\002\001\002\002\020\010
\073\340\126\220\102\106\261\241\165\152\311\131\221\307\112\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\141
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061
\040\060\036\006\003\125\004\003\023\027\104\151\147\151\103\145
\162\164\040\107\154\157\142\141\154\040\122\157\157\164\040\103
\101\060\036\027\015\060\066\061\061\061\060\060\060\060\060\060
\060\132\027\015\063\061\061\061\061\060\060\060\060\060\060\060
\132\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103
\145\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013
\023\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143
\157\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147
\151\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157
\164\040\103\101\060\202\001\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012
\002\202\001\001\000\342\073\341\021\162\336\250\244\323\243\127
\252\120\242\217\013\167\220\311\242\245\356\022\316\226\133\001
```

\011\040\314\001\223\247\116\060\267\123\367\103\304\151\000\127  
\235\342\215\042\335\207\006\100\000\201\011\316\316\033\203\277  
\337\315\073\161\106\342\326\146\307\005\263\166\047\026\217\173  
\236\036\225\175\356\267\110\243\010\332\326\257\172\014\071\006  
\145\177\112\135\037\274\027\370\253\276\356\050\327\164\177\172  
\170\231\131\205\150\156\134\043\062\113\277\116\300\350\132\155  
\343\160\277\167\020\277\374\001\366\205\331\250\104\020\130\062  
\251\165\030\325\321\242\276\107\342\047\152\364\232\063\370\111  
\010\140\213\324\137\264\072\204\277\241\252\112\114\175\076\317  
\117\137\154\166\136\240\113\067\221\236\334\042\346\155\316\024  
\032\216\152\313\376\315\263\024\144\027\307\133\051\236\062\277  
\362\356\372\323\013\102\324\253\267\101\062\332\014\324\357\370  
\201\325\273\215\130\077\265\033\350\111\050\242\160\332\061\004  
\335\367\262\026\362\114\012\116\007\250\355\112\075\136\265\177  
\243\220\303\257\047\002\003\001\000\001\243\143\060\141\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\035\006\003\125\035\016\004\026\004\024\003\336\120\065\126\321  
\114\273\146\360\243\342\033\033\303\227\262\075\321\125\060\037  
\006\003\125\035\043\004\030\060\026\200\024\003\336\120\065\126  
\321\114\273\146\360\243\342\033\033\303\227\262\075\321\125\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202  
\001\001\000\313\234\067\252\110\023\022\012\372\335\104\234\117  
\122\260\364\337\256\004\365\171\171\010\243\044\030\374\113\053  
\204\300\055\271\325\307\376\364\301\037\130\313\270\155\234\172  
\164\347\230\051\253\021\265\343\160\240\241\315\114\210\231\223  
\214\221\160\342\253\017\034\276\223\251\377\143\325\344\007\140  
\323\243\277\235\133\011\361\325\216\343\123\364\216\143\372\077  
\247\333\264\146\337\142\146\326\321\156\101\215\362\055\265\352  
\167\112\237\235\130\342\053\131\300\100\043\355\055\050\202\105  
\076\171\124\222\046\230\340\200\110\250\067\357\360\326\171\140  
\026\336\254\350\016\315\156\254\104\027\070\057\111\332\341\105  
\076\052\271\066\123\317\072\120\006\367\056\350\304\127\111\154  
\141\041\030\325\004\255\170\074\054\072\200\153\247\353\257\025  
\024\351\330\211\301\271\070\154\342\221\154\212\377\144\271\167  
\045\127\060\300\033\044\243\341\334\351\337\107\174\265\264\044  
\010\005\060\354\055\275\013\277\105\277\120\271\251\363\353\230  
\001\022\255\310\210\306\230\064\137\215\012\074\306\351\325\225  
\225\155\336

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert Global Root CA"

# Issuer: CN=DigiCert Global Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:08:3b:e0:56:90:42:46:b1:a1:75:6a:c9:59:91:c7:4a

```

Subject: CN=DigiCert Global Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
Not Valid Before: Fri Nov 10 00:00:00 2006
Not Valid After : Mon Nov 10 00:00:00 2031
Fingerprint (SHA-256):
43:48:A0:E9:44:4C:78:CB:26:5E:05:8D:5E:89:44:B4:D8:4F:96:62:BD:26:DB:25:7F:89:34:A4:43:C7:01:61
#
Fingerprint (SHA1): A8:98:5D:3A:65:E5:E5:C4:B2:D7:D6:6D:40:C6:DD:2F:B1:9C:54:36
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Global Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\250\230\135\072\145\345\345\304\262\327\326\155\100\306\335\057
\261\234\124\066
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\171\344\251\204\015\175\072\226\327\300\117\342\103\114\211\056
END
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\010\073\340\126\220\102\106\261\241\165\152\311\131\221
\307\112
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DigiCert High Assurance EV Root CA"
#
Issuer: CN=DigiCert High Assurance EV Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
Serial Number:02:ac:5c:26:6a:0b:40:9b:8f:0b:79:f2:ae:46:25:77
Subject: CN=DigiCert High Assurance EV Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
Not Valid Before: Fri Nov 10 00:00:00 2006
Not Valid After : Mon Nov 10 00:00:00 2031
Fingerprint (SHA-256):
74:31:E5:F4:C3:C1:CE:46:90:77:4F:0B:61:E0:54:40:88:3B:A9:A0:1E:D0:0B:A6:AB:D7:80:6E:D3:B1:18:CF

```

# Fingerprint (SHA1): 5F:B7:EE:06:33:E2:59:DB:AD:0C:4C:9A:E6:D3:8F:1A:61:C7:DC:25

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE
CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert High Assurance EV Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\053\060\051\006\003\125\004\003\023\042\104\151\147\151
\103\145\162\164\040\110\151\147\150\040\101\163\163\165\162\141
\156\143\145\040\105\126\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\053\060\051\006\003\125\004\003\023\042\104\151\147\151
\103\145\162\164\040\110\151\147\150\040\101\163\163\165\162\141
\156\143\145\040\105\126\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\002\254\134\046\152\013\100\233\217\013\171\362\256\106
\045\167
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\305\060\202\002\255\240\003\002\001\002\002\020\002
\254\134\046\152\013\100\233\217\013\171\362\256\106\045\167\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\154
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061
\053\060\051\006\003\125\004\003\023\042\104\151\147\151\103\145
\162\164\040\110\151\147\150\040\101\163\163\165\162\141\156\143
\145\040\105\126\040\122\157\157\164\040\103\101\060\036\027\015
\060\066\061\061\061\060\060\060\060\060\060\060\132\027\015\063
\061\061\061\061\060\060\060\060\060\060\060\132\060\154\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\025\060\023\006
\003\125\004\012\023\014\104\151\147\151\103\145\162\164\040\111
\156\143\061\031\060\027\006\003\125\004\013\023\020\167\167\167
```

\056\144\151\147\151\143\145\162\164\056\143\157\155\061\053\060  
\051\006\003\125\004\003\023\042\104\151\147\151\103\145\162\164  
\040\110\151\147\150\040\101\163\163\165\162\141\156\143\145\040  
\105\126\040\122\157\157\164\040\103\101\060\202\001\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001  
\017\000\060\202\001\012\002\202\001\001\000\306\314\345\163\346  
\373\324\273\345\055\055\062\246\337\345\201\077\311\315\045\111  
\266\161\052\303\325\224\064\147\242\012\034\260\137\151\246\100  
\261\304\267\262\217\320\230\244\251\101\131\072\323\334\224\326  
\074\333\164\070\244\112\314\115\045\202\367\112\245\123\022\070  
\356\363\111\155\161\221\176\143\266\253\246\137\303\244\204\370  
\117\142\121\276\370\305\354\333\070\222\343\006\345\010\221\014  
\304\050\101\125\373\313\132\211\025\176\161\350\065\277\115\162  
\011\075\276\072\070\120\133\167\061\033\215\263\307\044\105\232  
\247\254\155\000\024\132\004\267\272\023\353\121\012\230\101\101  
\042\116\145\141\207\201\101\120\246\171\134\211\336\031\112\127  
\325\056\346\135\034\123\054\176\230\315\032\006\026\244\150\163  
\320\064\004\023\134\241\161\323\132\174\125\333\136\144\341\067  
\207\060\126\004\345\021\264\051\200\022\361\171\071\210\242\002  
\021\174\047\146\267\210\267\170\362\312\012\250\070\253\012\144  
\302\277\146\135\225\204\301\241\045\036\207\135\032\120\013\040  
\022\314\101\273\156\013\121\070\270\113\313\002\003\001\000\001  
\243\143\060\141\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\206\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024  
\261\076\303\151\003\370\277\107\001\324\230\046\032\010\002\357  
\143\144\053\303\060\037\006\003\125\035\043\004\030\060\026\200  
\024\261\076\303\151\003\370\277\107\001\324\230\046\032\010\002  
\357\143\144\053\303\060\015\006\011\052\206\110\206\367\015\001  
\001\005\005\000\003\202\001\001\000\034\032\006\227\334\327\234  
\237\074\210\146\006\010\127\041\333\041\107\370\052\147\252\277  
\030\062\166\100\020\127\301\212\363\172\331\021\145\216\065\372  
\236\374\105\265\236\331\114\061\113\270\221\350\103\054\216\263  
\170\316\333\343\123\171\161\326\345\041\224\001\332\125\207\232  
\044\144\366\212\146\314\336\234\067\315\250\064\261\151\233\043  
\310\236\170\042\053\160\103\343\125\107\061\141\031\357\130\305  
\205\057\116\060\366\240\061\026\043\310\347\342\145\026\063\313  
\277\032\033\240\075\370\312\136\213\061\213\140\010\211\055\014  
\006\134\122\267\304\371\012\230\321\025\137\237\022\276\174\066  
\143\070\275\104\244\177\344\046\053\012\304\227\151\015\351\214  
\342\300\020\127\270\310\166\022\221\125\362\110\151\330\274\052  
\002\133\017\104\324\040\061\333\364\272\160\046\135\220\140\236  
\274\113\027\011\057\264\313\036\103\150\311\007\047\301\322\134  
\367\352\041\271\150\022\234\074\234\277\236\374\200\134\233\143  
\315\354\107\252\045\047\147\240\067\363\000\202\175\124\327\251  
\370\351\056\023\243\167\350\037\112

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

```

CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "DigiCert High Assurance EV Root CA"
Issuer: CN=DigiCert High Assurance EV Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
Serial Number:02:ac:5c:26:6a:0b:40:9b:8f:0b:79:f2:ae:46:25:77
Subject: CN=DigiCert High Assurance EV Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
Not Valid Before: Fri Nov 10 00:00:00 2006
Not Valid After : Mon Nov 10 00:00:00 2031
Fingerprint (SHA-256):
74:31:E5:F4:C3:C1:CE:46:90:77:4F:0B:61:E0:54:40:88:3B:A9:A0:1E:D0:0B:A6:AB:D7:80:6E:D3:B1:18:CF
Fingerprint (SHA1): 5F:B7:EE:06:33:E2:59:DB:AD:0C:4C:9A:E6:D3:8F:1A:61:C7:DC:25
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE
CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert High Assurance EV Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\137\267\356\006\063\342\131\333\255\014\114\232\346\323\217\032
\141\307\334\045
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\324\164\336\127\134\071\262\323\234\205\203\305\300\145\111\212
END
CKA_ISSUER MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\053\060\051\006\003\125\004\003\023\042\104\151\147\151
\103\145\162\164\040\110\151\147\150\040\101\163\163\165\162\141
\156\143\145\040\105\126\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\002\254\134\046\152\013\100\233\217\013\171\362\256\106
\045\167
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "SwissSign Gold CA - G2"
#

```

```

Issuer: CN=SwissSign Gold CA - G2,O=SwissSign AG,C=CH
Serial Number:00:bb:40:1c:43:f5:5e:4f:b0
Subject: CN=SwissSign Gold CA - G2,O=SwissSign AG,C=CH
Not Valid Before: Wed Oct 25 08:30:35 2006
Not Valid After : Sat Oct 25 08:30:35 2036
Fingerprint (SHA-256):
62:DD:0B:E9:B9:F5:0A:16:3E:A0:F8:E7:5C:05:3B:1E:CA:57:EA:55:C8:68:8F:64:7C:68:81:F2:C8:35:7B:95
Fingerprint (SHA1): D8:C5:38:8A:B7:30:1B:1B:6E:D4:7A:E6:45:25:3A:6F:9F:1A:27:61
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SwissSign Gold CA - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\037\060\035\006\003\125\004\003\023
\026\123\167\151\163\163\123\151\147\156\040\107\157\154\144\040
\103\101\040\055\040\107\062
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\037\060\035\006\003\125\004\003\023
\026\123\167\151\163\163\123\151\147\156\040\107\157\154\144\040
\103\101\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\273\100\034\103\365\136\117\260
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\272\060\202\003\242\240\003\002\001\002\002\011\000
\273\100\034\103\365\136\117\260\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\060\105\061\013\060\011\006\003\125
\004\006\023\002\103\110\061\025\060\023\006\003\125\004\012\023
\014\123\167\151\163\163\123\151\147\156\040\101\107\061\037\060
\035\006\003\125\004\003\023\026\123\167\151\163\163\123\151\147
\156\040\107\157\154\144\040\103\101\040\055\040\107\062\060\036
\027\015\060\066\061\060\062\065\060\070\063\060\063\065\132\027
\015\063\066\061\060\062\065\060\070\063\060\063\065\132\060\105
\061\013\060\011\006\003\125\004\006\023\002\103\110\061\025\060
\023\006\003\125\004\012\023\014\123\167\151\163\163\123\151\147
\156\040\101\107\061\037\060\035\006\003\125\004\003\023\026\123
\167\151\163\163\123\151\147\156\040\107\157\154\144\040\103\101
\040\055\040\107\062\060\202\002\042\060\015\006\011\052\206\110

```



\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002  
\012\002\202\002\001\000\257\344\356\176\213\044\016\022\156\251  
\120\055\026\104\073\222\222\134\312\270\135\204\222\102\023\052  
\274\145\127\202\100\076\127\044\315\120\213\045\052\267\157\374  
\357\242\320\300\037\002\044\112\023\226\217\043\023\346\050\130  
\000\243\107\307\006\247\204\043\053\273\275\226\053\177\125\314  
\213\301\127\037\016\142\145\017\335\075\126\212\163\332\256\176  
\155\272\201\034\176\102\214\040\065\331\103\115\204\372\204\333  
\122\054\363\016\047\167\013\153\277\021\057\162\170\237\056\330  
\076\346\030\067\132\052\162\371\332\142\220\222\225\312\037\234  
\351\263\074\053\313\363\001\023\277\132\317\301\265\012\140\275  
\335\265\231\144\123\270\240\226\263\157\342\046\167\221\214\340  
\142\020\002\237\064\017\244\325\222\063\121\336\276\215\272\204  
\172\140\074\152\333\237\053\354\336\336\001\077\156\115\345\120  
\206\313\264\257\355\104\100\305\312\132\214\332\322\053\174\250  
\356\276\246\345\012\252\016\245\337\005\122\267\125\307\042\135  
\062\152\227\227\143\023\333\311\333\171\066\173\205\072\112\305  
\122\211\371\044\347\235\167\251\202\377\125\034\245\161\151\053  
\321\002\044\362\263\046\324\153\332\004\125\345\301\012\307\155  
\060\067\220\052\344\236\024\063\136\026\027\125\305\133\265\313  
\064\211\222\361\235\046\217\241\007\324\306\262\170\120\333\014  
\014\013\174\013\214\101\327\271\351\335\214\210\367\243\115\262  
\062\314\330\027\332\315\267\316\146\235\324\375\136\377\275\227  
\076\051\165\347\176\247\142\130\257\045\064\245\101\307\075\274  
\015\120\312\003\003\017\010\132\037\225\163\170\142\277\257\162  
\024\151\016\245\345\003\016\170\216\046\050\102\360\007\013\142  
\040\020\147\071\106\372\251\003\314\004\070\172\146\357\040\203  
\265\214\112\126\216\221\000\374\216\134\202\336\210\240\303\342  
\150\156\175\215\357\074\335\145\364\135\254\121\357\044\200\256  
\252\126\227\157\371\255\175\332\141\077\230\167\074\245\221\266  
\034\214\046\332\145\242\011\155\301\342\124\343\271\312\114\114  
\200\217\167\173\140\232\036\337\266\362\110\036\016\272\116\124  
\155\230\340\341\242\032\242\167\120\317\304\143\222\354\107\031  
\235\353\346\153\316\301\002\003\001\000\001\243\201\254\060\201  
\251\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\035\006\003\125\035\016\004\026\004\024\133\045\173  
\226\244\145\121\176\270\071\363\300\170\146\136\350\072\347\360  
\356\060\037\006\003\125\035\043\004\030\060\026\200\024\133\045  
\173\226\244\145\121\176\270\071\363\300\170\146\136\350\072\347  
\360\356\060\106\006\003\125\035\040\004\077\060\075\060\073\006  
\011\140\205\164\001\131\001\002\001\001\060\056\060\054\006\010  
\053\006\001\005\005\007\002\001\026\040\150\164\164\160\072\057  
\057\162\145\160\157\163\151\164\157\162\171\056\163\167\151\163  
\163\163\151\147\156\056\143\157\155\057\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\003\202\002\001\000\047\272  
\343\224\174\361\256\300\336\027\346\345\330\325\365\124\260\203  
\364\273\315\136\005\173\117\237\165\146\257\074\350\126\176\374

\162\170\070\003\331\053\142\033\000\271\370\351\140\315\314\316  
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\201\053\343\203\204\346\042\207\216\175\340\356\002\231\141\270  
\036\364\270\053\210\022\026\204\302\061\223\070\226\061\246\271  
\073\123\077\303\044\223\126\133\151\222\354\305\301\273\070\000  
\343\354\027\251\270\334\307\174\001\203\237\062\107\272\122\042  
\064\035\062\172\011\126\247\174\045\066\251\075\113\332\300\202  
\157\012\273\022\310\207\113\047\021\371\036\055\307\223\077\236  
\333\137\046\153\122\331\056\212\361\024\306\104\215\025\251\267  
\277\275\336\246\032\356\256\055\373\110\167\027\376\273\354\257  
\030\365\052\121\360\071\204\227\225\154\156\033\303\053\304\164  
\140\171\045\260\012\047\337\337\136\322\071\317\105\175\102\113  
\337\263\054\036\305\306\135\312\125\072\240\234\151\232\217\332  
\357\262\260\074\237\207\154\022\053\145\160\025\122\061\032\044  
\317\157\061\043\120\037\214\117\217\043\303\164\101\143\034\125  
\250\024\335\076\340\121\120\317\361\033\060\126\016\222\260\202  
\205\330\203\313\042\144\274\055\270\045\325\124\242\270\006\352  
\255\222\244\044\240\301\206\265\112\023\152\107\317\056\013\126  
\225\124\313\316\232\333\152\264\246\262\333\101\010\206\047\167  
\367\152\240\102\154\013\070\316\327\165\120\062\222\302\337\053  
\060\042\110\320\325\101\070\045\135\244\351\135\237\306\224\165  
\320\105\375\060\227\103\217\220\253\012\307\206\163\140\112\151  
\055\336\245\170\327\006\332\152\236\113\076\167\072\040\023\042  
\001\320\277\150\236\143\140\153\065\115\013\155\272\241\075\300  
\223\340\177\043\263\125\255\162\045\116\106\371\322\026\357\260  
\144\301\001\236\351\312\240\152\230\016\317\330\140\362\057\111  
\270\344\102\341\070\065\026\364\310\156\117\367\201\126\350\272  
\243\276\043\257\256\375\157\003\340\002\073\060\166\372\033\155  
\101\317\001\261\351\270\311\146\364\333\046\363\072\244\164\362  
\111\044\133\311\260\320\127\301\372\076\172\341\227\311

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SwissSign Gold CA - G2"

# Issuer: CN=SwissSign Gold CA - G2,O=SwissSign AG,C=CH

# Serial Number:00:bb:40:1c:43:f5:5e:4f:b0

# Subject: CN=SwissSign Gold CA - G2,O=SwissSign AG,C=CH

# Not Valid Before: Wed Oct 25 08:30:35 2006

# Not Valid

After : Sat Oct 25 08:30:35 2036

# Fingerprint (SHA-256):

62:DD:0B:E9:B9:F5:0A:16:3E:A0:F8:E7:5C:05:3B:1E:CA:57:EA:55:C8:68:8F:64:7C:68:81:F2:C8:35:7B:95

# Fingerprint (SHA1): D8:C5:38:8A:B7:30:1B:1B:6E:D4:7A:E6:45:25:3A:6F:9F:1A:27:61

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SwissSign Gold CA - G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\330\305\070\212\267\060\033\033\156\324\172\346\105\045\072\157
\237\032\047\141
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\044\167\331\250\221\321\073\372\210\055\302\377\370\315\063\223
END
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\037\060\035\006\003\125\004\003\023
\026\123\167\151\163\163\123\151\147\156\040\107\157\154\144\040
\103\101\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\273\100\034\103\365\136\117\260
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "SwissSign Silver CA - G2"
#
Issuer: CN=SwissSign Silver CA - G2,O=SwissSign AG,C=CH
Serial Number:4f:1b:d4:2f:54:bb:2f:4b
Subject: CN=SwissSign Silver CA - G2,O=SwissSign AG,C=CH
Not Valid Before: Wed Oct 25 08:32:46 2006
Not Valid After : Sat Oct 25 08:32:46 2036
Fingerprint (SHA-256):
BE:6C:4D:A2:BB:B9:BA:59:B6:F3:93:97:68:37:42:46:C3:C0:05:99:3F:A9:8F:02:0D:1D:ED:BE:D4:8A:81:D5
Fingerprint (SHA1): 9B:AA:E5:9F:56:EE:21:CB:43:5A:BE:25:93:DF:A7:F0:40:D1:1D:CB
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SwissSign Silver CA - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023
\030\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145

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```
\162\040\103\101\040\055\040\107\062
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023
\030\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145
\162\040\103\101\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\117\033\324\057\124\273\057\113
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\275\060\202\003\245\240\003\002\001\002\002\010\117
\033\324\057\124\273\057\113\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\060\107\061\013\060\011\006\003\125\004
\006\023\002\103\110\061\025\060\023\006\003\125\004\012\023\014
\123\167\151\163\163\123\151\147\156\040\101\107\061\041\060\037
\006\003\125\004\003\023\030\123\167\151\163\163\123\151\147\156
\040\123\151\154\166\145\162\040\103\101\040\055\040\107\062\060
\036\027\015\060\066\061\060\062\065\060\070\063\062\064\066\132
\027\015\063\066\061\060\062\065\060\070\063\062\064\066\132\060
\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061\025
\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123\151
\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023\030
\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145\162
\040\103\101\040\055\040\107\062\060\202\002\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000
\060\202\002\012\002\202\002\001\000\304\361\207\177\323\170\061
\367\070\311\370\303\231\103\274\307\367\274\067\347\116\161\272
\113\217\245\163\035\134\156\230\256\003\127\256\070\067\103\057
\027\075\037\310\316\150\020\301\170\256\031\003\053\020\372\054
\171\203\366\350\271\150\271\125\362\004\104\247\071\371\374\004
\213\036\361\242\115\047\371\141\173\272\267\345\242\023\266\353
\141\076\320\154\321\346\373\372\136\355\035\264\236\240\065\133
\241\222\313\360\111\222\376\205\012\005\076\346\331\013\342\117
\273\334\225\067\374\221\351\062\065\042\321\037\072\116\047\205
\235\260\025\224\062\332\141\015\107\115\140\102\256\222\107\350
\203\132\120\130\351\212\213\271\135\241\334\335\231\112\037\066
\147\273\110\344\203\266\067\353\110\072\257\017\147\217\027\007
\350\004\312\357\152\061\207\324\300\266\371\224\161\173\147\144
\270\266\221\112\102\173\145\056\060\152\014\365\220\356\225\346
\362\315\202\354\331\241\112\354\366\262\113\345\105\205\346\155
\170\223\004\056\234\202\155\066\251\304\061\144\037\206\203\013
\052\364\065\012\170\311\125\317\101\260\107\351\060\237\231\276
\141\250\006\204\271\050\172\137\070\331\033\251\070\260\203\177
```

\163\301\303\073\110\052\202\017\041\233\270\314\250\065\303\204  
\033\203\263\076\276\244\225\151\001\072\211\000\170\004\331\311  
\364\231\031\253\126\176\133\213\206\071\025\221\244\020\054\011  
\062\200\140\263\223\300\052\266\030\013\235\176\215\111\362\020  
\112\177\371\325\106\057\031\222\243\231\247\046\254\273\214\074  
\346\016\274\107\007\334\163\121\361\160\144\057\010\371\264\107  
\035\060\154\104\352\051\067\205\222\150\146\274\203\070\376\173  
\071\056\323\120\360\037\373\136\140\266\251\246\372\047\101\361  
\233\030\162\362\365\204\164\112\311\147\304\124\256\110\144\337  
\214\321\156\260\035\341\007\217\010\036\231\234\161\351\114\330  
\245\367\107\022\037\164\321\121\236\206\363\302\242\043\100\013  
\163\333\113\246\347\163\006\214\301\240\351\301\131\254\106\372  
\346\057\370\317\161\234\106\155\271\304\025\215\070\171\003\105  
\110\357\304\135\327\010\356\207\071\042\206\262\015\017\130\103  
\367\161\251\110\056\375\352\326\037\002\003\001\000\001\243\201  
\254\060\201\251\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024  
\027\240\315\301\344\101\266\072\133\073\313\105\235\275\034\302  
\230\372\206\130\060\037\006\003\125\035\043\004\030\060\026\200  
\024\027\240\315\301\344\101\266\072\133\073\313\105\235\275\034  
\302\230\372\206\130\060\106\006\003\125\035\040\004\077\060\075  
\060\073\006\011\140\205\164\001\131\001\003\001\001\060\056\060  
\054\006\010\053\006\001\005\005\007\002\001\026\040\150\164\164  
\160\072\057\057\162\145\160\157\163\151\164\157\162\171\056\163  
\167\151\163\163\163\151\147\156\056\143\157\155\057\060\015\006  
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\002\001  
\000\163\306\201\340\047\322\055\017\340\225\060\342\232\101\177  
\120\054\137\137\142\141\251\206\152\151\030\014\164\111\326\135  
\204\352\101\122\030\157\130\255\120\126\040\152\306\275\050\151  
\130\221\334\221\021\065\251\072\035\274\032\245\140\236\330\037  
\177\105\221\151\331\176\273\170\162\301\006\017\052\316\217\205  
\160\141\254\240\315\013\270\071\051\126\204\062\116\206\273\075  
\304\052\331\327\037\162\356\376\121\241\042\101\261\161\002\143  
\032\202\260\142\253\136\127\022\037\337\313\335\165\240\300\135  
\171\220\214\033\340\120\346\336\061\376\230\173\160\137\245\220  
\330\255\370\002\266\157\323\140\335\100\113\042\305\075\255\072  
\172\237\032\032\107\221\171\063\272\202\334\062\151\003\226\156  
\037\113\360\161\376\343\147\162\240\261\277\134\213\344\372\231  
\042\307\204\271\033\215\043\227\077\355\045\340\317\145\273\365  
\141\004\357\335\036\262\132\101\042\132\241\237\135\054\350\133  
\311\155\251\014\014\170\252\140\306\126\217\001\132\014\150\274  
\151\031\171\304\037\176\227\005\277\305\351\044\121\136\324\325  
\113\123\355\331\043\132\066\003\145\243\301\003\255\101\060\363  
\106\033\205\220\257\145\265\325\261\344\026\133\170\165\035\227  
\172\155\131\251\052\217\173\336\303\207\211\020\231\111\163\170  
\310\075\275\121\065\164\052\325\361\176\151\033\052\273\073\275  
\045\270\232\132\075\162\141\220\146\207\356\014\326\115\324\021

```
\164\013\152\376\013\003\374\243\125\127\211\376\112\313\256\133
\027\005\310\362\215\043\061\123\070\322\055\152\077\202\271\215
\010\152\367\136\101\164\156\303\021\176\007\254\051\140\221\077
\070\312\127\020\015\275\060\057\307\245\346\101\240\332\256\005
\207\232\240\244\145\154\114\011\014\211\272\270\323\271\300\223
\212\060\372\215\345\232\153\025\001\116\147\252\332\142\126\076
\204\010\146\322\304\066\175\247\076\020\374\210\340\324\200\345
\000\275\252\363\116\006\243\172\152\371\142\162\343\011\117\353
\233\016\001\043\361\237\273\174\334\334\154\021\227\045\262\362
\264\143\024\322\006\052\147\214\203\365\316\352\007\330\232\152
\036\354\344\012\273\052\114\353\011\140\071\316\312\142\330\056
\156
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SwissSign Silver CA - G2"

# Issuer: CN=SwissSign Silver CA - G2,O=SwissSign AG,C=CH

# Serial Number:4f:1b:d4:2f:54:bb:2f:4b

#

Subject: CN=SwissSign Silver CA - G2,O=SwissSign AG,C=CH

# Not Valid Before: Wed Oct 25 08:32:46 2006

# Not Valid After : Sat Oct 25 08:32:46 2036

# Fingerprint (SHA-256):

BE:6C:4D:A2:BB:B9:BA:59:B6:F3:93:97:68:37:42:46:C3:C0:05:99:3F:A9:8F:02:0D:1D:ED:BE:D4:8A:81:D5

# Fingerprint (SHA1): 9B:AA:E5:9F:56:EE:21:CB:43:5A:BE:25:93:DF:A7:F0:40:D1:1D:CB

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SwissSign Silver CA - G2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\233\252\345\237\126\356\041\313\103\132\276\045\223\337\247\360
\100\321\035\313
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\340\006\241\311\175\317\311\374\015\300\126\165\226\330\142\023
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023
\030\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145
\162\040\103\101\040\055\040\107\062
```

END

CKA\_SERIAL\_NUMBER

```

MULTILINE_OCTAL
\002\010\117\033\324\057\124\273\057\113
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "SecureTrust CA"
#
Issuer: CN=SecureTrust CA,O=SecureTrust Corporation,C=US
Serial Number:0c:f0:8e:5c:08:16:a5:ad:42:7f:f0:eb:27:18:59:d0
Subject: CN=SecureTrust CA,O=SecureTrust Corporation,C=US
Not Valid Before: Tue Nov 07 19:31:18 2006
Not Valid After : Mon Dec 31 19:40:55 2029
Fingerprint (SHA-256):
F1:C1:B5:0A:E5:A2:0D:D8:03:0E:C9:F6:BC:24:82:3D:D3:67:B5:25:57:59:B4:E7:1B:61:FC:E9:F7:37:5D:73
Fingerprint (SHA1): 87:82:C6:C3:04:35:3B:CF:D2:96:92:D2:59:3E:7D:44:D9:34:FF:11
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL
CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SecureTrust CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\027\060\025\006\003\125\004\003\023\016\123\145\143\165
\162\145\124\162\165\163\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\027\060\025\006\003\125\004\003\023\016\123\145\143\165
\162\145\124\162\165\163\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\014\360\216\134\010\026\245\255\102\177\360\353\047\030
\131\320
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\270\060\202\002\240\240\003\002\001\002\002\020\014
\360\216\134\010\026\245\255\102\177\360\353\047\030\131\320\060

```

\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\110  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\040\060  
\036\006\003\125\004\012\023\027\123\145\143\165\162\145\124\162  
\165\163\164\040\103\157\162\160\157\162\141\164\151\157\156\061  
\027\060\025\006\003\125\004\003\023\016\123\145\143\165\162\145  
\124\162\165\163\164\040\103\101\060\036\027\015\060\066\061\061  
\060\067\061\071\063\061\061\070\132\027\015\062\071\061\062\063  
\061\061\071\064\060\065\065\132\060\110\061\013\060\011\006\003  
\125\004\006\023\002\125\123\061\040\060\036\006\003\125\004\012  
\023\027\123\145\143\165\162\145\124\162\165\163\164\040\103\157  
\162\160\157\162\141\164\151\157\156\061\027\060\025\006\003\125  
\004\003\023\016\123\145\143\165\162\145\124\162\165\163\164\040  
\103\101\060\202\001\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202  
\001\001\000\253\244\201\345\225\315\365\366\024\216\302\117\312  
\324\342\170\225\130\234\101\341\015\231\100\044\027\071\221\063  
\146\351\276\341\203\257\142\134\211\321\374\044\133\141\263\340  
\021\021\101\034\035\156\360\270\273\370\336\247\201\272\246\110  
\306\237\035\275\276\216\251\101\076\270\224\355\051\032\324\216  
\322\003\035\003\357\155\015\147\034\127\327\006\255\312\310\365  
\376\016\257\146\045\110\004\226\013\135\243\272\026\303\010\117  
\321\106\370\024\134\362\310\136\001\231\155\375\210\314\206\250  
\301\157\061\102\154\122\076\150\313\363\031\064\337\273\207\030  
\126\200\046\304\320\334\300\157\337\336\240\302\221\026\240\144  
\021\113\104\274\036\366\347\372\143\336\146\254\166\244\161\243  
\354\066\224\150\172\167\244\261\347\016\057\201\172\342\265\162  
\206\357\242\153\213\360\017\333\323\131\077\272\162\274\104\044  
\234\343\163\263\367\257\127\057\102\046\235\251\164\272\000\122  
\362\113\315\123\174\107\013\066\205\016\146\251\010\227\026\064  
\127\301\146\367\200\343\355\160\124\307\223\340\056\050\025\131  
\207\272\273\002\003\001\000\001\243\201\235\060\201\232\060\023  
\006\011\053\006\001\004\001\202\067\024\002\004\006\036\004\000  
\103\000\101\060\013\006\003\125\035\017\004\004\003\002\001\206  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\035\006\003\125\035\016\004\026\004\024\102\062\266\026  
\372\004\375\376\135\113\172\303\375\367\114\100\035\132\103\257  
\060\064\006\003\125\035\037\004\055\060\053\060\051\240\047\240  
\045\206\043\150\164\164\160\072\057\057\143\162\154\056\163\145  
\143\165\162\145\164\162\165\163\164\056\143\157\155\057\123\124  
\103\101\056\143\162\154\060\020\006\011\053\006\001\004\001\202  
\067\025\001\004\003\002\001\000\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\003\202\001\001\000\060\355\117\112  
\341\130\072\122\162\133\265\246\243\145\030\246\273\121\073\167  
\351\235\352\323\237\134\340\105\145\173\015\312\133\342\160\120  
\262\224\005\024\256\111\307\215\101\007\022\163\224\176\014\043  
\041\375\274\020\177\140\020\132\162\365\230\016\254\354\271\177  
\335\172\157\135\323\034\364\377\210\005\151\102\251\005\161\310  
\267\254\046\350\056\264\214\152\377\161\334\270\261\337\231\274



```
\174\041\124\053\344\130\242\273\127\051\256\236\251\243\031\046
\017\231\056\010\260\357\375\151\317\231\032\011\215\343\247\237
\053\311\066\064\173\044\263\170\114\225\027\244\006\046\036\266
\144\122\066\137\140\147\331\234\305\005\164\013\347\147\043\322
\010\374\210\351\256\213\177\341\060\364\067\176\375\306\062\332
\055\236\104\060\060\154\356\007\336\322\064\374\322\377\100\366
\113\364\146\106\006\124\246\362\062\012\143\046\060\153\233\321
\334\213\107\272\341\271\325\142\320\242\240\364\147\005\170\051
\143\032\157\004\326\370\306\114\243\232\261\067\264\215\345\050
\113\035\236\054\302\270\150\274\355\002\356\061
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SecureTrust CA"

#

Issuer: CN=SecureTrust CA,O=SecureTrust Corporation,C=US

# Serial Number:0c:f0:8e:5c:08:16:a5:ad:42:7f:f0:eb:27:18:59:d0

# Subject: CN=SecureTrust CA,O=SecureTrust Corporation,C=US

# Not Valid Before: Tue Nov 07 19:31:18 2006

# Not Valid After : Mon Dec 31 19:40:55 2029

# Fingerprint (SHA-256):

F1:C1:B5:0A:E5:A2:0D:D8:03:0E:C9:F6:BC:24:82:3D:D3:67:B5:25:57:59:B4:E7:1B:61:FC:E9:F7:37:5D:73

# Fingerprint (SHA1): 87:82:C6:C3:04:35:3B:CF:D2:96:92:D2:59:3E:7D:44:D9:34:FF:11

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SecureTrust CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\207\202\306\303\004\065\073\317\322\226\222\322\131\076\175\104
\331\064\377\021
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\334\062\303\247\155\045\127\307\150\011\235\352\055\251\242\321
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\110\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\027\060\025\006\003\125\004\003\023\016\123\145\143\165
\162\145\124\162\165\163\164\040\103\101
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\020\014\360\216\134\010\026\245\255\102\177\360\353\047\030
```

```

\131\320
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Secure Global CA"
#
Issuer: CN=Secure Global CA,O=SecureTrust Corporation,C=US
Serial Number:07:56:22:a4:e8:d4:8a:89:4d:f4:13:c8:f0:f8:ea:a5
Subject: CN=Secure Global CA,O=SecureTrust Corporation,C=US
Not Valid Before: Tue Nov 07 19:42:28 2006
Not Valid After : Mon Dec 31 19:52:06 2029
Fingerprint (SHA-256):
42:00:F5:04:3A:C8:59:0E:BB:52:7D:20:9E:D1:50:30:29:FB:CB:D4:1C:A1:B5:06:EC:27:F1:5A:DE:7D:AC:69
Fingerprint (SHA1): 3A:44:73:5A:E5:81:90:1F:24:86:61:46:1E:3B:9C:C4:5F:F5:3A:1B
CKA_CLASS
CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Secure Global CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\031\060\027\006\003\125\004\003\023\020\123\145\143\165
\162\145\040\107\154\157\142\141\154\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\031\060\027\006\003\125\004\003\023\020\123\145\143\165
\162\145\040\107\154\157\142\141\154\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\007\126\042\244\350\324\212\211\115\364\023\310\360\370
\352\245
END
CKA_VALUE
MULTILINE_OCTAL
\060\202\003\274\060\202\002\244\240\003\002\001\002\002\020\007
\126\042\244\350\324\212\211\115\364\023\310\360\370\352\245\060

```

\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\112  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\040\060  
\036\006\003\125\004\012\023\027\123\145\143\165\162\145\124\162  
\165\163\164\040\103\157\162\160\157\162\141\164\151\157\156\061  
\031\060\027\006\003\125\004\003\023\020\123\145\143\165\162\145  
\040\107\154\157\142\141\154\040\103\101\060\036\027\015\060\066  
\061\061\060\067\061\071\064\062\062\070\132\027\015\062\071\061  
\062\063\061\061\071\065\062\060\066\132\060\112\061\013\060\011  
\006\003\125\004\006\023\002\125\123\061\040\060\036\006\003\125  
\004\012\023\027\123\145\143\165\162\145\124\162\165\163\164\040  
\103\157\162\160\157\162\141\164\151\157\156\061\031\060\027\006  
\003\125\004\003\023\020\123\145\143\165\162\145\040\107\154\157  
\142\141\154\040\103\101\060\202\001\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202  
\001\012\002\202\001\001\000\257\065\056\330\254\154\125\151\006  
\161\345\023\150\044\263\117\330\314\041\107\370\361\140\070\211  
\211\003\351\275\352\136\106\123\011\334\134\365\132\350\367\105  
\052\002\353\061\141\327\051\063\114\316\307\174\012\067\176\017  
\272\062\230\341\035\227\257\217\307\334\311\070\226\363\333\032  
\374\121\355\150\306\320\156\244\174\044\321\256\102\310\226\120  
\143\056\340\376\165\376\230\247\137\111\056\225\343\071\063\144  
\216\036\244\137\220\322\147\074\262\331\376\101\271\125\247\011  
\216\162\005\036\213\335\104\205\202\102\320\111\300\035\140\360  
\321\027\054\225\353\366\245\301\222\243\305\302\247\010\140\015  
\140\004\020\226\171\236\026\064\346\251\266\372\045\105\071\310  
\036\145\371\223\365\252\361\122\334\231\230\075\245\206\032\014  
\065\063\372\113\245\004\006\025\034\061\200\357\252\030\153\302  
\173\327\332\316\371\063\040\325\365\275\152\063\055\201\004\373  
\260\134\324\234\243\342\134\035\343\251\102\165\136\173\324\167  
\357\071\124\272\311\012\030\033\022\231\111\057\210\113\375\120  
\142\321\163\347\217\172\103\002\003\001\000\001\243\201\235\060  
\201\232\060\023\006\011\053\006\001\004\001\202\067\024\002\004  
\006\036\004\000\103\000\101\060\013\006\003\125\035\017\004\004  
\003\002\001\206\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024  
\257\104\004\302\101\176\110\203\333\116\071\002\354\354\204\172  
\346\316\311\244\060\064\006\003\125\035\037\004\055\060\053\060  
\051\240\047\240\045\206\043\150\164\164\160\072\057\057\143\162  
\154\056\163\145\143\165\162\145\164\162\165\163\164\056\143\157  
\155\057\123\107\103\101\056\143\162\154\060\020\006\011\053\006  
\001\004\001\202\067\025\001\004\003\002\001\000\060\015\006\011  
\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000  
\143\032\010\100\175\244\136\123\015\167\330\172\256\037\015\013  
\121\026\003\357\030\174\310\343\257\152\130\223\024\140\221\262  
\204\334\210\116\276\071\212\072\363\346\202\211\135\001\067\263  
\253\044\244\025\016\222\065\132\112\104\136\116\127\372\165\316  
\037\110\316\146\364\074\100\046\222\230\154\033\356\044\106\014  
\027\263\122\245\333\245\221\221\317\067\323\157\347\047\010\072

```
\116\031\037\072\247\130\134\027\317\171\077\213\344\247\323\046
\043\235\046\017\130\151\374\107\176\262\320\215\213\223\277\051
\117\103\151\164\166\147\113\317\007\214\346\002\367\265\341\264
\103\265\113\055\024\237\371\334\046\015\277\246\107\164\006\330
\210\321\072\051\060\204\316\322\071\200\142\033\250\307\127\111
\274\152\125\121\147\025\112\276\065\007\344\325\165\230\067\171
\060\024\333\051\235\154\305\151\314\107\125\242\060\367\314\134
\177\302\303\230\034\153\116\026\200\353\172\170\145\105\242\000
\032\257\014\015\125\144\064\110\270\222\271\361\264\120\051\362
\117\043\037\332\154\254\037\104\341\335\043\170\121\133\307\026
END
```

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Secure Global CA"

# Issuer: CN=Secure Global CA,O=SecureTrust Corporation,C=US

# Serial Number:07:56:22:a4:e8:d4:8a:89:4d:f4:13:c8:f0:f8:ea:a5

# Subject: CN=Secure Global CA,O=SecureTrust Corporation,C=US

# Not Valid Before: Tue Nov 07 19:42:28 2006

# Not Valid After : Mon Dec 31 19:52:06 2029

# Fingerprint (SHA-256):

42:00:F5:04:3A:C8:59:0E:BB:52:7D:20:9E:D1:50:30:29:FB:CB:D4:1C:A1:B5:06:EC:27:F1:5A:DE:7D:AC:69

# Fingerprint (SHA1): 3A:44:73:5A:E5:81:90:1F:24:86:61:46:1E:3B:9C:C4:5F:F5:3A:1B

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Secure Global CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\072\104\163\132\345\201\220\037\044\206\141\106\036\073\234\304
\137\365\072\033
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\317\364\047\015\324\355\334\145\026\111\155\075\332\277\156\336
```

END

CKA\_ISSUER

MULTILINE\_OCTAL

```
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\031\060\027\006\003\125\004\003\023\020\123\145\143\165
\162\145\040\107\154\157\142\141\154\040\103\101
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\007\126\042\244\350\324\212\211\115\364\023\310\360\370
\352\245
```

```

END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "COMODO Certification Authority"
#
Issuer: CN=COMODO Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
Serial Number:4e:81:2d:8a:82:65:e0:0b:02:ee:3e:35:02:46:e5:3d
Subject: CN=COMODO Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
Not Valid Before: Fri Dec 01 00:00:00 2006
Not Valid After : Mon Dec 31 23:59:59 2029
Fingerprint (SHA-256):
0C:2C:D6:3D:F7:80:6F:A3:99:ED:E8:09:11:6B:57:5B:F8:79:89:F0:65:18:F9:80:8C:86:05:03:17:8B:AF:66
Fingerprint (SHA1): 66:31:BF:9E:F7:4F:9E:B6:C9:D5:A6:0C:BA:6A:BE:D1:F7:BD:EF:7B
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "COMODO Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\201\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\047\060\045\006
\003\125\004\003\023\036\103\117\115\117\104\117\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\201\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\047\060\045\006
\003\125\004\003\023\036\103\117\115\117\104\117\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171

```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\116\201\055\212\202\145\340\013\002\356\076\065\002\106  
\345\075

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\035\060\202\003\005\240\003\002\001\002\002\020\116  
\201\055\212\202\145\340\013\002\356\076\065\002\106\345\075\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201  
\201\061\013\060\011\006\003\125\004\006\023\002\107\102\061\033  
\060\031\006\003\125\004\010\023\022\107\162\145\141\164\145\162  
\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016\006  
\003\125\004\007\023\007\123\141\154\146\157\162\144\061\032\060  
\030\006\003\125\004\012\023\021\103\117\115\117\104\117\040\103  
\101\040\114\151\155\151\164\145\144\061\047\060\045\006\003\125  
\004\003\023\036\103\117\115\117\104\117\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\060\036\027\015\060\066\061\062\060\061\060\060\060\060  
\060\060\132\027\015\062\071\061\062\063\061\062\063\065\071\065  
\071\132\060\201\201\061\013\060\011\006\003\125\004\006\023\002  
\107\102\061\033\060\031\006\003\125\004\010\023\022\107\162\145  
\141\164\145\162\040\115\141\156\143\150\145\163\164\145\162\061  
\020\060\016\006\003\125\004\007\023\007\123\141\154\146\157\162  
\144\061\032\060\030\006\003\125\004\012\023\021\103\117\115\117  
\104\117\040\103\101\040\114\151\155\151\164\145\144\061\047\060  
\045\006\003\125\004\003\023\036\103\117\115\117\104\117\040\103  
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164  
\150\157\162\151\164\171\060\202\001\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202  
\001\012\002\202\001\001\000\320\100\213\213\162\343\221\033\367  
\121\301\033\124\004\230\323\251\277\301\346\212\135\073\207\373  
\273\210\316\015\343\057\077\006\226\360\242\051\120\231\256\333  
\073\241\127\260\164\121\161\315\355\102\221\115\101\376\251\310  
\330\152\206\167\104\273\131\146\227\120\136\264\324\054\160\104  
\317\332\067\225\102\151\074\060\304\161\263\122\360\041\115\241  
\330\272\071\174\034\236\243\044\235\362\203\026\230\252\026\174  
\103\233\025\133\267\256\064\221\376\324\142\046\030\106\232\077  
\353\301\371\361\220\127\353\254\172\015\213\333\162\060\152\146  
\325\340\106\243\160\334\150\331\377\004\110\211\167\336\265\351  
\373\147\155\101\351\274\071\275\062\331\142\002\361\261\250\075  
\156\067\234\342\057\342\323\242\046\213\306\270\125\103\210\341  
\043\076\245\322\044\071\152\107\253\000\324\241\263\251\045\376  
\015\077\247\035\272\323\121\301\013\244\332\254\070\357\125\120  
\044\005\145\106\223\064\117\055\215\255\306\324\041\031\322\216  
\312\005\141\161\007\163\107\345\212\031\022\275\004\115\316\116  
\234\245\110\254\273\046\367\002\003\001\000\001\243\201\216\060  
\201\213\060\035\006\003\125\035\016\004\026\004\024\013\130\345  
\213\306\114\025\067\244\100\251\060\251\041\276\107\066\132\126

\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\111\006\003\125\035\037\004\102\060\100\060\076\240  
\074\240\072\206\070\150\164\164\160\072\057\057\143\162\154\056  
\143\157\155\157\144\157\143\141\056\143\157\155\057\103\117\115  
\117\104\117\103\145\162\164\151\146\151\143\141\164\151\157\156  
\101\165\164\150\157\162\151\164\171\056\143\162\154\060\015\006  
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001  
\000\076\230\236\233\366\033\351\327\071\267\170\256\035\162\030  
\111\323\207\344\103\202\353\077\311\252\365\250\265\357\125\174  
\041\122\145\371\325\015\341\154\364\076\214\223\163\221\056\002  
\304\116\007\161\157\300\217\070\141\010\250\036\201\012\300\057  
\040\057\101\213\221\334\110\105\274\361\306\336\272\166\153\063  
\310\000\055\061\106\114\355\347\235\317\210\224\377\063\300\126  
\350\044\206\046\270\330\070\070\337\052\153\335\022\314\307\077  
\107\027\114\242\302\006\226\011\326\333\376\077\074\106\101\337  
\130\342\126\017\074\073\301\034\223\065\331\070\122\254\356\310  
\354\056\060\116\224\065\264\044\037\113\170\151\332\362\002\070  
\314\225\122\223\360\160\045\131\234\040\147\304\356\371\213\127  
\141\364\222\166\175\077\204\215\125\267\350\345\254\325\361\365  
\031\126\246\132\373\220\034\257\223\353\345\034\324\147\227\135  
\004\016\276\013\203\246\027\203\271\060\022\240\305\063\025\005  
\271\015\373\307\005\166\343\330\112\215\374\064\027\243\306\041  
\050\276\060\105\061\036\307\170\276\130\141\070\254\073\342\001  
\145

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "COMODO Certification Authority"

# Issuer: CN=COMODO Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater Manchester,C=GB

# Serial Number:4e:81:2d:8a:82:65:e0:0b:02:ee:3e:35:02:46:e5:3d

# Subject: CN=COMODO Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater Manchester,C=GB

# Not Valid Before: Fri Dec 01 00:00:00 2006

# Not Valid After : Mon Dec 31 23:59:59 2029

# Fingerprint (SHA-256):

0C:2C:D6:3D:F7:80:6F:A3:99:ED:E8:09:11:6B:57:5B:F8:79:89:F0:65:18:F9:80:8C:86:05:03:17:8B:AF:66

# Fingerprint (SHA1): 66:31:BF:9E:F7:4F:9E:B6:C9:D5:A6:0C:BA:6A:BE:D1:F7:BD:EF:7B

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE

CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "COMODO Certification Authority"

```

CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\146\061\277\236\367\117\236\266\311\325\246\014\272\152\276\321
\367\275\357\173
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\134\110\334\367\102\162\354\126\224\155\034\314\161\065\200\165
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\201\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\047\060\045\006
\003\125\004\003\023\036\103\117\115\117\104\117\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\116\201\055\212\202\145\340\013\002\356\076\065\002\106
\345\075
END
CKA_TRUST_SERVER_AUTH CK_TRUST
CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "COMODO ECC Certification Authority"
#
Issuer: CN=COMODO ECC Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
Serial Number: 1f:47:af:aa:62:00:70:50:54:4c:01:9e:9b:63:99:2a
Subject: CN=COMODO ECC Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
Not Valid Before: Thu Mar 06 00:00:00 2008
Not Valid After : Mon Jan 18 23:59:59 2038
Fingerprint (SHA-256):
17:93:92:7A:06:14:54:97:89:AD:CE:2F:8F:34:F7:F0:B6:6D:0F:3A:E3:A3:B8:4D:21:EC:15:DB:BA:4F:AD:C7
Fingerprint (SHA1): 9F:74:4E:9F:2B:4D:BA:EC:0F:31:2C:50:B6:56:3B:8E:2D:93:C3:11
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "COMODO ECC Certification Authority"
CKA_CERTIFICATE_TYPE

```



CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102  
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164  
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060  
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061  
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117  
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006  
\003\125\004\003\023\042\103\117\115\117\104\117\040\105\103\103  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102  
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164  
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060  
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061  
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117  
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006  
\003\125\004\003\023\042\103\117\115\117\104\117\040\105\103\103  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\037\107\257\252\142\000\160\120\124\114\001\236\233\143  
\231\052

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\211\060\202\002\017\240\003\002\001\002\002\020\037  
\107\257\252\142\000\160\120\124\114\001\236\233\143\231\052\060  
\012\006\010\052\206\110\316\075\004\003\003\060\201\205\061\013  
\060\011\006\003\125\004\006\023\002\107\102\061\033\060\031\006  
\003\125\004\010\023\022\107\162\145\141\164\145\162\040\115\141  
\156\143\150\145\163\164\145\162\061\020\060\016\006\003\125\004  
\007\023\007\123\141\154\146\157\162\144\061\032\060\030\006\003  
\125\004\012\023\021\103\117\115\117\104\117\040\103\101\040\114  
\151\155\151\164\145\144\061\053\060\051\006\003\125\004\003\023  
\042\103\117\115\117\104\117\040\105\103\103\040\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162  
\151\164\171\060\036\027\015\060\070\060\061\061\070\062\063\065\071  
\060\060\060\132\027\015\063\070\060\061\061\070\062\063\065\071  
\065\071\132\060\201\205\061\013\060\011\006\003\125\004\006\023  
\002\107\102\061\033\060\031\006\003\125\004\010\023\022\107\162  
\145\141\164\145\162\040\115\141\156\143\150\145\163\164\145\162  
\061\020\060\016\006\003\125\004\007\023\007\123\141\154\146\157  
\162\144\061\032\060\030\006\003\125\004\012\023\021\103\117\115

\117\104\117\040\103\101\040\114\151\155\151\164\145\144\061\053  
\060\051\006\003\125\004\003\023\042\103\117\115\117\104\117\040  
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\060\166\060\020\006  
\007\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003  
\142\000\004\003\107\173\057\165\311\202\025\205\373\165\344\221  
\026\324\253\142\231\365\076\122\013\006\316\101\000\177\227\341  
\012\044\074\035\001\004\356\075\322\215\011\227\014\340\165\344  
\372\373\167\212\052\365\003\140\113\066\213\026\043\026\255\011  
\161\364\112\364\050\120\264\376\210\034\156\077\154\057\057\011  
\131\133\245\133\013\063\231\342\303\075\211\371\152\054\357\262  
\323\006\351\243\102\060\100\060\035\006\003\125\035\016\004\026  
\004\024\165\161\247\031\110\031\274\235\235\352\101\107\337\224  
\304\110\167\231\323\171\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\012\006\010\052\206\110\316\075  
\004\003\003\003\150\000\060\145\002\061\000\357\003\133\172\254  
\267\170\012\162\267\210\337\377\265\106\024\011\012\372\240\346  
\175\010\306\032\207\275\030\250\163\275\046\312\140\014\235\316  
\231\237\317\134\017\060\341\276\024\061\352\002\060\024\364\223  
\074\111\247\063\172\220\106\107\263\143\175\023\233\116\267\157  
\030\067\200\123\376\335\040\340\065\232\066\321\307\001\271\346  
\334\335\363\377\035\054\072\026\127\331\222\071\326

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "COMODO ECC Certification Authority"

# Issuer: CN=COMODO ECC Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater Manchester,C=GB

# Serial Number:1f:47:af:aa:62:00:70:50:54:4c:01:9e:9b:63:99:2a

# Subject: CN=COMODO ECC Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater Manchester,C=GB

# Not Valid Before: Thu Mar 06 00:00:00 2008

# Not Valid After : Mon Jan 18 23:59:59 2038

# Fingerprint (SHA-256):

17:93:92:7A:06:14:54:97:89:AD:CE:2F:8F:34:F7:F0:B6:6D:0F:3A:E3:A3:B8:4D:21:EC:15:DB:BA:4F:AD:C7

# Fingerprint (SHA1): 9F:74:4E:9F:2B:4D:BA:EC:0F:31:2C:50:B6:56:3B:8E:2D:93:C3:11

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "COMODO ECC Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE OCTAL

\237\164\116\237\053\115\272\354\017\061\054\120\266\126\073\216

\055\223\303\021

```

END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\174\142\377\164\235\061\123\136\150\112\325\170\252\036\277\043
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\105\103\103
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\037\107\257\252\142\000\160\120\124\114\001\236\233\143
\231\052
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING
CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "OISTE WISeKey Global Root GA CA"
#
Issuer: CN=OISTE WISeKey Global Root GA CA,OU=OISTE Foundation Endorsed,OU=Copyright (c)
2005,O=WISeKey,C=CH
Serial Number:41:3d:72:c7:f4:6b:1f:81:43:7d:f1:d2:28:54:df:9a
Subject: CN=OISTE WISeKey Global Root GA CA,OU=OISTE Foundation Endorsed,OU=Copyright (c)
2005,O=WISeKey,C=CH
Not Valid Before: Sun Dec 11 16:03:44 2005
Not Valid After : Fri Dec 11 16:09:51 2037
Fingerprint (SHA-256):
41:C9:23:86:6A:B4:CA:D6:B7:AD:57:80:81:58:2E:02:07:97:A6:CB:DF:4F:FF:78:CE:83:96:B3:89:37:D7:F5
Fingerprint (SHA1): 59:22:A1:E1:5A:EA:16:35:21:F8:98:39:6A:46:46:B0:44:1B:0F:A9
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "OISTE WISeKey Global Root GA CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\212\061\013\060\011\006\003\125\004\006\023\002\103\110
\061\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113

```

\145\171\061\033\060\031\006\003\125\004\013\023\022\103\157\160  
\171\162\151\147\150\164\040\050\143\051\040\062\060\060\065\061  
\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040  
\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162  
\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111  
\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142  
\141\154\040\122\157\157\164\040\107\101\040\103\101

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\212\061\013\060\011\006\003\125\004\006\023\002\103\110  
\061\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113  
\145\171\061\033\060\031\006\003\125\004\013\023\022\103\157\160  
\171\162\151\147\150\164\040\050\143\051\040\062\060\060\065\061  
\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040  
\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162  
\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111  
\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142  
\141\154\040\122\157\157\164\040\107\101\040\103\101

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\101\075\162\307\364\153\037\201\103\175\361\322\050\124  
\337\232

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\361\060\202\002\331\240\003\002\001\002\002\020\101  
\075\162\307\364\153\037\201\103\175\361\322\050\124\337\232\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201  
\212\061\013\060\011\006\003\125\004\006\023\002\103\110\061\020  
\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145\171  
\061\033\060\031\006\003\125\004\013\023\022\103\157\160\171\162  
\151\147\150\164\040\050\143\051\040\062\060\060\065\061\042\060  
\040\006\003\125\004\013\023\031\117\111\123\124\105\040\106\157  
\165\156\144\141\164\151\157\156\040\105\156\144\157\162\163\145  
\144\061\050\060\046\006\003\125\004\003\023\037\117\111\123\124  
\105\040\127\111\123\145\113\145\171\040\107\154\157\142\141\154  
\040\122\157\157\164\040\107\101\040\103\101\060\036\027\015\060  
\065\061\062\061\061\061\066\060\063\064\064\132\027\015\063\067  
\061\062\061\061\061\066\060\071\065\061\132\060\201\212\061\013  
\060\011\006\003\125\004\006\023\002\103\110\061\020\060\016\006  
\003\125\004\012\023\007\127\111\123\145\113\145\171\061\033\060  
\031\006\003\125\004\013\023\022\103\157\160\171\162\151\147\150  
\164\040\050\143\051\040\062\060\060\065\061\042\060\040\006\003  
\125\004\013\023\031\117\111\123\124\105\040\106\157\165\156\144  
\141\164\151\157\156\040\105\156\144\157\162\163\145\144\061\050  
\060\046\006\003\125\004\003\023\037\117\111\123\124\105\040\127

\111\123\145\113\145\171\040\107\154\157\142\141\154\040\122\157  
\157\164\040\107\101\040\103\101\060\202\001\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000  
\060\202\001\012\002\202\001\001\000\313\117\263\000\233\075\066  
\335\371\321\111\152\153\020\111\037\354\330\053\262\306\370\062  
\201\051\103\225\114\232\031\043\041\025\105\336\343\310\034\121  
\125\133\256\223\350\067\377\053\153\351\324\352\276\052\335\250  
\121\053\327\146\303\141\134\140\002\310\365\316\162\173\073\270  
\362\116\145\010\232\315\244\152\031\301\001\273\163\246\327\366  
\303\335\315\274\244\213\265\231\141\270\001\242\243\324\115\324  
\005\075\221\255\370\264\010\161\144\257\160\361\034\153\176\366  
\303\167\235\044\163\173\344\014\214\341\331\066\341\231\213\005  
\231\013\355\105\061\011\312\302\000\333\367\162\240\226\252\225  
\207\320\216\307\266\141\163\015\166\146\214\334\033\264\143\242  
\237\177\223\023\060\361\241\047\333\331\377\054\125\210\221\240  
\340\117\007\260\050\126\214\030\033\227\104\216\211\335\340\027  
\156\347\052\357\217\071\012\061\204\202\330\100\024\111\056\172  
\101\344\247\376\343\144\314\301\131\161\113\054\041\247\133\175  
\340\035\321\056\201\233\303\330\150\367\275\226\033\254\160\261  
\026\024\013\333\140\271\046\001\005\002\003\001\000\001\243\121  
\060\117\060\013\006\003\125\035\017\004\004\003\002\001\206\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\035\006\003\125\035\016\004\026\004\024\263\003\176\256\066  
\274\260\171\321\334\224\046\266\021\276\041\262\151\206\224\060  
\020\006\011\053\006\001\004\001\202\067\025\001\004\003\002\001  
\000\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000  
\003\202\001\001\000\113\241\377\013\207\156\263\371\301\103\261  
\110\363\050\300\035\056\311\011\101\372\224\000\034\244\244\253  
\111\117\217\075\036\357\115\157\275\274\244\366\362\046\060\311  
\020\312\035\210\373\164\031\037\205\105\275\260\154\121\371\066  
\176\333\365\114\062\072\101\117\133\107\317\350\013\055\266\304  
\031\235\164\305\107\306\073\152\017\254\024\333\074\364\163\234  
\251\005\337\000\334\164\170\372\370\065\140\131\002\023\030\174  
\274\373\115\260\040\155\103\273\140\060\172\147\063\134\305\231  
\321\370\055\071\122\163\373\214\252\227\045\134\162\331\010\036  
\253\116\074\343\201\061\237\003\246\373\300\376\051\210\125\332  
\204\325\120\003\266\342\204\243\246\066\252\021\072\001\341\030  
\113\326\104\150\263\075\371\123\164\204\263\106\221\106\226\000  
\267\200\054\266\341\343\020\342\333\242\347\050\217\001\226\142  
\026\076\000\343\034\245\066\201\030\242\114\122\166\300\021\243  
\156\346\035\272\343\132\276\066\123\305\076\165\217\206\151\051  
\130\123\265\234\273\157\237\134\305\030\354\335\057\341\230\311  
\374\276\337\012\015

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

```

Trust for "OISTE WISeKey Global Root GA CA"
Issuer: CN=OISTE WISeKey Global Root GA CA,OU=OISTE Foundation Endorsed,OU=Copyright (c)
2005,O=WISeKey,C=CH
Serial Number:41:3d:72:c7:f4:6b:1f:81:43:7d:f1:d2:28:54:df:9a
Subject: CN=OISTE WISeKey Global Root GA CA,OU=OISTE Foundation Endorsed,OU=Copyright (c)
2005,O=WISeKey,C=CH
Not Valid Before: Sun Dec 11 16:03:44 2005
Not Valid After : Fri
Dec 11 16:09:51 2037
Fingerprint (SHA-256):
41:C9:23:86:6A:B4:CA:D6:B7:AD:57:80:81:58:2E:02:07:97:A6:CB:DF:4F:FF:78:CE:83:96:B3:89:37:D7:F5
Fingerprint (SHA1): 59:22:A1:E1:5A:EA:16:35:21:F8:98:39:6A:46:46:B0:44:1B:0F:A9
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "OISTE WISeKey Global Root GA CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\131\042\241\341\132\352\026\065\041\370\230\071\152\106\106\260
\104\033\017\251
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\274\154\121\063\247\351\323\146\143\124\025\162\033\041\222\223
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\212\061\013\060\011\006\003\125\004\006\023\002\103\110
\061\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113
\145\171\061\033\060\031\006\003\125\004\013\023\022\103\157\160
\171\162\151\147\150\164\040\050\143\051\040\062\060\060\065\061
\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040
\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162
\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111
\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142
\141\154\040\122\157\157\164\040\107\101\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\101\075\162\307\364\153\037\201\103\175\361\322\050\124
\337\232
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Certigna"

```

```
#
Issuer: CN=Certigna,O=Dhimyotis,C=FR
Serial Number:00:fe:dc:e3:01:0f:c9:48:ff
Subject: CN=Certigna,O=Dhimyotis,C=FR
Not Valid Before: Fri Jun 29 15:13:05 2007
Not Valid After : Tue Jun 29 15:13:05 2027
Fingerprint (SHA-256):
E3:B6:A2:DB:2E:D7:CE:48:84:2F:7A:C5:32:41:C7:B7:1D:54:14:4B:FB:40:C1:1F:3F:1D:0B:42:F5:EE:A1:2D
Fingerprint (SHA1): B1:2E:13:63:45:86:A4:6F:1A:B2:60:68:37:58:2D:C4:AC:FD:94:97
CKA_CLASS
CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certigna"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\064\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\021\060\017\006\003\125\004\003\014\010\103\145
\162\164\151\147\156\141
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\064\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\021\060\017\006\003\125\004\003\014\010\103\145
\162\164\151\147\156\141
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\376\334\343\001\017\311\110\377
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\250\060\202\002\220\240\003\002\001\002\002\011\000
\376\334\343\001\017\311\110\377\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\060\064\061\013\060\011\006\003\125
\004\006\023\002\106\122\061\022\060\020\006\003\125\004\012\014
\011\104\150\151\155\171\157\164\151\163\061\021\060\017\006\003
\125\004\003\014\010\103\145\162\164\151\147\156\141\060\036\027
\015\060\067\060\066\062\071\061\065\061\063\060\065\132\027\015
\062\067\060\066\062\071\061\065\061\063\060\065\132\060\064\061
\013\060\011\006\003\125\004\006\023\002\106\122\061\022\060\020
\006\003\125\004\012\014\011\104\150\151\155\171\157\164\151\163
\061\021\060\017\006\003\125\004\003\014\010\103\145\162\164\151
\147\156\141\060\202\001\042\060\015\006\011\052\206\110\206\367
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002
\202\001\001\000\310\150\361\311\326\326\263\064\165\046\202\036
\354\264\276\352\134\341\046\355\021\107\141\341\242\174\026\170
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\100\041\344\140\236\132\310\143\341\304\261\226\222\377\030\155  
\151\043\341\053\142\367\335\342\066\057\221\007\271\110\317\016  
\354\171\266\054\347\064\113\160\010\045\243\074\207\033\031\362  
\201\007\017\070\220\031\323\021\376\206\264\362\321\136\036\036  
\226\315\200\154\316\073\061\223\266\362\240\320\251\225\022\175  
\245\232\314\153\310\204\126\212\063\251\347\042\025\123\026\360  
\314\027\354\127\137\351\242\012\230\011\336\343\137\234\157\334  
\110\343\205\013\025\132\246\272\237\254\110\343\011\262\367\364  
\062\336\136\064\276\034\170\135\102\133\316\016\042\217\115\220  
\327\175\062\030\263\013\054\152\277\216\077\024\021\211\040\016  
\167\024\265\075\224\010\207\367\045\036\325\262\140\000\354\157  
\052\050\045\156\052\076\030\143\027\045\077\076\104\040\026\366  
\046\310\045\256\005\112\264\347\143\054\363\214\026\123\176\134  
\373\021\032\010\301\106\142\237\042\270\361\302\215\151\334\372  
\072\130\006\337\002\003\001\000\001\243\201\274\060\201\271\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\035\006\003\125\035\016\004\026\004\024\032\355\376\101\071  
\220\264\044\131\276\001\362\122\325\105\366\132\071\334\021\060  
\144\006\003\125\035\043\004\135\060\133\200\024\032\355\376\101  
\071\220\264\044\131\276\001\362\122\325\105\366\132\071\334\021  
\241\070\244\066\060\064\061\013\060\011\006\003\125\004\006\023  
\002\106\122\061\022\060\020\006\003\125\004\012\014\011\104\150  
\151\155\171\157\164\151\163\061\021\060\017\006\003\125\004\003  
\014\010\103\145\162\164\151\147\156\141\202\011\000\376\334\343  
\001\017\311\110\377\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\006\060\021\006\011\140\206\110\001\206\370\102  
\001\001\004\004\003\002\000\007\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\003\202\001\001\000\205\003\036\222  
\161\366\102\257\341\243\141\236\353\363\300\017\362\245\324\332  
\225\346\326\276\150\066\075\176\156\037\114\212\357\321\017\041  
\155\136\245\122\143\316\022\370\357\052\332\157\353\067\376\023  
\002\307\313\073\076\042\153\332\141\056\177\324\162\075\335\060  
\341\036\114\100\031\214\017\327\234\321\203\060\173\230\131\334  
\175\306\271\014\051\114\241\063\242\353\147\072\145\204\323\226  
\342\355\166\105\160\217\265\053\336\371\043\326\111\156\074\024  
\265\306\237\065\036\120\320\301\217\152\160\104\002\142\313\256  
\035\150\101\247\252\127\350\123\252\007\322\006\366\325\024\006  
\013\221\003\165\054\154\162\265\141\225\232\015\213\271\015\347  
\365\337\124\315\336\346\330\326\011\010\227\143\345\301\056\260  
\267\104\046\300\046\300\257\125\060\236\073\325\066\052\031\004  
\364\134\036\377\317\054\267\377\320\375\207\100\021\325\021\043  
\273\110\300\041\251\244\050\055\375\025\370\260\116\053\364\060  
\133\041\374\021\221\064\276\101\357\173\235\227\165\377\227\225  
\300\226\130\057\352\273\106\327\273\344\331\056

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE



CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certigna"

# Issuer: CN=Certigna,O=Dhimyotis,C=FR

# Serial Number:00:fe:dc:e3:01:0f:c9:48:ff

# Subject: CN=Certigna,O=Dhimyotis,C=FR

# Not Valid Before: Fri Jun 29 15:13:05 2007

#

Not Valid After : Tue Jun 29 15:13:05 2027

# Fingerprint (SHA-256):

E3:B6:A2:DB:2E:D7:CE:48:84:2F:7A:C5:32:41:C7:B7:1D:54:14:4B:FB:40:C1:1F:3F:1D:0B:42:F5:EE:A1:2D

# Fingerprint (SHA1): B1:2E:13:63:45:86:A4:6F:1A:B2:60:68:37:58:2D:C4:AC:FD:94:97

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certigna"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\261\056\023\143\105\206\244\157\032\262\140\150\067\130\055\304

\254\375\224\227

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\253\127\246\133\175\102\202\031\265\330\130\046\050\136\375\377

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\064\061\013\060\011\006\003\125\004\006\023\002\106\122\061

\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157

\164\151\163\061\021\060\017\006\003\125\004\003\014\010\103\145

\162\164\151\147\156\141

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\011\000\376\334\343\001\017\311\110\377

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION

CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "ePKI Root Certification Authority"

#

# Issuer: OU=ePKI Root Certification Authority,O="Chunghwa Telecom Co., Ltd.",C=TW

# Serial Number: 15:c8:bd:65:47:5c:af:b8:97:00:5e:e4:06:d2:bc:9d

# Subject: OU=ePKI Root Certification Authority,O="Chunghwa Telecom Co., Ltd.",C=TW

# Not Valid Before: Mon Dec 20 02:31:27 2004

# Not Valid After : Wed Dec 20 02:31:27 2034

# Fingerprint (SHA-256):

```
C0:A6:F4:DC:63:A2:4B:FD:CF:54:EF:2A:6A:08:2A:0A:72:DE:35:80:3E:2F:F5:FF:52:7A:E5:D8:72:06:DF:D5
Fingerprint (SHA1): 67:65:0D:F1:7E:8E:7E:5B:82:40:A4:F4:56:4B:CF:E2:3D:69:C6:F0
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ePKI Root Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT
MULTILINE_OCTAL
\060\136\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\052\060\050\006\003\125\004\013\014\041\145
\120\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\136\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\052\060\050\006\003\125\004\013\014\041\145
\120\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\025\310\275\145\107\134\257\270\227\000\136\344\006\322
\274\235
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\260\060\202\003\230\240\003\002\001\002\002\020\025
\310\275\145\107\134\257\270\227\000\136\344\006\322\274\235\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\136
\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043\060
\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167\141
\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114\164
\144\056\061\052\060\050\006\003\125\004\013\014\041\145\120\113
\111\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060\036
\027\015\060\064\061\062\062\060\060\062\063\061\062\067\132\027
\015\063\064\061\062\062\060\060\062\063\061\062\067\132\060\136
\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043\060
\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167\141
\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114\164
\144\056\061\052\060\050\006\003\125\004\013\014\041\145\120\113
\111\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060\202
```

\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005  
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\341  
\045\017\356\215\333\210\063\165\147\315\255\037\175\072\116\155  
\235\323\057\024\363\143\164\313\001\041\152\067\352\204\120\007  
\113\046\133\011\103\154\041\236\152\310\325\003\365\140\151\217  
\314\360\042\344\037\347\367\152\042\061\267\054\025\362\340\376  
\000\152\103\377\207\145\306\265\032\301\247\114\155\042\160\041  
\212\061\362\227\164\211\011\022\046\034\236\312\331\022\242\225  
\074\332\351\147\277\010\240\144\343\326\102\267\105\357\227\364  
\366\365\327\265\112\025\002\130\175\230\130\113\140\274\315\327  
\015\232\023\063\123\321\141\371\172\325\327\170\263\232\063\367  
\000\206\316\035\115\224\070\257\250\354\170\121\160\212\134\020  
\203\121\041\367\021\075\064\206\136\345\110\315\227\201\202\065  
\114\031\354\145\366\153\305\005\241\356\107\023\326\263\041\047  
\224\020\012\331\044\073\272\276\104\023\106\060\077\227\074\330  
\327\327\152\356\073\070\343\053\324\227\016\271\033\347\007\111  
\177\067\052\371\167\170\317\124\355\133\106\235\243\200\016\221  
\103\301\326\133\137\024\272\237\246\215\044\107\100\131\277\162  
\070\262\066\154\067\377\231\321\135\016\131\012\253\151\367\300  
\262\004\105\172\124\000\256\276\123\366\265\347\341\370\074\243  
\061\322\251\376\041\122\144\305\246\147\360\165\007\006\224\024  
\201\125\306\047\344\001\217\027\301\152\161\327\276\113\373\224  
\130\175\176\021\063\261\102\367\142\154\030\326\317\011\150\076  
\177\154\366\036\217\142\255\245\143\333\011\247\037\042\102\101  
\036\157\231\212\076\327\371\077\100\172\171\260\245\001\222\322  
\235\075\010\025\245\020\001\055\263\062\166\250\225\015\263\172  
\232\373\007\020\170\021\157\341\217\307\272\017\045\032\164\052  
\345\034\230\101\231\337\041\207\350\225\006\152\012\263\152\107  
\166\145\366\072\317\217\142\027\031\173\012\050\315\032\322\203  
\036\041\307\054\277\276\377\141\150\267\147\033\273\170\115\215  
\316\147\345\344\301\216\267\043\146\342\235\220\165\064\230\251  
\066\053\212\232\224\271\235\354\314\212\261\370\045\211\134\132  
\266\057\214\037\155\171\044\247\122\150\303\204\065\342\146\215  
\143\016\045\115\325\031\262\346\171\067\247\042\235\124\061\002  
\003\001\000\001\243\152\060\150\060\035\006\003\125\035\016\004  
\026\004\024\036\014\367\266\147\362\341\222\046\011\105\300\125  
\071\056\167\077\102\112\242\060\014\006\003\125\035\023\004\005  
\060\003\001\001\377\060\071\006\004\147\052\007\000\004\061\060  
\057\060\055\002\001\000\060\011\006\005\053\016\003\002\032\005  
\000\060\007\006\005\147\052\003\000\000\004\024\105\260\302\307  
\012\126\174\356\133\170\014\225\371\030\123\301\246\034\330\020  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003  
\202\002\001\000\011\263\203\123\131\001\076\225\111\271\361\201  
\272\371\166\040\043\265\047\140\164\324\152\231\064\136\154\000  
\123\331\237\362\246\261\044\007\104\152\052\306\245\216\170\022  
\350\107\331\130\033\023\052\136\171\233\237\012\052\147\246\045  
\077\006\151\126\163\303\212\146\110\373\051\201\127\164\006\312  
\234\352\050\350\070\147\046\053\361\325\265\077\145\223\370\066

\135\216\215\215\100\040\207\031\352\357\047\300\075\264\071\017  
\045\173\150\120\164\125\234\014\131\175\132\075\101\224\045\122  
\010\340\107\054\025\061\031\325\277\007\125\306\273\022\265\227  
\364\137\203\205\272\161\301\331\154\201\021\166\012\012\260\277  
\202\227\367\352\075\372\372\354\055\251\050\224\073\126\335\322  
\121\056\256\300\275\010\025\214\167\122\064\226\326\233\254\323  
\035\216\141\017\065\173\233\256\071\151\013\142\140\100\040\066  
\217\257\373\066\356\055\010\112\035\270\277\233\134\370\352\245  
\033\240\163\246\330\370\156\340\063\004\137\150\252\047\207\355  
\331\301\220\234\355\275\343\152\065\257\143\337\253\030\331\272  
\346\351\112\352\120\212\017\141\223\036\342\055\031\342\060\224  
\065\222\135\016\266\007\257\031\200\217\107\220\121\113\056\115  
\335\205\342\322\012\122\012\027\232\374\032\260\120\002\345\001  
\243\143\067\041\114\104\304\233\121\231\021\016\163\234\006\217  
\124\056\247\050\136\104\071\207\126\055\067\275\205\104\224\341  
\014\113\054\234\303\222\205\064\141\313\017\270\233\112\103\122  
\376\064\072\175\270\351\051\334\166\251\310\060\370\024\161\200  
\306\036\066\110\164\042\101\134\207\202\350\030\161\213\101\211  
\104\347\176\130\133\250\270\215\023\351\247\154\303\107\355\263  
\032\235\142\256\215\202\352\224\236\335\131\020\303\255\335\342  
\115\343\061\325\307\354\350\362\260\376\222\036\026\012\032\374  
\331\363\370\047\266\311\276\035\264\154\144\220\177\364\344\304  
\133\327\067\256\102\016\335\244\032\157\174\210\124\305\026\156  
\341\172\150\056\370\072\277\015\244\074\211\073\170\247\116\143  
\203\004\041\010\147\215\362\202\111\320\133\375\261\315\017\203  
\204\324\076\040\205\367\112\075\053\234\375\052\012\011\115\352  
\201\370\021\234

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "ePKI Root Certification Authority"

# Issuer: OU=ePKI Root Certification Authority,O="Chunghwa Telecom Co., Ltd.",C=TW

# Serial Number:15:c8:bd:65:47:5c:af:b8:97:00:5e:e4:06:d2:bc:9d

# Subject: OU=ePKI Root Certification Authority,O="Chunghwa Telecom Co., Ltd.",C=TW

# Not Valid Before: Mon Dec 20 02:31:27 2004

# Not Valid After : Wed Dec 20 02:31:27 2034

# Fingerprint (SHA-256):

C0:A6:F4:DC:63:A2:4B:FD:CF:54:EF:2A:6A:08:2A:0A:72:DE:35:80:3E:2F:F5:FF:52:7A:E5:D8:72:06:DF:D5

# Fingerprint (SHA1): 67:65:0D:F1:7E:8E:7E:5B:82:40:A4:F4:56:4B:CF:E2:3D:69:C6:F0

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "ePKI Root Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL  
\147\145\015\361\176\216\176\133\202\100\244\364\126\113\317\342  
\075\151\306\360

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL  
\033\056\000\312\046\006\220\075\255\376\157\025\150\323\153\263

END

CKA\_ISSUER  
MULTILINE\_OCTAL  
\060\136\061\013\060\011\006\003\125\004\006\023\002\124\127\061  
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150  
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040  
\114\164\144\056\061\052\060\050\006\003\125\004\013\014\041\145  
\120\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\020\025\310\275\145\107\134\257\270\227\000\136\344\006\322  
\274\235

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "certSIGN ROOT CA"

#

# Issuer: OU=certSIGN ROOT CA,O=certSIGN,C=RO

# Serial Number:20:06:05:16:70:02

# Subject: OU=certSIGN ROOT CA,O=certSIGN,C=RO

# Not Valid Before: Tue Jul 04 17:20:04

2006

# Not Valid After : Fri Jul 04 17:20:04 2031

# Fingerprint (SHA-256):

EA:A9:62:C4:FA:4A:6B:AF:EB:E4:15:19:6D:35:1C:CD:88:8D:4F:53:F3:FA:8A:E6:D7:C4:66:A9:4E:60:42:BB

# Fingerprint (SHA1): FA:B7:EE:36:97:26:62:FB:2D:B0:2A:F6:BF:03:FD:E8:7C:4B:2F:9B

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "certSIGN ROOT CA"  
CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509  
CKA\_SUBJECT MULTILINE\_OCTAL  
\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117\061  
\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123\111  
\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145\162  
\164\123\111\107\116\040\122\117\117\124\040\103\101

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117\061  
\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123\111  
\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145\162  
\164\123\111\107\116\040\122\117\117\124\040\103\101

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\006\040\006\005\026\160\002

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\070\060\202\002\040\240\003\002\001\002\002\006\040  
\006\005\026\160\002\060\015\006\011\052\206\110\206\367\015\001  
\001\005\005\000\060\073\061\013\060\011\006\003\125\004\006\023  
\002\122\117\061\021\060\017\006\003\125\004\012\023\010\143\145  
\162\164\123\111\107\116\061\031\060\027\006\003\125\004\013\023  
\020\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103  
\101\060\036\027\015\060\066\060\067\060\064\061\067\062\060\060  
\064\132\027\015\063\061\060\067\060\064\061\067\062\060\060\064  
\132\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117  
\061\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123  
\111\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145  
\162\164\123\111\107\116\040\122\117\117\124\040\103\101\060\202  
\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005  
\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000\267  
\063\271\176\310\045\112\216\265\333\264\050\033\252\127\220\350  
\321\042\323\144\272\323\223\350\324\254\206\141\100\152\140\127  
\150\124\204\115\274\152\124\002\005\377\337\233\232\052\256\135  
\007\217\112\303\050\177\357\373\053\372\171\361\307\255\360\020  
\123\044\220\213\146\311\250\210\253\257\132\243\000\351\276\272  
\106\356\133\163\173\054\027\202\201\136\142\054\241\002\145\263  
\275\305\053\000\176\304\374\003\063\127\015\355\342\372\316\135  
\105\326\070\315\065\266\262\301\320\234\201\112\252\344\262\001  
\134\035\217\137\231\304\261\255\333\210\041\353\220\010\202\200  
\363\060\243\103\346\220\202\256\125\050\111\355\133\327\251\020  
\070\016\376\217\114\133\233\106\352\101\365\260\010\164\303\320  
\210\063\266\174\327\164\337\334\204\321\103\016\165\071\241\045  
\100\050\352\170\313\016\054\056\071\235\214\213\156\026\034\057  
\046\202\020\342\343\145\224\012\004\300\136\367\135\133\370\020  
\342\320\272\172\113\373\336\067\000\000\032\133\050\343\322\234  
\163\076\062\207\230\241\311\121\057\327\336\254\063\263\117\002  
\003\001\000\001\243\102\060\100\060\017\006\003\125\035\023\001  
\001\377\004\005\060\003\001\001\377\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\001\306\060\035\006\003\125\035\016  
\004\026\004\024\340\214\233\333\045\111\263\361\174\206\326\262  
\102\207\013\320\153\240\331\344\060\015\006\011\052\206\110\206

```
\367\015\001\001\005\005\000\003\202\001\001\000\076\322\034\211
\056\065\374\370\165\335\346\177\145\210\364\162\114\311\054\327
\062\116\363\335\031\171\107\275\216\073\133\223\017\120\111\044
\023\153\024\006\162\357\011\323\241\241\343\100\204\311\347\030
\062\164\074\110\156\017\237\113\324\367\036\323\223\206\144\124
\227\143\162\120\325\125\317\372\040\223\002\242\233\303\043\223
\116\026\125\166\240\160\171\155\315\041\037\317\057\055\274\031
\343\210\061\370\131\032\201\011\310\227\246\164\307\140\304\133
\314\127\216\262\165\375\033\002\011\333\131\157\162\223\151\367
\061\101\326\210\070\277\207\262\275\026\171\371\252\344\276\210
\045\335\141\047\043\034\265\061\007\004\066\264\032\220\275\240
\164\161\120\211\155\274\024\343\017\206\256\361\253\076\307\240
\011\314\243\110\321\340\333\144\347\222\265\317\257\162\103\160
\213\371\303\204\074\023\252\176\222\233\127\123\223\372\160\302
\221\016\061\371\233\147\135\351\226\070\136\137\263\163\116\210
\025\147\336\236\166\020\142\040\276\125\151\225\103\000\071\115
\366\356\260\132\116\111\104\124\130\137\102\203
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "certSIGN ROOT CA"

# Issuer: OU=certSIGN ROOT CA,O=certSIGN,C=RO

# Serial Number:20:06:05:16:70:02

# Subject: OU=certSIGN ROOT CA,O=certSIGN,C=RO

# Not Valid Before: Tue Jul 04 17:20:04 2006

# Not Valid After : Fri Jul 04 17:20:04 2031

# Fingerprint (SHA-256):

EA:A9:62:C4:FA:4A:6B:AF:EB:E4:15:19:6D:35:1C:CD:88:8D:4F:53:F3:FA:8A:E6:D7:C4:66:A9:4E:60:42:BB

#

Fingerprint (SHA1): FA:B7:EE:36:97:26:62:FB:2D:B0:2A:F6:BF:03:FD:E8:7C:4B:2F:9B

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "certSIGN ROOT CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\372\267\356\066\227\046\142\373\055\260\052\366\277\003\375\350
\174\113\057\233
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\030\230\300\326\351\072\374\371\260\365\014\367\113\001\104\027
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123\111
```

```

\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145\162
\164\123\111\107\116\040\122\117\117\124\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\006\040\006\005\026\160\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

#
Certificate "NetLock Arany (Class Gold) Ftanúsítvány"
#
Issuer: CN=NetLock Arany (Class Gold) F..tan...s..tv...ny,OU=Tan...s..tv...nykiad..k (Certification
Services),O=NetLock Kft.,L=Budapest,C=HU
Serial Number:49:41:2c:e4:00:10
Subject: CN=NetLock Arany (Class Gold) F..tan...s..tv...ny,OU=Tan...s..tv...nykiad..k (Certification
Services),O=NetLock Kft.,L=Budapest,C=HU
Not Valid Before: Thu Dec 11 15:08:21 2008
Not Valid After : Wed Dec 06 15:08:21 2028
Fingerprint (SHA-256):
6C:61:DA:C3:A2:DE:F0:31:50:6B:E0:36:D2:A6:FE:40:19:94:FB:D1:3D:F9:C8:D4:66:59:92:74:C4:46:EC:98
Fingerprint (SHA1): 06:08:3F:59:3F:15:A1:04:A0:69:A4:6B:A9:03:D0:06:B7:97:09:91
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "NetLock Arany (Class Gold) Ftanúsítvány"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\247\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\025\060\023\006\003\125\004\012\014\014\116\145
\164\114\157\143\153\040\113\146\164\056\061\067\060\065\006\003
\125\004\013\014\056\124\141\156\303\272\163\303\255\164\166\303
\241\156\171\153\151\141\144\303\263\153\040\050\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\123\145\162\166\151\143
\145\163\051\061\065\060\063\006\003\125\004\003\014\054\116\145
\164\114\157\143\153\040\101\162\141\156\171\040\050\103\154\141
\163\163\040\107\157\154\144\051\040\106\305\221\164\141\156\303
\272\163\303\255\164\166\303\241\156\171
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\247\061\013\060\011\006\003\125\004\006\023\002\110\125

```



\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160  
\145\163\164\061\025\060\023\006\003\125\004\012\014\014\116\145  
\164\114\157\143\153\040\113\146\164\056\061\067\060\065\006\003  
\125\004\013\014\056\124\141\156\303\272\163\303\255\164\166\303  
\241\156\171\153\151\141\144\303\263\153\040\050\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\123\145\162\166\151\143  
\145\163\051\061\065\060\063\006\003\125\004\003\014\054\116\145  
\164\114\157\143\153\040\101\162\141\156\171\040\050\103\154\141  
\163\163\040\107\157\154\144\051\040\106\305\221\164\141\156\303  
\272\163\303\255\164\166\303\241\156\171

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\006\111\101\054\344\000\020

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\025\060\202\002\375\240\003\002\001\002\002\006\111  
\101\054\344\000\020\060\015\006\011\052\206\110\206\367\015\001  
\001\013\005\000\060\201\247\061\013\060\011\006\003\125\004\006  
\023\002\110\125\061\021\060\017\006\003\125\004\007\014\010\102  
\165\144\141\160\145\163\164\061\025\060\023\006\003\125\004\012  
\014\014\116\145\164\114\157\143\153\040\113\146\164\056\061\067  
\060\065\006\003\125\004\013\014\056\124\141\156\303\272\163\303  
\255\164\166\303\241\156\171\153\151\141\144\303\263\153\040\050  
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145  
\162\166\151\143\145\163\051\061\065\060\063\006\003\125\004\003  
\014\054\116\145\164\114\157\143\153\040\101\162\141\156\171\040  
\050\103\154\141\163\163\040\107\157\154\144\051\040\106\305\221  
\164\141\156\303\272\163\303\255\164\166\303\241\156\171\060\036  
\027\015\060\070\061\062\061\061\061\065\060\070\062\061\132\027  
\015\062\070\061\062\060\066\061\065\060\070\062\061\132\060\201  
\247\061\013\060\011\006\003\125\004\006\023\002\110\125\061\021  
\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145\163  
\164\061\025\060\023\006\003\125\004\012\014\014\116\145\164\114  
\157\143\153\040\113\146\164\056\061\067\060\065\006\003\125\004  
\013\014\056\124\141\156\303\272\163\303\255\164\166\303\241\156  
\171\153\151\141\144\303\263\153\040\050\103\145\162\164\151\146  
\151\143\141\164\151\157\156\040\123\145\162\166\151\143\145\163  
\051\061\065\060\063\006\003\125\004\003\014\054\116\145\164\114  
\157\143\153\040\101\162\141\156\171\040\050\103\154\141\163\163  
\040\107\157\154\144\051\040\106\305\221\164\141\156\303\272\163  
\303\255\164\166\303\241\156\171\060\202\001\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000  
\060\202\001\012\002\202\001\001\000\304\044\136\163\276\113\155  
\024\303\241\364\343\227\220\156\322\060\105\036\074\356\147\331  
\144\340\032\212\177\312\060\312\203\343\040\301\343\364\072\323  
\224\137\032\174\133\155\277\060\117\204\047\366\237\037\111\274  
\306\231\012\220\362\017\365\177\103\204\067\143\121\213\172\245

\160\374\172\130\315\216\233\355\303\106\154\204\160\135\332\363  
\001\220\043\374\116\060\251\176\341\047\143\347\355\144\074\240  
\270\311\063\143\376\026\220\377\260\270\375\327\250\300\300\224  
\103\013\266\325\131\246\236\126\320\044\037\160\171\257\333\071  
\124\015\145\165\331\025\101\224\001\257\136\354\366\215\361\377  
\255\144\376\040\232\327\134\353\376\246\037\010\144\243\213\166  
\125\255\036\073\050\140\056\207\045\350\252\257\037\306\144\106  
\040\267\160\177\074\336\110\333\226\123\267\071\167\344\032\342  
\307\026\204\166\227\133\057\273\031\025\205\370\151\205\365\231  
\247\251\362\064\247\251\266\246\003\374\157\206\075\124\174\166  
\004\233\153\371\100\135\000\064\307\056\231\165\235\345\210\003  
\252\115\370\003\322\102\166\300\033\002\003\000\250\213\243\105  
\060\103\060\022\006\003\125\035\023\001\001\377\004\010\060\006  
\001\001\377\002\001\004\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004  
\024\314\372\147\223\360\266\270\320\245\300\036\363\123\375\214  
\123\337\203\327\226\060\015\006\011\052\206\110\206\367\015\001  
\001\013\005\000\003\202\001\001\000\253\177\356\034\026\251\234  
\074\121\000\240\300\021\010\005\247\231\346\157\001\210\124\141  
\156\361\271\030\255\112\255\376\201\100\043\224\057\373\165\174  
\057\050\113\142\044\201\202\013\365\141\361\034\156\270\141\070  
\353\201\372\142\241\073\132\142\323\224\145\304\341\346\155\202  
\370\057\045\160\262\041\046\301\162\121\037\214\054\303\204\220  
\303\132\217\272\317\364\247\145\245\353\230\321\373\005\262\106  
\165\025\043\152\157\205\143\060\200\360\325\236\037\051\034\302  
\154\260\120\131\135\220\133\073\250\015\060\317\277\175\177\316  
\361\235\203\275\311\106\156\040\246\371\141\121\272\041\057\173  
\276\245\025\143\241\324\225\207\361\236\271\363\211\363\075\205  
\270\270\333\276\265\271\051\371\332\067\005\000\111\224\003\204  
\104\347\277\103\061\317\165\213\045\321\364\246\144\365\222\366  
\253\005\353\075\351\245\013\066\142\332\314\006\137\066\213\266  
\136\061\270\052\373\136\366\161\337\104\046\236\304\346\015\221  
\264\056\165\225\200\121\152\113\060\246\260\142\241\223\361\233  
\330\316\304\143\165\077\131\107\261

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "NetLock Arany (Class Gold) Ftanúsítvány"

# Issuer:

CN=NetLock Arany (Class Gold) F.tan..s..tv..ny,OU=Tan..s..tv..nykiad..k (Certification Services),O=NetLock Kft.,L=Budapest,C=HU

# Serial Number:49:41:2c:e4:00:10

# Subject: CN=NetLock Arany (Class Gold) F.tan..s..tv..ny,OU=Tan..s..tv..nykiad..k (Certification Services),O=NetLock Kft.,L=Budapest,C=HU

# Not Valid Before: Thu Dec 11 15:08:21 2008

```
Not Valid After : Wed Dec 06 15:08:21 2028
Fingerprint (SHA-256):
6C:61:DA:C3:A2:DE:F0:31:50:6B:E0:36:D2:A6:FE:40:19:94:FB:D1:3D:F9:C8:D4:66:59:92:74:C4:46:EC:98
Fingerprint (SHA1): 06:08:3F:59:3F:15:A1:04:A0:69:A4:6B:A9:03:D0:06:B7:97:09:91
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "NetLock Arany (Class Gold) Ftanúsítvány"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\006\010\077\131\077\025\241\004\240\151\244\153\251\003\320\006
\267\227\011\221
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\305\241\267\377\163\335\326\327\064\062\030\337\374\074\255\210
END
CKA_ISSUER
MULTILINE_OCTAL
\060\201\247\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\025\060\023\006\003\125\004\012\014\014\116\145
\164\114\157\143\153\040\113\146\164\056\061\067\060\065\006\003
\125\004\013\014\056\124\141\156\303\272\163\303\255\164\166\303
\241\156\171\153\151\141\144\303\263\153\040\050\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\123\145\162\166\151\143
\145\163\051\061\065\060\063\006\003\125\004\003\014\054\116\145
\164\114\157\143\153\040\101\162\141\156\171\040\050\103\154\141
\163\163\040\107\157\154\144\051\040\106\305\221\164\141\156\303
\272\163\303\255\164\166\303\241\156\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\006\111\101\054\344\000\020
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

#
Certificate "Hongkong Post Root CA 1"
#
Issuer: CN=Hongkong Post Root CA 1,O=Hongkong Post,C=HK
Serial Number: 1000 (0x3e8)
Subject: CN=Hongkong Post Root CA 1,O=Hongkong Post,C=HK
Not Valid Before: Thu May 15 05:13:14 2003
Not Valid After : Mon May 15 04:52:29 2023
Fingerprint (SHA-256):
```

F9:E6:7D:33:6C:51:00:2A:C0:54:C6:32:02:2D:66:DD:A2:E7:E3:FF:F1:0A:D0:61:ED:31:D8:BB:B4:10:CF:B2  
# Fingerprint (SHA1): D6:DA:A8:20:8D:09:D2:15:4D:24:B5:2F:CB:34:6E:B2:58:B2:8A:58  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "Hongkong Post Root CA 1"  
CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509  
CKA\_SUBJECT MULTILINE\_OCTAL  
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061  
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157  
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003  
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040  
\122\157\157\164\040\103\101\040\061  
END  
CKA\_ID  
UTF8 "0"  
CKA\_ISSUER MULTILINE\_OCTAL  
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061  
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157  
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003  
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040  
\122\157\157\164\040\103\101\040\061  
END  
CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\002\003\350  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\003\060\060\202\002\030\240\003\002\001\002\002\002\003  
\350\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000  
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061  
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157  
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003  
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040  
\122\157\157\164\040\103\101\040\061\060\036\027\015\060\063\060  
\065\061\065\060\065\061\063\061\064\132\027\015\062\063\060\065  
\061\065\060\064\065\062\062\071\132\060\107\061\013\060\011\006  
\003\125\004\006\023\002\110\113\061\026\060\024\006\003\125\004  
\012\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164  
\061\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153  
\157\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101  
\040\061\060\202\001\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202  
\001\001\000\254\377\070\266\351\146\002\111\343\242\264\341\220  
\371\100\217\171\371\342\275\171\376\002\275\356\044\222\035\042  
\366\332\205\162\151\376\327\077\011\324\335\221\265\002\234\320  
\215\132\341\125\303\120\206\271\051\046\302\343\331\240\361\151  
\003\050\040\200\105\042\055\126\247\073\124\225\126\042\131\037

\050\337\037\040\075\155\242\066\276\043\240\261\156\265\261\047  
\077\071\123\011\352\253\152\350\164\262\302\145\134\216\277\174  
\303\170\204\315\236\026\374\365\056\117\040\052\010\237\167\363  
\305\036\304\232\122\146\036\110\136\343\020\006\217\042\230\341  
\145\216\033\135\043\146\073\270\245\062\121\310\206\252\241\251  
\236\177\166\224\302\246\154\267\101\360\325\310\006\070\346\324  
\014\342\363\073\114\155\120\214\304\203\047\301\023\204\131\075  
\236\165\164\266\330\002\136\072\220\172\300\102\066\162\354\152  
\115\334\357\304\000\337\023\030\127\137\046\170\310\326\012\171  
\167\277\367\257\267\166\271\245\013\204\027\135\020\352\157\341  
\253\225\021\137\155\074\243\134\115\203\133\362\263\031\212\200  
\213\013\207\002\003\001\000\001\243\046\060\044\060\022\006\003  
\125\035\023\001\001\377\004\010\060\006\001\001\377\002\001\003  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\306  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003  
\202\001\001\000\016\106\325\074\256\342\207\331\136\201\213\002  
\230\101\010\214\114\274\332\333\356\047\033\202\347\152\105\354  
\026\213\117\205\240\363\262\160\275\132\226\272\312\156\155\356  
\106\213\156\347\052\056\226\263\031\063\353\264\237\250\262\067  
\356\230\250\227\266\056\266\147\047\324\246\111\375\034\223\145  
\166\236\102\057\334\042\154\232\117\362\132\025\071\261\161\327  
\053\121\350\155\034\230\300\331\052\364\241\202\173\325\311\101  
\242\043\001\164\070\125\213\017\271\056\147\242\040\004\067\332  
\234\013\323\027\041\340\217\227\171\064\157\204\110\002\040\063  
\033\346\064\104\237\221\160\364\200\136\204\103\302\051\322\154  
\022\024\344\141\215\254\020\220\236\204\120\273\360\226\157\105  
\237\212\363\312\154\117\372\021\072\025\025\106\303\315\037\203  
\133\055\101\022\355\120\147\101\023\075\041\253\224\212\252\116  
\174\301\261\373\247\326\265\047\057\227\253\156\340\035\342\321  
\034\054\037\104\342\374\276\221\241\234\373\326\051\123\163\206  
\237\123\330\103\016\135\326\143\202\161\035\200\164\312\366\342  
\002\153\331\132

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Hongkong Post Root CA

1"

# Issuer: CN=Hongkong Post Root CA 1,O=Hongkong Post,C=HK

# Serial Number: 1000 (0x3e8)

# Subject: CN=Hongkong Post Root CA 1,O=Hongkong Post,C=HK

# Not Valid Before: Thu May 15 05:13:14 2003

# Not Valid After : Mon May 15 04:52:29 2023

# Fingerprint (SHA-256):

F9:E6:7D:33:6C:51:00:2A:C0:54:C6:32:02:2D:66:DD:A2:E7:E3:FF:F1:0A:D0:61:ED:31:D8:BB:B4:10:CF:B2

# Fingerprint (SHA1): D6:DA:A8:20:8D:09:D2:15:4D:24:B5:2F:CB:34:6E:B2:58:B2:8A:58

```

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Hongkong Post Root CA 1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\326\332\250\040\215\011\322\025\115\044\265\057\313\064\156\262
\130\262\212\130
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\250\015\157\071\170\271\103\155\167\102\155\230\132\314\043\312
END
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040
\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\002\003\350
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "SecureSign RootCA11"
#
Issuer: CN=SecureSign RootCA11,O="Japan Certification Services, Inc.",C=JP
Serial Number: 1 (0x1)
Subject: CN=SecureSign RootCA11,O="Japan Certification Services, Inc.",C=JP
Not Valid Before: Wed Apr 08 04:56:47 2009
Not Valid After : Sun Apr 08 04:56:47 2029
Fingerprint (SHA-256):
BF:0F:EE:FB:9E:3A:58:1A:D5:F9:E9:DB:75:89:98:57:43:D2:61:08:5C:4D:31:4F:6F:5D:72:59:AA:42:16:12
Fingerprint (SHA1): 3B:C4:9F:48:F8:F3:73:A0:9C:1E:BD:F8:5B:B1:C3:65:C7:D8:11:B3
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN
CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SecureSign RootCA11"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061

```

\053\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040  
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145  
\162\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032  
\006\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147  
\156\040\122\157\157\164\103\101\061\061

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061  
\053\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040  
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145  
\162\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032  
\006\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147  
\156\040\122\157\157\164\103\101\061\061

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\001

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\155\060\202\002\125\240\003\002\001\002\002\001\001  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060  
\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061\053  
\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040\103  
\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145\162  
\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032\006  
\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147\156  
\040\122\157\157\164\103\101\061\061\060\036\027\015\060\071\060  
\064\060\070\060\064\065\066\064\067\132\027\015\062\071\060\064  
\060\070\060\064\065\066\064\067\132\060\130\061\013\060\011\006  
\003\125\004\006\023\002\112\120\061\053\060\051\006\003\125\004  
\012\023\042\112\141\160\141\156\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\123\145\162\166\151\143\145\163\054  
\040\111\156\143\056\061\034\060\032\006\003\125\004\003\023\023  
\123\145\143\165\162\145\123\151\147\156\040\122\157\157\164\103  
\101\061\061\060\202\001\042\060\015\006\011\052\206\110\206\367  
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002  
\202\001\001\000\375\167\252\245\034\220\005\073\313\114\233\063  
\213\132\024\105\244\347\220\026\321\337\127\322\041\020\244\027  
\375\337\254\326\037\247\344\333\174\367\354\337\270\003\332\224  
\130\375\135\162\174\214\077\137\001\147\164\025\226\343\002\074  
\207\333\256\313\001\216\302\363\146\306\205\105\364\002\306\072  
\265\142\262\257\372\234\277\244\346\324\200\060\230\363\015\266  
\223\217\251\324\330\066\362\260\374\212\312\054\241\025\063\225  
\061\332\300\033\362\356\142\231\206\143\077\277\335\223\052\203  
\250\166\271\023\037\267\316\116\102\205\217\042\347\056\032\362  
\225\011\262\005\265\104\116\167\241\040\275\251\362\116\012\175  
\120\255\365\005\015\105\117\106\161\375\050\076\123\373\004\330

\055\327\145\035\112\033\372\317\073\260\061\232\065\156\310\213  
\006\323\000\221\362\224\010\145\114\261\064\006\000\172\211\342  
\360\307\003\131\317\325\326\350\247\062\263\346\230\100\206\305  
\315\047\022\213\314\173\316\267\021\074\142\140\007\043\076\053  
\100\156\224\200\011\155\266\263\157\167\157\065\010\120\373\002  
\207\305\076\211\002\003\001\000\001\243\102\060\100\060\035\006  
\003\125\035\016\004\026\004\024\133\370\115\117\262\245\206\324  
\072\322\361\143\232\240\276\011\366\127\267\336\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\015\006  
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001  
\000\240\241\070\026\146\056\247\126\037\041\234\006\372\035\355  
\271\042\305\070\046\330\116\117\354\243\177\171\336\106\041\241  
\207\167\217\007\010\232\262\244\305\257\017\062\230\013\174\146  
\051\266\233\175\045\122\111\103\253\114\056\053\156\172\160\257  
\026\016\343\002\154\373\102\346\030\235\105\330\125\310\350\073  
\335\347\341\364\056\013\034\064\134\154\130\112\373\214\210\120  
\137\225\034\277\355\253\042\265\145\263\205\272\236\017\270\255  
\345\172\033\212\120\072\035\275\015\274\173\124\120\013\271\102  
\257\125\240\030\201\255\145\231\357\276\344\234\277\304\205\253  
\101\262\124\157\334\045\315\355\170\342\216\014\215\011\111\335  
\143\173\132\151\226\002\041\250\275\122\131\351\175\065\313\310  
\122\312\177\201\376\331\153\323\367\021\355\045\337\370\347\371  
\244\372\162\227\204\123\015\245\320\062\030\121\166\131\024\154  
\017\353\354\137\200\214\165\103\203\303\205\230\377\114\236\055  
\015\344\167\203\223\116\265\226\007\213\050\023\233\214\031\215  
\101\047\111\100\356\336\346\043\104\071\334\241\042\326\272\003  
\362

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SecureSign RootCA11"

# Issuer: CN=SecureSign RootCA11,O="Japan Certification Services, Inc.",C=JP

# Serial Number: 1 (0x1)

# Subject: CN=SecureSign RootCA11,O="Japan Certification Services, Inc.",C=JP

#

Not Valid Before: Wed Apr 08 04:56:47 2009

# Not Valid After : Sun Apr 08 04:56:47 2029

# Fingerprint (SHA-256):

BF:0F:EE:FB:9E:3A:58:1A:D5:F9:E9:DB:75:89:98:57:43:D2:61:08:5C:4D:31:4F:6F:5D:72:59:AA:42:16:12

# Fingerprint (SHA1): 3B:C4:9F:48:F8:F3:73:A0:9C:1E:BD:F8:5B:B1:C3:65:C7:D8:11:B3

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE



```

CKA_LABEL UTF8 "SecureSign RootCA11"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\073\304\237\110\370\363\163\240\234\036\275\370\133\261\303\145
\307\330\021\263
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\267\122\164\342\222\264\200\223\362\165\344\314\327\362\352\046
END
CKA_ISSUER MULTILINE_OCTAL
\060\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\053\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145
\162\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032
\006\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147
\156\040\122\157\157\164\103\101\061\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Microsec e-Szigno Root CA 2009"
#
Issuer: E=info@e-szigno.hu,CN=Microsec e-Szigno Root CA 2009,O=Microsec Ltd.,L=Budapest,C=HU
Serial Number:00:c2:7e:43:04:4e:47:3f:19
Subject: E=info@e-szigno.hu,CN=Microsec e-Szigno Root CA 2009,O=Microsec Ltd.,L=Budapest,C=HU
Not Valid Before: Tue Jun 16 11:30:18 2009
Not Valid After : Sun Dec 30 11:30:18 2029
Fingerprint (SHA-256):
3C:5F:81:FE:A5:FA:B8:2C:64:BF:A2:EA:EC:AF:CD:E8:E0:77:FC:86:20:A7:CA:E5:37:16:3D:F3:6E:DB:F3:78
Fingerprint (SHA1): 89:DF:74:FE:5C:F4:0F:4A:80:F9:E3:37:7D:54:DA:91:E1:01:31:8E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE
CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsec e-Szigno Root CA 2009"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151
\143\162\157\163\145\143\040\114\164\144\056\061\047\060\045\006

```

\003\125\004\003\014\036\115\151\143\162\157\163\145\143\040\145  
\055\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040  
\062\060\060\071\061\037\060\035\006\011\052\206\110\206\367\015  
\001\011\001\026\020\151\156\146\157\100\145\055\163\172\151\147  
\156\157\056\150\165

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\110\125  
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160  
\145\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151  
\143\162\157\163\145\143\040\114\164\144\056\061\047\060\045\006  
\003\125\004\003\014\036\115\151\143\162\157\163\145\143\040\145  
\055\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040  
\062\060\060\071\061\037\060\035\006\011\052\206\110\206\367\015  
\001\011\001\026\020\151\156\146\157\100\145\055\163\172\151\147  
\156\157\056\150\165

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\011\000\302\176\103\004\116\107\077\031

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\012\060\202\002\362\240\003\002\001\002\002\011\000  
\302\176\103\004\116\107\077\031\060\015\006\011\052\206\110\206  
\367\015\001\001\013\005\000\060\201\202\061\013\060\011\006\003  
\125\004\006\023\002\110\125\061\021\060\017\006\003\125\004\007  
\014\010\102\165\144\141\160\145\163\164\061\026\060\024\006\003  
\125\004\012\014\015\115\151\143\162\157\163\145\143\040\114\164  
\144\056\061\047\060\045\006\003\125\004\003\014\036\115\151\143  
\162\157\163\145\143\040\145\055\123\172\151\147\156\157\040\122  
\157\157\164\040\103\101\040\062\060\060\071\061\037\060\035\006  
\011\052\206\110\206\367\015\001\011\001\026\020\151\156\146\157  
\100\145\055\163\172\151\147\156\157\056\150\165\060\036\027\015  
\060\071\060\066\061\066\061\061\063\060\061\070\132\027\015\062  
\071\061\062\063\060\061\061\063\060\061\070\132\060\201\202\061  
\013\060\011\006\003\125\004\006\023\002\110\125\061\021\060\017  
\006\003\125\004\007\014\010\102\165\144\141\160\145\163\164\061  
\026\060\024\006\003\125\004\012\014\015\115\151\143\162\157\163  
\145\143\040\114\164\144\056\061\047\060\045\006\003\125\004\003  
\014\036\115\151\143\162\157\163\145\143\040\145\055\123\172\151  
\147\156\157\040\122\157\157\164\040\103\101\040\062\060\060\071  
\061\037\060\035\006\011\052\206\110\206\367\015\001\011\001\026  
\020\151\156\146\157\100\145\055\163\172\151\147\156\157\056\150  
\165\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001  
\001\000\351\370\217\363\143\255\332\206\330\247\340\102\373\317  
\221\336\246\046\370\231\245\143\160\255\233\256\312\063\100\175

\155\226\156\241\016\104\356\341\023\235\224\102\122\232\275\165  
\205\164\054\250\016\035\223\266\030\267\214\054\250\317\373\134  
\161\271\332\354\376\350\176\217\344\057\035\262\250\165\207\330  
\267\241\345\073\317\231\112\106\320\203\031\175\300\241\022\034  
\225\155\112\364\330\307\245\115\063\056\205\071\100\165\176\024  
\174\200\022\230\120\307\101\147\270\240\200\141\124\246\154\116  
\037\340\235\016\007\351\311\272\063\347\376\300\125\050\054\002  
\200\247\031\365\236\334\125\123\003\227\173\007\110\377\231\373  
\067\212\044\304\131\314\120\020\143\216\252\251\032\260\204\032  
\206\371\137\273\261\120\156\244\321\012\314\325\161\176\037\247  
\033\174\365\123\156\042\137\313\053\346\324\174\135\256\326\302  
\306\114\345\005\001\331\355\127\374\301\043\171\374\372\310\044  
\203\225\363\265\152\121\001\320\167\326\351\022\241\371\032\203  
\373\202\033\271\260\227\364\166\006\063\103\111\240\377\013\265  
\372\265\002\003\001\000\001\243\201\200\060\176\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006  
\003\125\035\016\004\026\004\024\313\017\306\337\102\103\314\075  
\313\265\110\043\241\032\172\246\052\273\064\150\060\037\006\003  
\125\035\043\004\030\060\026\200\024\313\017\306\337\102\103\314  
\075\313\265\110\043\241\032\172\246\052\273\064\150\060\033\006  
\003\125\035\021\004\024\060\022\201\020\151\156\146\157\100\145  
\055\163\172\151\147\156\157\056\150\165\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\003\202\001\001\000\311\321  
\016\136\056\325\314\263\174\076\313\374\075\377\015\050\225\223  
\004\310\277\332\315\171\270\103\220\360\244\276\357\362\357\041  
\230\274\324\324\135\006\366\356\102\354\060\154\240\252\251\312  
\361\257\212\372\077\013\163\152\076\352\056\100\176\037\256\124  
\141\171\353\056\010\067\327\043\363\214\237\276\035\261\341\244  
\165\333\240\342\124\024\261\272\034\051\244\030\366\022\272\242  
\024\024\343\061\065\310\100\377\267\340\005\166\127\301\034\131  
\362\370\277\344\355\045\142\134\204\360\176\176\037\263\276\371  
\267\041\021\314\003\001\126\160\247\020\222\036\033\064\201\036  
\255\234\032\303\004\074\355\002\141\326\036\006\363\137\072\207  
\362\053\361\105\207\345\075\254\321\307\127\204\275\153\256\334  
\330\371\266\033\142\160\013\075\066\311\102\362\062\327\172\141  
\346\322\333\075\317\310\251\311\233\334\333\130\104\327\157\070  
\257\177\170\323\243\255\032\165\272\034\301\066\174\217\036\155  
\034\303\165\106\256\065\005\246\366\134\075\041\356\126\360\311  
\202\042\055\172\124\253\160\303\175\042\145\202\160\226

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Microsec e-Szigno Root CA 2009"

# Issuer: E=info@e-szigno.hu,CN=Microsec e-Szigno Root CA 2009,O=Microsec Ltd.,L=Budapest,C=HU

```
Serial Number:00:c2:7e:43:04:4e:47:3f:19
Subject: E=info@e-szigno.hu,CN=Microsec
e-Szigno Root CA 2009,O=Microsec Ltd.,L=Budapest,C=HU
Not Valid Before: Tue Jun 16 11:30:18 2009
Not Valid After : Sun Dec 30 11:30:18 2029
Fingerprint (SHA-256):
3C:5F:81:FE:A5:FA:B8:2C:64:BF:A2:EA:EC:AF:CD:E8:E0:77:FC:86:20:A7:CA:E5:37:16:3D:F3:6E:DB:F3:78
Fingerprint (SHA1): 89:DF:74:FE:5C:F4:0F:4A:80:F9:E3:37:7D:54:DA:91:E1:01:31:8E
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsec e-Szigno Root CA 2009"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\211\337\164\376\134\364\017\112\200\371\343\067\175\124\332\221
\341\001\061\216
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\370\111\364\003\274\104\055\203\276\110\151\175\051\144\374\261
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151
\143\162\157\163\145\143\040\114\164\144\056\061\047\060\045\006
\003\125\004\003\014\036\115\151\143\162\157\163\145\143\040\145
\055\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040
\062\060\060\071\061\037\060\035\006\011\052\206\110\206\367\015
\001\011\001\026\020\151\156\146\157\100\145\055\163\172\151\147
\156\157\056\150\165
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\011\000\302\176\103\004\116\107\077\031
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GlobalSign Root CA - R3"
#
Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R3
Serial Number:04:00:00:00:00:01:21:58:53:08:a2
Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R3
Not Valid Before: Wed Mar 18 10:00:00 2009
Not Valid After : Sun Mar 18 10:00:00 2029
```

# Fingerprint (SHA-256):

CB:B5:22:D7:B7:F1:27:AD:6A:01:13:86:5B:DF:1C:D4:10:2E:7D:07:59:AF:63:5A:7C:F4:72:0D:C9:63:C5:3B

#

Fingerprint (SHA1): D6:9B:56:11:48:F0:1C:77:C5:45:78:C1:09:26:DF:5B:85:69:76:AD

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GlobalSign Root CA - R3"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157  
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040  
\055\040\122\063\061\023\060\021\006\003\125\004\012\023\012\107  
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125  
\004\003\023\012\107\154\157\142\141\154\123\151\147\156

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157  
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040  
\055\040\122\063\061\023\060\021\006\003\125\004\012\023\012\107  
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125  
\004\003\023\012\107\154\157\142\141\154\123\151\147\156

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\013\004\000\000\000\000\001\041\130\123\010\242

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\137\060\202\002\107\240\003\002\001\002\002\013\004  
\000\000\000\000\001\041\130\123\010\242\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\060\114\061\040\060\036\006  
\003\125\004\013\023\027\107\154\157\142\141\154\123\151\147\156  
\040\122\157\157\164\040\103\101\040\055\040\122\063\061\023\060  
\021\006\003\125\004\012\023\012\107\154\157\142\141\154\123\151  
\147\156\061\023\060\021\006\003\125\004\003\023\012\107\154\157  
\142\141\154\123\151\147\156\060\036\027\015\060\071\060\063\061\070  
\070\061\060\060\060\060\060\132\027\015\062\071\060\063\061\070  
\061\060\060\060\060\060\132\060\114\061\040\060\036\006\003\125  
\004\013\023\027\107\154\157\142\141\154\123\151\147\156\040\122  
\157\157\164\040\103\101\040\055\040\122\063\061\023\060\021\006  
\003\125\004\012\023\012\107\154\157\142\141\154\123\151\147\156  
\061\023\060\021\006\003\125\004\003\023\012\107\154\157\142\141  
\154\123\151\147\156\060\202\001\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001  
\012\002\202\001\001\000\314\045\166\220\171\006\170\042\026\365  
\300\203\266\204\312\050\236\375\005\166\021\305\255\210\162\374

\106\002\103\307\262\212\235\004\137\044\313\056\113\341\140\202  
\106\341\122\253\014\201\107\160\154\335\144\321\353\365\054\243  
\017\202\075\014\053\256\227\327\266\024\206\020\171\273\073\023  
\200\167\214\010\341\111\322\152\142\057\037\136\372\226\150\337  
\211\047\225\070\237\006\327\076\311\313\046\131\015\163\336\260  
\310\351\046\016\203\025\306\357\133\213\322\004\140\312\111\246  
\050\366\151\073\366\313\310\050\221\345\235\212\141\127\067\254  
\164\024\334\164\340\072\356\162\057\056\234\373\320\273\277\365  
\075\000\341\006\063\350\202\053\256\123\246\072\026\163\214\335  
\101\016\040\072\300\264\247\241\351\262\117\220\056\062\140\351  
\127\313\271\004\222\150\150\345\070\046\140\165\262\237\167\377  
\221\024\357\256\040\111\374\255\100\025\110\321\002\061\141\031  
\136\270\227\357\255\167\267\144\232\172\277\137\301\023\357\233  
\142\373\015\154\340\124\151\026\251\003\332\156\351\203\223\161  
\166\306\151\205\202\027\002\003\001\000\001\243\102\060\100\060  
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\035\006\003\125\035\016\004\026\004\024\217\360\113\177\250  
\056\105\044\256\115\120\372\143\232\213\336\342\335\033\274\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202  
\001\001\000\113\100\333\300\120\252\376\310\014\357\367\226\124  
\105\111\273\226\000\011\101\254\263\023\206\206\050\007\063\312  
\153\346\164\271\272\000\055\256\244\012\323\365\361\361\017\212  
\277\163\147\112\203\307\104\173\170\340\257\156\154\157\003\051  
\216\063\071\105\303\216\344\271\127\154\252\374\022\226\354\123  
\306\055\344\044\154\271\224\143\373\334\123\150\147\126\076\203  
\270\317\065\041\303\311\150\376\316\332\302\123\252\314\220\212  
\351\360\135\106\214\225\335\172\130\050\032\057\035\336\315\000  
\067\101\217\355\104\155\327\123\050\227\176\363\147\004\036\025  
\327\212\226\264\323\336\114\047\244\114\033\163\163\166\364\027  
\231\302\037\172\016\343\055\010\255\012\034\054\377\074\253\125  
\016\017\221\176\066\353\303\127\111\276\341\056\055\174\140\213  
\303\101\121\023\043\235\316\367\062\153\224\001\250\231\347\054  
\063\037\072\073\045\322\206\100\316\073\054\206\170\311\141\057  
\024\272\356\333\125\157\337\204\356\005\011\115\275\050\330\162  
\316\323\142\120\145\036\353\222\227\203\061\331\263\265\312\107  
\130\077\137

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign Root CA - R3"

# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R3

# Serial Number:04:00:00:00:00:01:21:58:53:08:a2

#

```

Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R3
Not Valid Before: Wed Mar 18 10:00:00 2009
Not Valid After : Sun Mar 18 10:00:00 2029
Fingerprint (SHA-256):
CB:B5:22:D7:B7:F1:27:AD:6A:01:13:86:5B:DF:1C:D4:10:2E:7D:07:59:AF:63:5A:7C:F4:72:0D:C9:63:C5:3B
Fingerprint (SHA1): D6:9B:56:11:48:F0:1C:77:C5:45:78:C1:09:26:DF:5B:85:69:76:AD
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root CA - R3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\326\233\126\021\110\360\034\167\305\105\170\301\011\046\337\133
\205\151\166\255
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\305\337\270\111\312\005\023\125\356\055\272\032\303\076\260\050
END
CKA_ISSUER MULTILINE_OCTAL
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\063\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\013\004\000\000\000\000\001\041\130\123\010\242
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Autoridad de Certificacion Firmaprofesional CIF A62634068"
#
Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
Serial Number:53:ec:3b:ee:fb:b2:48:5f
Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
Not Valid Before: Wed May 20 08:38:15 2009
Not Valid After : Tue Dec 31 08:38:15 2030
Fingerprint (SHA-256):
04:04:80:28:BF:1F:28:64:D4:8F:9A:D4:D8:32:94:36:6A:82:88:56:55:3F:3B:14:30:3F:90:14:7F:5D:40:EF
Fingerprint (SHA1): AE:C5:FB:3F:C8:E1:BF:C4:E5:4F:03:07:5A:9A:E8:00:B7:F7:B6:FA
CKA_CLASS
CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE

```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Autoridad de Certificacion Firmaprofesional CIF A62634068"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\010\123\354\073\356\373\262\110\137
END
CKA_VALUE MULTILINE_OCTAL
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\354\073\356\373\262\110\137\060\015\006\011\052\206\110\206\367
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CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Autoridad de Certificacion Firmaprofesional CIF A62634068"

# Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES

# Serial Number:53:ec:3b:ee:fb:b2:48:5f

# Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES

# Not Valid Before: Wed May 20 08:38:15 2009

# Not Valid After : Tue Dec 31 08:38:15 2030

# Fingerprint (SHA-256):

04:04:80:28:BF:1F:28:64:D4:8F:9A:D4:D8:32:94:36:6A:82:88:56:55:3F:3B:14:30:3F:90:14:7F:5D:40:EF

#

Fingerprint (SHA1): AE:C5:FB:3F:C8:E1:BF:C4:E5:4F:03:07:5A:9A:E8:00:B7:F7:B6:FA

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

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\267\367\266\372
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CKA_CERT_MD5_HASH MULTILINE_OCTAL
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END
CKA_ISSUER MULTILINE_OCTAL
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\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
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CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Izenpe.com"
#
Issuer: CN=Izenpe.com,O=IZENPE S.A.,C=ES
Serial Number:00:b0:b7:5a:16:48:5f:bf:e1:cb:f5:8b:d7:19:e6:7d
Subject: CN=Izenpe.com,O=IZENPE S.A.,C=ES
Not Valid Before: Thu Dec 13 13:08:28 2007
Not Valid After : Sun Dec 13 08:27:25 2037
Fingerprint (SHA-256):
25:30:CC:8E:98:32:15:02:BA:D9:6F:9B:1F:BA:1B:09:9E:2D:29:9E:0F:45:48:BB:91:4F:36:3B:C0:D4:53:1F
Fingerprint (SHA1): 2F:78:3D:25:52:18:A7:4A:65:39:71:B5:2C:A2:9C:45:15:6F:E9:19
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
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UTF8 "0"

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\167\320\135\345\201\042\041\207\376\224\175\204\330\223\255\326
\150\103\110\262\333\353\163\044\347\221\177\124\244\266\200\076
\235\243\074\114\162\302\127\304\240\324\314\070\047\316\325\006
\236\242\110\331\351\237\316\202\160\066\223\232\073\337\226\041
\343\131\267\014\332\221\067\360\375\131\132\263\231\310\151\154
\103\046\001\065\143\140\125\211\003\072\165\330\272\112\331\124
\377\356\336\200\330\055\321\070\325\136\055\013\230\175\076\154
\333\374\046\210\307
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Izenpe.com"

#

Issuer: CN=Izenpe.com,O=IZENPE S.A.,C=ES

# Serial Number:00:b0:b7:5a:16:48:5f:bf:e1:cb:f5:8b:d7:19:e6:7d

# Subject: CN=Izenpe.com,O=IZENPE S.A.,C=ES

# Not Valid Before: Thu Dec 13 13:08:28 2007

# Not Valid After : Sun Dec 13 08:27:25 2037

# Fingerprint (SHA-256):

25:30:CC:8E:98:32:15:02:BA:D9:6F:9B:1F:BA:1B:09:9E:2D:29:9E:0F:45:48:BB:91:4F:36:3B:C0:D4:53:1F

# Fingerprint (SHA1): 2F:78:3D:25:52:18:A7:4A:65:39:71:B5:2C:A2:9C:45:15:6F:E9:19

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Izenpe.com"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\057\170\075\045\122\030\247\112\145\071\161\265\054\242\234\105
```

```
\025\157\351\031
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\246\260\315\205\200\332\134\120\064\243\071\220\057\125\147\163
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\070\061\013\060\011\006\003\125\004\006\023\002\105\123\061
```

```
\024\060\022\006\003\125\004\012\014\013\111\132\105\116\120\105
```

```
\040\123\056\101\056\061\023\060\021\006\003\125\004\003\014\012
```

```
\111\172\145\156\160\145\056\143\157\155
```

END

CKA\_SERIAL\_NUMBER

```

MULTILINE_OCTAL
\002\020\000\260\267\132\026\110\137\277\341\313\365\213\327\031
\346\175
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Chambers of Commerce Root - 2008"
#
Issuer: CN=Chambers of Commerce Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
(see current address at www.camerfirma.com/address),C=EU
Serial Number:00:a3:da:42:7e:a4:b1:ae:da
Subject: CN=Chambers of Commerce Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
(see current address at www.camerfirma.com/address),C=EU
Not Valid Before: Fri Aug 01 12:29:50 2008
Not Valid After : Sat Jul 31 12:29:50 2038
Fingerprint (SHA-256):
06:3E:4A:FA:C4:91:DF:D3:32:F3:08:9B:85:42:E9:46:17:D8:93:D7:FE:94:4E:10:A7:93:7E:E2:9D:96:93:C0
#
Fingerprint (SHA1): 78:6A:74:AC:76:AB:14:7F:9C:6A:30:50:BA:9E:A8:7E:FE:9A:CE:3C
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Chambers of Commerce Root - 2008"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\256\061\013\060\011\006\003\125\004\006\023\002\105\125
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155
\141\040\123\056\101\056\061\051\060\047\006\003\125\004\003\023
\040\103\150\141\155\142\145\162\163\040\157\146\040\103\157\155
\155\145\162\143\145\040\122\157\157\164\040\055\040\062\060\060
\070
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\256\061\013\060\011\006\003\125\004\006\023\002\105\125
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151

```

\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141  
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141  
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144  
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011  
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125  
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155  
\141\040\123\056\101\056\061\051\060\047\006\003\125\004\003\023  
\040\103\150\141\155\142\145\162\163\040\157\146\040\103\157\155  
\155\145\162\143\145\040\122\157\157\164\040\055\040\062\060\060  
\070

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\011\000\243\332\102\176\244\261\256\332

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\007\117\060\202\005\067\240\003\002\001\002\002\011\000  
\243\332\102\176\244\261\256\332\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\060\201\256\061\013\060\011\006\003  
\125\004\006\023\002\105\125\061\103\060\101\006\003\125\004\007  
\023\072\115\141\144\162\151\144\040\050\163\145\145\040\143\165  
\162\162\145\156\164\040\141\144\144\162\145\163\163\040\141\164  
\040\167\167\167\056\143\141\155\145\162\146\151\162\155\141\056  
\143\157\155\057\141\144\144\162\145\163\163\051\061\022\060\020  
\006\003\125\004\005\023\011\101\070\062\067\064\063\062\070\067  
\061\033\060\031\006\003\125\004\012\023\022\101\103\040\103\141  
\155\145\162\146\151\162\155\141\040\123\056\101\056\061\051\060  
\047\006\003\125\004\003\023\040\103\150\141\155\142\145\162\163  
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157  
\164\040\055\040\062\060\060\070\060\036\027\015\060\070\060\070  
\060\061\061\062\062\071\065\060\132\027\015\063\070\060\067\063  
\061\061\062\062\071\065\060\132\060\201\256\061\013\060\011\006  
\003\125\004\006\023\002\105\125\061\103\060\101\006\003\125\004  
\007\023\072\115\141\144\162\151\144\040\050\163\145\145\040\143  
\165\162\162\145\156\164\040\141\144\144\162\145\163\163\040\141  
\164\040\167\167\167\056\143\141\155\145\162\146\151\162\155\141  
\056\143\157\155\057\141\144\144\162\145\163\163\051\061\022\060  
\020\006\003\125\004\005\023\011\101\070\062\067\064\063\062\070  
\067\061\033\060\031\006\003\125\004\012\023\022\101\103\040\103  
\141\155\145\162\146\151\162\155\141\040\123\056\101\056\061\051  
\060\047\006\003\125\004\003\023\040\103\150\141\155\142\145\162  
\163\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157  
\157\164\040\055\040\062\060\060\070\060\202\002\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017  
\000\060\202\002\012\002\202\002\001\000\257\000\313\160\067\053  
\200\132\112\072\154\170\224\175\243\177\032\037\366\065\325\275  
\333\313\015\104\162\076\046\262\220\122\272\143\073\050\130\157  
\245\263\155\224\246\363\335\144\014\125\366\366\347\362\042\042  
\200\136\341\142\306\266\051\341\201\154\362\277\345\175\062\152



\124\240\062\031\131\376\037\213\327\075\140\206\205\044\157\343  
\021\263\167\076\040\226\065\041\153\263\010\331\160\056\144\367  
\204\222\123\326\016\260\220\212\212\343\207\215\006\323\275\220  
\016\342\231\241\033\206\016\332\232\012\273\013\141\120\006\122  
\361\236\177\166\354\313\017\320\036\015\317\231\060\075\034\304  
\105\020\130\254\326\323\350\327\345\352\305\001\007\167\326\121  
\346\003\177\212\110\245\115\150\165\271\351\274\236\116\031\161  
\365\062\113\234\155\140\031\013\373\314\235\165\334\277\046\315  
\217\223\170\071\171\163\136\045\016\312\134\353\167\022\007\313  
\144\101\107\162\223\253\120\303\353\011\166\144\064\322\071\267  
\166\021\011\015\166\105\304\251\256\075\152\257\265\175\145\057  
\224\130\020\354\134\174\257\176\342\266\030\331\320\233\116\132  
\111\337\251\146\013\314\074\306\170\174\247\234\035\343\316\216  
\123\276\005\336\140\017\153\345\032\333\077\343\341\041\311\051  
\301\361\353\007\234\122\033\001\104\121\074\173\045\327\304\345  
\122\124\135\045\007\312\026\040\270\255\344\101\356\172\010\376  
\231\157\203\246\221\002\260\154\066\125\152\347\175\365\226\346  
\312\201\326\227\361\224\203\351\355\260\261\153\022\151\036\254  
\373\135\251\305\230\351\264\133\130\172\276\075\242\104\072\143  
\131\324\013\045\336\033\117\275\345\001\236\315\322\051\325\237  
\027\031\012\157\277\014\220\323\011\137\331\343\212\065\314\171  
\132\115\031\067\222\267\304\301\255\257\364\171\044\232\262\001  
\013\261\257\134\226\363\200\062\373\134\075\230\361\240\077\112  
\336\276\257\224\056\331\125\232\027\156\140\235\143\154\270\143  
\311\256\201\134\030\065\340\220\273\276\074\117\067\042\271\176  
\353\317\236\167\041\246\075\070\201\373\110\332\061\075\053\343  
\211\365\320\265\275\176\340\120\304\022\211\263\043\232\020\061  
\205\333\256\157\357\070\063\030\166\021\002\003\001\000\001\243  
\202\001\154\060\202\001\150\060\022\006\003\125\035\023\001\001  
\377\004\010\060\006\001\001\377\002\001\014\060\035\006\003\125  
\035\016\004\026\004\024\371\044\254\017\262\265\370\171\300\372  
\140\210\033\304\331\115\002\236\027\031\060\201\343\006\003\125  
\035\043\004\201\333\060\201\330\200\024\371\044\254\017\262\265  
\370\171\300\372\140\210\033\304\331\115\002\236\027\031\241\201  
\264\244\201\261\060\201\256\061\013\060\011\006\003\125\004\006  
\023\002\105\125\061\103\060\101\006\003\125\004\007\023\072\115  
\141\144\162\151\144\040\050\163\145\145\040\143\165\162\162\145  
\156\164\040\141\144\144\162\145\163\163\040\141\164\040\167\167  
\167\056\143\141\155\145\162\146\151\162\155\141\056\143\157\155  
\057\141\144\144\162\145\163\163\051\061\022\060\020\006\003\125  
\004\005\023\011\101\070\062\067\064\063\062\070\067\061\033\060  
\031\006\003\125\004\012\023\022\101\103\040\103\141\155\145\162  
\146\151\162\155\141\040\123\056\101\056\061\051\060\047\006\003  
\125\004\003\023\040\103\150\141\155\142\145\162\163\040\157\146  
\040\103\157\155\155\145\162\143\145\040\122\157\157\164\040\055  
\040\062\060\060\070\202\011\000\243\332\102\176\244\261\256\332  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006  
\060\075\006\003\125\035\040\004\066\060\064\060\062\006\004\125

\035\040\000\060\052\060\050\006\010\053\006\001\005\005\007\002  
\001\026\034\150\164\164\160\072\057\057\160\157\154\151\143\171  
\056\143\141\155\145\162\146\151\162\155\141\056\143\157\155\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202  
\002\001\000\220\022\257\042\065\302\243\071\360\056\336\351\265  
\351\170\174\110\276\077\175\105\222\136\351\332\261\031\374\026  
\074\237\264\133\146\236\152\347\303\271\135\210\350\017\255\317  
\043\017\336\045\072\136\314\117\245\301\265\055\254\044\322\130  
\007\336\242\317\151\204\140\063\350\020\015\023\251\043\320\205  
\345\216\173\246\236\075\162\023\162\063\365\252\175\306\143\037  
\010\364\376\001\177\044\317\053\054\124\011\336\342\053\155\222  
\306\071\117\026\352\074\176\172\106\324\105\152\106\250\353\165  
\202\126\247\253\240\174\150\023\063\366\235\060\360\157\047\071  
\044\043\052\220\375\220\051\065\362\223\337\064\245\306\367\370  
\357\214\017\142\112\174\256\323\365\124\370\215\266\232\126\207  
\026\202\072\063\253\132\042\010\367\202\272\352\056\340\107\232  
\264\265\105\243\005\073\331\334\056\105\100\073\352\334\177\350  
\073\353\321\354\046\330\065\244\060\305\072\254\127\236\263\166  
\245\040\173\371\036\112\005\142\001\246\050\165\140\227\222\015  
\156\076\115\067\103\015\222\025\234\030\042\315\121\231\240\051  
\032\074\137\212\062\063\133\060\307\211\057\107\230\017\243\003  
\306\366\361\254\337\062\360\331\201\032\344\234\275\366\200\024  
\360\321\054\271\205\365\330\243\261\310\245\041\345\034\023\227  
\356\016\275\337\051\251\357\064\123\133\323\344\152\023\204\006  
\266\062\002\304\122\256\042\322\334\262\041\102\032\332\100\360  
\051\311\354\012\014\134\342\320\272\314\110\323\067\012\314\022  
\012\212\171\260\075\003\177\151\113\364\064\040\175\263\064\352  
\216\113\144\365\076\375\263\043\147\025\015\004\270\360\055\301  
\011\121\074\262\154\025\360\245\043\327\203\164\344\345\056\311  
\376\230\047\102\306\253\306\236\260\320\133\070\245\233\120\336  
\176\030\230\265\105\073\366\171\264\350\367\032\173\006\203\373  
\320\213\332\273\307\275\030\253\010\157\074\200\153\100\077\031  
\031\272\145\212\346\276\325\134\323\066\327\357\100\122\044\140  
\070\147\004\061\354\217\363\202\306\336\271\125\363\073\061\221  
\132\334\265\010\025\255\166\045\012\015\173\056\207\342\014\246  
\006\274\046\020\155\067\235\354\335\170\214\174\200\305\360\331  
\167\110\320

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Chambers of Commerce Root - 2008"

# Issuer: CN=Chambers of Commerce Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid  
(see current address at [www.camerfirma.com/address](http://www.camerfirma.com/address)),C=EU

# Serial Number:00:a3:da:42:7e:a4:b1:ae:da

#

```
Subject: CN=Chambers of Commerce Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
(see current address at www.camerfirma.com/address),C=EU
Not Valid Before: Fri Aug 01 12:29:50 2008
Not Valid After : Sat Jul 31 12:29:50 2038
Fingerprint (SHA-256):
06:3E:4A:FA:C4:91:DF:D3:32:F3:08:9B:85:42:E9:46:17:D8:93:D7:FE:94:4E:10:A7:93:7E:E2:9D:96:93:C0
Fingerprint (SHA1): 78:6A:74:AC:76:AB:14:7F:9C:6A:30:50:BA:9E:A8:7E:FE:9A:CE:3C
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Chambers of Commerce Root - 2008"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\170\152\164\254\166\253\024\177\234\152\060\120\272\236\250\176
\376\232\316\074
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\136\200\236\204\132\016\145\013\027\002\363\125\030\052\076\327
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\256\061\013\060\011\006\003\125\004\006\023\002\105\125
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155
\141\040\123\056\101\056\061\051\060\047\006\003\125\004\003\023
\040\103\150\141\155\142\145\162\163\040\157\146\040\103\157\155
\155\145\162\143\145\040\122\157\157\164\040\055\040\062\060\060
\070
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\011\000\243\332\102\176\244\261\256\332
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Global Chambersign Root - 2008"
#
Issuer: CN=Global Chambersign
Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid (see current address at
www.camerfirma.com/address),C=EU
```

```
Serial Number:00:c9:cd:d3:e9:d5:7d:23:ce
Subject: CN=Global Chambersign Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
(see current address at www.camerfirma.com/address),C=EU
Not Valid Before: Fri Aug 01 12:31:40 2008
Not Valid After : Sat Jul 31 12:31:40 2038
Fingerprint (SHA-256):
13:63:35:43:93:34:A7:69:80:16:A0:D3:24:DE:72:28:4E:07:9D:7B:52:20:BB:8F:BD:74:78:16:EE:BE:BA:CA
Fingerprint (SHA1): 4A:BD:EE:EC:95:0D:35:9C:89:AE:C7:52:A1:2C:5B:29:F6:D6:AA:0C
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Global Chambersign Root - 2008"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\254\061\013\060\011\006\003\125\004\006\023\002\105\125
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155
\141\040\123\056\101\056\061\047\060\045\006\003\125\004\003\023
\036\107\154\157\142\141\154\040\103\150\141\155\142\145\162\163
\151\147\156\040\122\157\157\164\040\055\040\062\060\060\070
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\254\061\013\060\011\006\003\125\004\006\023\002\105\125
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155
\141\040\123\056\101\056\061\047\060\045\006\003\125\004\003\023
\036\107\154\157\142\141\154\040\103\150\141\155\142\145\162\163
\151\147\156\040\122\157\157\164\040\055\040\062\060\060\070
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\011\000\311\315\323\351\325\175\043\316
END
CKA_VALUE MULTILINE_OCTAL
\060\202\007\111\060\202\005\061\240\003\002\001\002\002\011\000
```

\311\315\323\351\325\175\043\316\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\060\201\254\061\013\060\011\006\003  
\125\004\006\023\002\105\125\061\103\060\101\006\003\125\004\007  
\023\072\115\141\144\162\151\144\040\050\163\145\145\040\143\165  
\162\162\145\156\164\040\141\144\144\162\145\163\163\040\141\164  
\040\167\167\167\056\143\141\155\145\162\146\151\162\155\141\056  
\143\157\155\057\141\144\144\162\145\163\163\051\061\022\060\020  
\006\003\125\004\005\023\011\101\070\062\067\064\063\062\070\067  
\061\033\060\031\006\003\125\004\012\023\022\101\103\040\103\141  
\155\145\162\146\151\162\155\141\040\123\056\101\056\061\047\060  
\045\006\003\125\004\003\023\036\107\154\157\142\141\154\040\103  
\150\141\155\142\145\162\163\151\147\156\040\122\157\157\164\040  
\055\040\062\060\060\070\060\036\027\015\060\070\060\070\060\061  
\061\062\063\061\064\060\132\027\015\063\070\060\067\063\061\061  
\062\063\061\064\060\132\060\201\254\061\013\060\011\006\003\125  
\004\006\023\002\105\125\061\103\060\101\006\003\125\004\007\023  
\072\115\141\144\162\151\144\040\050\163\145\145\040\143\165\162  
\162\145\156\164\040\141\144\144\162\145\163\163\040\141\164\040  
\167\167\167\056\143\141\155\145\162\146\151\162\155\141\056\143  
\157\155\057\141\144\144\162\145\163\163\051\061\022\060\020\006  
\003\125\004\005\023\011\101\070\062\067\064\063\062\070\067\061  
\033\060\031\006\003\125\004\012\023\022\101\103\040\103\141\155  
\145\162\146\151\162\155\141\040\123\056\101\056\061\047\060\045  
\006\003\125\004\003\023\036\107\154\157\142\141\154\040\103\150  
\141\155\142\145\162\163\151\147\156\040\122\157\157\164\040\055  
\040\062\060\060\070\060\202\002\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002  
\012\002\202\002\001\000\300\337\126\323\344\072\233\166\105\264  
\023\333\377\301\266\031\213\067\101\030\225\122\107\353\027\235  
\051\210\216\065\154\006\062\056\107\142\363\111\004\277\175\104  
\066\261\161\314\275\132\011\163\325\331\205\104\377\221\127\045  
\337\136\066\216\160\321\134\161\103\035\331\332\357\134\322\373  
\033\275\072\265\313\255\243\314\104\247\015\256\041\025\077\271  
\172\133\222\165\330\244\022\070\211\031\212\267\200\322\342\062  
\157\126\234\221\326\210\020\013\263\164\144\222\164\140\363\366  
\317\030\117\140\262\043\320\307\073\316\141\113\231\217\302\014  
\320\100\262\230\334\015\250\116\243\271\012\256\140\240\255\105  
\122\143\272\146\275\150\340\371\276\032\250\201\273\036\101\170  
\165\323\301\376\000\125\260\207\124\350\047\220\065\035\114\063  
\255\227\374\227\056\230\204\277\054\311\243\277\321\230\021\024  
\355\143\370\312\230\210\130\027\231\355\105\003\227\176\074\206  
\036\210\214\276\362\221\204\217\145\064\330\000\114\175\267\061  
\027\132\051\172\012\030\044\060\243\067\265\172\251\001\175\046  
\326\371\016\216\131\361\375\033\063\265\051\073\027\073\101\266  
\041\335\324\300\075\245\237\237\037\103\120\311\273\274\154\172  
\227\230\356\315\214\037\373\234\121\256\213\160\275\047\237\161  
\300\153\254\175\220\146\350\327\135\072\015\260\325\302\215\325  
\310\235\235\301\155\320\320\277\121\344\343\370\303\070\066\256

\326\247\165\346\257\204\103\135\223\222\014\152\007\336\073\035  
\230\042\326\254\301\065\333\243\240\045\377\162\265\166\035\336  
\155\351\054\146\054\122\204\320\105\222\316\034\345\345\063\035  
\334\007\123\124\243\252\202\073\232\067\057\334\335\240\144\351  
\346\335\275\256\374\144\205\035\074\247\311\006\336\204\377\153  
\350\153\032\074\305\242\263\102\373\213\011\076\137\010\122\307  
\142\304\324\005\161\277\304\144\344\370\241\203\350\076\022\233  
\250\036\324\066\115\057\161\366\215\050\366\203\251\023\322\141  
\301\221\273\110\300\064\217\101\214\113\114\333\151\022\377\120  
\224\234\040\203\131\163\355\174\241\362\361\375\335\367\111\323  
\103\130\240\126\143\312\075\075\345\065\126\131\351\016\312\040  
\314\053\113\223\051\017\002\003\001\000\001\243\202\001\152\060  
\202\001\146\060\022\006\003\125\035\023\001\001\377\004\010\060  
\006\001\001\377\002\001\014\060\035\006\003\125\035\016\004\026  
\004\024\271\011\312\234\036\333\323\154\072\153\256\355\124\361  
\133\223\006\065\056\136\060\201\341\006\003\125\035\043\004\201  
\331\060\201\326\200\024\271\011\312\234\036\333\323\154\072\153  
\256\355\124\361\133\223\006\065\056\136\241\201\262\244\201\257  
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\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151  
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141  
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141  
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144  
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011  
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125  
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155  
\141\040\123\056\101\056\061\047\060\045\006\003\125\004\003\023  
\036\107\154\157\142\141\154\040\103\150\141\155\142\145\162\163  
\151\147\156\040\122\157\157\164\040\055\040\062\060\060\070\202  
\011\000\311\315\323\351\325\175\043\316\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\006\060\075\006\003\125\035  
\040\004\066\060\064\060\062\006\004\125\035\040\000\060\052\060  
\050\006\010\053\006\001\005\005\007\002\001\026\034\150\164\164  
\160\072\057\057\160\157\154\151\143\171\056\143\141\155\145\162  
\146\151\162\155\141\056\143\157\155\060\015\006\011\052\206\110  
\206\367\015\001\001\005\005\000\003\202\002\001\000\200\210\177  
\160\336\222\050\331\005\224\106\377\220\127\251\361\057\337\032  
\015\153\372\174\016\034\111\044\171\047\330\106\252\157\051\131  
\122\210\160\022\352\335\075\365\233\123\124\157\341\140\242\250  
\011\271\354\353\131\174\306\065\361\334\030\351\361\147\345\257  
\272\105\340\011\336\312\104\017\302\027\016\167\221\105\172\063  
\137\137\226\054\150\213\301\107\217\230\233\075\300\354\313\365  
\325\202\222\204\065\321\276\066\070\126\162\061\133\107\055\252  
\027\244\143\121\353\012\001\255\177\354\165\236\313\241\037\361  
\177\022\261\271\344\144\177\147\326\043\052\364\270\071\135\230  
\350\041\247\341\275\075\102\032\164\232\160\257\150\154\120\135  
\111\317\377\373\016\135\346\054\107\327\201\072\131\000\265\163  
\153\143\040\366\061\105\010\071\016\364\160\176\100\160\132\077

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\320\153\102\251\164\075\050\057\002\155\165\162\225\011\215\110
\143\306\306\043\127\222\223\136\065\301\215\371\012\367\054\235
\142\034\366\255\174\335\246\061\036\266\261\307\176\205\046\372
\244\152\265\332\143\060\321\357\223\067\262\146\057\175\005\367
\347\267\113\230\224\065\300\331\072\051\301\235\262\120\063\035
\112\251\132\246\311\003\357\355\364\347\250\156\212\264\127\204
\353\244\077\320\356\252\252\207\133\143\350\223\342\153\250\324
\270\162\170\153\033\355\071\344\135\313\233\252\207\325\117\116
\000\376\331\152\237\074\061\017\050\002\001\175\230\350\247\260
\242\144\236\171\370\110\362\025\251\314\346\310\104\353\077\170
\231\362\173\161\076\074\361\230\247\305\030\022\077\346\273\050
\063\102\351\105\012\174\155\362\206\171\057\305\202\031\175\011
\211\174\262\124\166\210\256\336\301\363\314\341\156\333\061\326
\223\256\231\240\357\045\152\163\230\211\133\072\056\023\210\036
\277\300\222\224\064\033\343\047\267\213\036\157\102\377\347\351
\067\233\120\035\055\242\371\002\356\313\130\130\072\161\274\150
\343\252\301\257\034\050\037\242\334\043\145\077\201\352\256\231
\323\330\060\317\023\015\117\025\311\204\274\247\110\055\370\060
\043\167\330\106\113\171\155\366\214\355\072\177\140\021\170\364
\351\233\256\325\124\300\164\200\321\013\102\237\301
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Global Chambersign Root - 2008"

# Issuer: CN=Global Chambersign Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid (see current address at [www.camerfirma.com/address](http://www.camerfirma.com/address)),C=EU

# Serial Number:00:c9:cd:d3:e9:d5:7d:23:ce

# Subject: CN=Global Chambersign Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid (see current address at [www.camerfirma.com/address](http://www.camerfirma.com/address)),C=EU

# Not Valid Before: Fri Aug 01 12:31:40 2008

# Not Valid After : Sat Jul 31 12:31:40 2038

# Fingerprint (SHA-256):

13:63:35:43:93:34:A7:69:80:16:A0:D3:24:DE:72:28:4E:07:9D:7B:52:20:BB:8F:BD:74:78:16:EE:BE:BA:CA

# Fingerprint (SHA1): 4A:BD:EE:EC:95:0D:35:9C:89:AE:C7:52:A1:2C:5B:29:F6:D6:AA:0C

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL

CK\_FALSE

CKA\_LABEL UTF8 "Global Chambersign Root - 2008"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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\112\275\356\354\225\015\065\234\211\256\307\122\241\054\133\051
\366\326\252\014
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END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\236\200\377\170\001\014\056\301\066\275\376\226\220\156\010\363

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\254\061\013\060\011\006\003\125\004\006\023\002\105\125  
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151  
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141  
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141  
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144  
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011  
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125  
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155  
\141\040\123\056\101\056\061\047\060\045\006\003\125\004\003\023  
\036\107\154\157\142\141\154\040\103\150\141\155\142\145\162\163  
\151\147\156\040\122\157\157\164\040\055\040\062\060\060\070

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\011\000\311\315\323\351\325\175\043\316

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Go Daddy Root Certificate Authority - G2"

#

# Issuer: CN=Go Daddy Root Certificate Authority - G2,O="GoDaddy.com, Inc.",L=Scottsdale,ST=Arizona,C=US

# Serial Number: 0 (0x0)

# Subject: CN=Go Daddy Root Certificate Authority - G2,O="GoDaddy.com,  
Inc.",L=Scottsdale,ST=Arizona,C=US

# Not Valid Before: Tue Sep 01 00:00:00 2009

# Not Valid After : Thu Dec 31 23:59:59 2037

# Fingerprint (SHA-256):

45:14:0B:32:47:EB:9C:C8:C5:B4:F0:D7:B5:30:91:F7:32:92:08:9E:6E:5A:63:E2:74:9D:D3:AC:A9:19:8E:DA

# Fingerprint (SHA1): 47:BE:AB:C9:22:EA:E8:0E:78:78:34:62:A7:9F:45:C2:54:FD:E6:8B

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE

CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Go Daddy Root Certificate Authority - G2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\203\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157  
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157  
\164\164\163\144\141\154\145\061\032\060\030\006\003\125\004\012



\023\021\107\157\104\141\144\144\171\056\143\157\155\054\040\111  
\156\143\056\061\061\060\057\006\003\125\004\003\023\050\107\157  
\040\104\141\144\144\171\040\122\157\157\164\040\103\145\162\164  
\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164  
\171\040\055\040\107\062

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\203\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157  
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157  
\164\164\163\144\141\154\145\061\032\060\030\006\003\125\004\012  
\023\021\107\157\104\141\144\144\171\056\143\157\155\054\040\111  
\156\143\056\061\061\060\057\006\003\125\004\003\023\050\107\157  
\040\104\141\144\144\171\040\122\157\157\164\040\103\145\162\164  
\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164  
\171\040\055\040\107\062

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\000

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\305\060\202\002\255\240\003\002\001\002\002\001\000  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\201\203\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157\156  
\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157\164  
\164\163\144\141\154\145\061\032\060\030\006\003\125\004\012\023  
\021\107\157\104\141\144\144\171\056\143\157\155\054\040\111\156  
\143\056\061\061\060\057\006\003\125\004\003\023\050\107\157\040  
\104\141\144\144\171\040\122\157\157\164\040\103\145\162\164\151  
\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171  
\040\055\040\107\062\060\036\027\015\060\071\060\071\060\061\060  
\060\060\060\060\060\132\027\015\063\067\061\062\063\061\062\063  
\065\071\065\071\132\060\201\203\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\020\060\016\006\003\125\004\010\023\007  
\101\162\151\172\157\156\141\061\023\060\021\006\003\125\004\007  
\023\012\123\143\157\164\164\163\144\141\154\145\061\032\060\030  
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\003\023\050\107\157\040\104\141\144\144\171\040\122\157\157\164  
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164  
\150\157\162\151\164\171\040\055\040\107\062\060\202\001\042\060  
\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202  
\001\017\000\060\202\001\012\002\202\001\001\000\277\161\142\010  
\361\372\131\064\367\033\311\030\243\367\200\111\130\351\042\203  
\023\246\305\040\103\001\073\204\361\346\205\111\237\047\352\366

\204\033\116\240\264\333\160\230\307\062\001\261\005\076\007\116  
\356\364\372\117\057\131\060\042\347\253\031\126\153\342\200\007  
\374\363\026\165\200\071\121\173\345\371\065\266\164\116\251\215  
\202\023\344\266\077\251\003\203\372\242\276\212\025\152\177\336  
\013\303\266\031\024\005\312\352\303\250\004\224\073\106\174\062  
\015\363\000\146\042\310\215\151\155\066\214\021\030\267\323\262  
\034\140\264\070\372\002\214\316\323\335\106\007\336\012\076\353  
\135\174\310\174\373\260\053\123\244\222\142\151\121\045\005\141  
\032\104\201\214\054\251\103\226\043\337\254\072\201\232\016\051  
\305\034\251\351\135\036\266\236\236\060\012\071\316\361\210\200  
\373\113\135\314\062\354\205\142\103\045\064\002\126\047\001\221  
\264\073\160\052\077\156\261\350\234\210\001\175\237\324\371\333  
\123\155\140\235\277\054\347\130\253\270\137\106\374\316\304\033  
\003\074\011\353\111\061\134\151\106\263\340\107\002\003\001\000  
\001\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004  
\024\072\232\205\007\020\147\050\266\357\366\275\005\101\156\040  
\301\224\332\017\336\060\015\006\011\052\206\110\206\367\015\001  
\001\013\005\000\003\202\001\001\000\231\333\135\171\325\371\227  
\131\147\003\141\361\176\073\006\061\165\055\241\040\216\117\145  
\207\264\367\246\234\274\330\351\057\320\333\132\356\317\164\214  
\163\264\070\102\332\005\173\370\002\165\270\375\245\261\327\256  
\366\327\336\023\313\123\020\176\212\106\321\227\372\267\056\053  
\021\253\220\260\047\200\371\350\237\132\351\067\237\253\344\337  
\154\263\205\027\235\075\331\044\117\171\221\065\326\137\004\353  
\200\203\253\232\002\055\265\020\364\330\220\307\004\163\100\355  
\162\045\240\251\237\354\236\253\150\022\231\127\306\217\022\072  
\011\244\275\104\375\006\025\067\301\233\344\062\243\355\070\350  
\330\144\363\054\176\024\374\002\352\237\315\377\007\150\027\333  
\042\220\070\055\172\215\321\124\361\151\343\137\063\312\172\075  
\173\012\343\312\177\137\071\345\342\165\272\305\166\030\063\316  
\054\360\057\114\255\367\261\347\316\117\250\304\233\112\124\006  
\305\177\175\325\010\017\342\034\376\176\027\270\254\136\366\324  
\026\262\103\011\014\115\366\247\153\264\231\204\145\312\172\210  
\342\342\104\276\134\367\352\034\365

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Go Daddy Root Certificate Authority - G2"

# Issuer: CN=Go Daddy Root Certificate Authority - G2,O="GoDaddy.com, Inc.",L=Scottsdale,ST=Arizona,C=US

# Serial Number: 0 (0x0)

# Subject: CN=Go Daddy Root Certificate Authority - G2,O="GoDaddy.com, Inc.",L=Scottsdale,ST=Arizona,C=US

# Not Valid Before: Tue Sep 01 00:00:00 2009

```

Not Valid After : Thu Dec 31 23:59:59 2037
Fingerprint (SHA-256):
45:14:0B:32:47:EB:9C:C8:C5:B4:F0:D7:B5:30:91:F7:32:92:08:9E:6E:5A:63:E2:74:9D:D3:AC:A9:19:8E:DA
Fingerprint
(SHA1): 47:BE:AB:C9:22:EA:E8:0E:78:78:34:62:A7:9F:45:C2:54:FD:E6:8B
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Go Daddy Root Certificate Authority - G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\107\276\253\311\042\352\350\016\170\170\064\142\247\237\105\302
\124\375\346\213
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\200\072\274\042\301\346\373\215\233\073\047\112\062\033\232\001
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\203\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\032\060\030\006\003\125\004\012
\023\021\107\157\104\141\144\144\171\056\143\157\155\054\040\111
\156\143\056\061\061\060\057\006\003\125\004\003\023\050\107\157
\040\104\141\144\144\171\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164
\171\040\055\040\107\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Starfield Root Certificate Authority - G2"
#
Issuer: CN=Starfield Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
Serial Number: 0 (0x0)
Subject: CN=Starfield Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
Not Valid Before: Tue Sep 01 00:00:00 2009
Not Valid After : Thu Dec 31 23:59:59 2037
Fingerprint (SHA-256):

```

```
2C:E1:CB:0B:F9:D2:F9:E1:02:99:3F:BE:21:51:52:C3:B2:DD:0C:AB:DE:1C:68:E5:31:9B:83:91:54:DB:B7:F5
Fingerprint (SHA1): B5:1C:06:7C:EE:2B:0C:3D:F8:55:AB:2D:92:F4:FE:39:D4:E7:0F:0E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN
CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Starfield Root Certificate Authority - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062
\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145
\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040
\107\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062
\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145
\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040
\107\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\335\060\202\002\305\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157\156
\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157\164
\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012\023
\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150\156
\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062\060
\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145\154
```

\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141  
\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040\107  
\062\060\036\027\015\060\071\060\071\060\061\060\060\060\060\060  
\060\132\027\015\063\067\061\062\063\061\062\063\065\071\065\071  
\132\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125  
\123\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172  
\157\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143  
\157\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004  
\012\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143  
\150\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061  
\062\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151  
\145\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151  
\143\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055  
\040\107\062\060\202\001\042\060\015\006\011\052\206\110\206\367  
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002  
\202\001\001\000\275\355\301\003\374\366\217\374\002\261\157\133  
\237\110\331\235\171\342\242\267\003\141\126\030\303\107\266\327  
\312\075\065\056\211\103\367\241\151\233\336\212\032\375\023\040  
\234\264\111\167\062\051\126\375\271\354\214\335\042\372\162\334  
\047\141\227\356\366\132\204\354\156\031\271\211\054\334\204\133  
\325\164\373\153\137\305\211\245\020\122\211\106\125\364\270\165  
\034\346\177\344\124\256\113\370\125\162\127\002\031\370\027\161  
\131\353\036\050\007\164\305\235\110\276\154\264\364\244\260\363  
\144\067\171\222\300\354\106\136\177\341\155\123\114\142\257\315  
\037\013\143\273\072\235\373\374\171\000\230\141\164\317\046\202  
\100\143\363\262\162\152\031\015\231\312\324\016\165\314\067\373  
\213\211\301\131\361\142\177\137\263\137\145\060\370\247\267\115  
\166\132\036\166\136\064\300\350\226\126\231\212\263\360\177\244  
\315\275\334\062\061\174\221\317\340\137\021\370\153\252\111\134  
\321\231\224\321\242\343\143\133\011\166\265\126\142\341\113\164  
\035\226\324\046\324\010\004\131\320\230\016\016\346\336\374\303  
\354\037\220\361\002\003\001\000\001\243\102\060\100\060\017\006  
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035  
\006\003\125\035\016\004\026\004\024\174\014\062\037\247\331\060  
\177\304\175\150\243\142\250\241\316\253\007\133\047\060\015\006  
\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001\001  
\000\021\131\372\045\117\003\157\224\231\073\232\037\202\205\071  
\324\166\005\224\136\341\050\223\155\142\135\011\302\240\250\324  
\260\165\070\361\064\152\235\344\237\212\206\046\121\346\054\321  
\306\055\156\225\040\112\222\001\354\270\212\147\173\061\342\147  
\056\214\225\003\046\056\103\235\112\061\366\016\265\014\273\267  
\342\067\177\042\272\000\243\016\173\122\373\153\273\073\304\323  
\171\121\116\315\220\364\147\007\031\310\074\106\172\015\001\175  
\305\130\347\155\346\205\060\027\232\044\304\020\340\004\367\340  
\362\177\324\252\012\377\102\035\067\355\224\345\144\131\022\040  
\167\070\323\062\076\070\201\165\226\163\372\150\217\261\313\316  
\037\305\354\372\234\176\317\176\261\361\007\055\266\374\277\312

```
\244\277\320\227\005\112\274\352\030\050\002\220\275\124\170\011
\041\161\323\321\175\035\331\026\260\251\141\075\320\012\000\042
\374\307\173\313\011\144\105\013\073\100\201\367\175\174\062\365
\230\312\130\216\175\052\356\220\131\163\144\371\066\164\136\045
\241\365\146\005\056\177\071\025\251\052\373\120\213\216\205\151
\364
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Starfield Root Certificate Authority - G2"

# Issuer: CN=Starfield Root Certificate Authority - G2,O="Starfield Technologies,  
Inc.",L=Scottsdale,ST=Arizona,C=US

# Serial Number: 0 (0x0)

# Subject: CN=Starfield Root Certificate Authority - G2,O="Starfield Technologies,  
Inc.",L=Scottsdale,ST=Arizona,C=US

#

Not Valid Before: Tue Sep 01 00:00:00 2009

# Not Valid After : Thu Dec 31 23:59:59 2037

# Fingerprint (SHA-256):

2C:E1:CB:0B:F9:D2:F9:E1:02:99:3F:BE:21:51:52:C3:B2:DD:0C:AB:DE:1C:68:E5:31:9B:83:91:54:DB:B7:F5

# Fingerprint (SHA1): B5:1C:06:7C:EE:2B:0C:3D:F8:55:AB:2D:92:F4:FE:39:D4:E7:0F:0E

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Starfield Root Certificate Authority - G2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\265\034\006\174\356\053\014\075\370\125\253\055\222\364\376\071
\324\347\017\016
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\326\071\201\306\122\176\226\151\374\374\312\146\355\005\362\226
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062
\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145
\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040
\107\062
```

END

```

CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Starfield Services Root Certificate Authority - G2"
#
Issuer: CN=Starfield Services Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
Serial Number: 0 (0x0)
Subject: CN=Starfield Services Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
Not Valid Before:
Tue Sep 01 00:00:00 2009
Not Valid After : Thu Dec 31 23:59:59 2037
Fingerprint (SHA-256):
56:8D:69:05:A2:C8:87:08:A4:B3:02:51:90:ED:CF:ED:B1:97:4A:60:6A:13:C6:E5:29:0F:CB:2A:E6:3E:DA:B5
Fingerprint (SHA1): 92:5A:8F:8D:2C:6D:04:E0:66:5F:59:6A:FF:22:D8:63:E8:25:6F:3F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Starfield Services Root Certificate Authority - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\073
\060\071\006\003\125\004\003\023\062\123\164\141\162\146\151\145
\154\144\040\123\145\162\166\151\143\145\163\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\040\055\040\107\062
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012

```

\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150  
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\073  
\060\071\006\003\125\004\003\023\062\123\164\141\162\146\151\145  
\154\144\040\123\145\162\166\151\143\145\163\040\122\157\157\164  
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164  
\150\157\162\151\164\171\040\055\040\107\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\000

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\357\060\202\002\327\240\003\002\001\002\002\001\000  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157\156  
\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157\164  
\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012\023  
\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150\156  
\157\154\157\147\151\145\163\054\040\111\156\143\056\061\073\060  
\071\006\003\125\004\003\023\062\123\164\141\162\146\151\145\154  
\144\040\123\145\162\166\151\143\145\163\040\122\157\157\164\040  
\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150  
\157\162\151\164\171\040\055\040\107\062\060\036\027\015\060\071  
\060\071\060\061\060\060\060\060\060\060\132\027\015\063\067\061  
\062\063\061\062\063\065\071\065\071\132\060\201\230\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\020\060\016\006\003  
\125\004\010\023\007\101\162\151\172\157\156\141\061\023\060\021  
\006\003\125\004\007\023\012\123\143\157\164\164\163\144\141\154  
\145\061\045\060\043\006\003\125\004\012\023\034\123\164\141\162  
\146\151\145\154\144\040\124\145\143\150\156\157\154\157\147\151  
\145\163\054\040\111\156\143\056\061\073\060\071\006\003\125\004  
\003\023\062\123\164\141\162\146\151\145\154\144\040\123\145\162  
\166\151\143\145\163\040\122\157\157\164\040\103\145\162\164\151  
\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171  
\040\055\040\107\062\060\202\001\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001  
\012\002\202\001\001\000\325\014\072\304\052\371\116\342\365\276  
\031\227\137\216\210\123\261\037\077\313\317\237\040\023\155\051  
\072\310\017\175\074\367\153\166\070\143\331\066\140\250\233\136  
\134\000\200\262\057\131\177\366\207\371\045\103\206\347\151\033  
\122\232\220\341\161\343\330\055\015\116\157\366\310\111\331\266  
\363\032\126\256\053\266\164\024\353\317\373\046\343\032\272\035  
\226\056\152\073\130\224\211\107\126\377\045\240\223\160\123\203  
\332\204\164\024\303\147\236\004\150\072\337\216\100\132\035\112  
\116\317\103\221\073\347\126\326\000\160\313\122\356\173\175\256  
\072\347\274\061\371\105\366\302\140\317\023\131\002\053\200\314  
\064\107\337\271\336\220\145\155\002\317\054\221\246\246\347\336  
\205\030\111\174\146\116\243\072\155\251\265\356\064\056\272\015



\003\270\063\337\107\353\261\153\215\045\331\233\316\201\321\105  
\106\062\226\160\207\336\002\016\111\103\205\266\154\163\273\144  
\352\141\101\254\311\324\124\337\207\057\307\042\262\046\314\237  
\131\124\150\237\374\276\052\057\304\125\034\165\100\140\027\205  
\002\125\071\213\177\005\002\003\001\000\001\243\102\060\100\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006  
\060\035\006\003\125\035\016\004\026\004\024\234\137\000\337\252  
\001\327\060\053\070\210\242\270\155\112\234\362\021\221\203\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202  
\001\001\000\113\066\246\204\167\151\335\073\031\237\147\043\010  
\157\016\141\311\375\204\334\137\330\066\201\315\330\033\101\055  
\237\140\335\307\032\150\331\321\156\206\341\210\043\317\023\336  
\103\317\342\064\263\004\235\037\051\325\277\370\136\310\325\301  
\275\356\222\157\062\164\362\221\202\057\275\202\102\172\255\052  
\267\040\175\115\274\172\125\022\302\025\352\275\367\152\225\056  
\154\164\237\317\034\264\362\305\001\243\205\320\162\076\255\163  
\253\013\233\165\014\155\105\267\216\224\254\226\067\265\240\320  
\217\025\107\016\343\350\203\335\217\375\357\101\001\167\314\047  
\251\142\205\063\362\067\010\357\161\317\167\006\336\310\031\035  
\210\100\317\175\106\035\377\036\307\341\316\377\043\333\306\372  
\215\125\116\251\002\347\107\021\106\076\364\375\275\173\051\046  
\273\251\141\142\067\050\266\055\052\366\020\206\144\311\160\247  
\322\255\267\051\160\171\352\074\332\143\045\237\375\150\267\060  
\354\160\373\165\212\267\155\140\147\262\036\310\271\351\330\250  
\157\002\213\147\015\115\046\127\161\332\040\374\301\112\120\215  
\261\050\272

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Starfield Services Root Certificate Authority - G2"

# Issuer: CN=Starfield Services Root Certificate Authority - G2,O="Starfield Technologies,  
Inc.",L=Scottsdale,ST=Arizona,C=US

# Serial Number: 0 (0x0)

# Subject: CN=Starfield Services Root Certificate Authority - G2,O="Starfield Technologies,  
Inc.",L=Scottsdale,ST=Arizona,C=US

# Not Valid Before: Tue Sep 01 00:00:00 2009

# Not Valid After : Thu Dec 31 23:59:59 2037

# Fingerprint (SHA-256):

56:8D:69:05:A2:C8:87:08:A4:B3:02:51:90:ED:CF:ED:B1:97:4A:60:6A:13:C6:E5:29:0F:CB:2A:E6:3E:DA:B5

# Fingerprint (SHA1): 92:5A:8F:8D:2C:6D:04:E0:66:5F:59:6A:FF:22:D8:63:E8:25:6F:3F

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

```

CKA_LABEL UTF8 "Starfield Services Root
Certificate Authority - G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\222\132\217\215\054\155\004\340\146\137\131\152\377\042\330\143
\350\045\157\077
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\027\065\164\257\173\141\034\353\364\371\074\342\356\100\371\242
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\073
\060\071\006\003\125\004\003\023\062\123\164\141\162\146\151\145
\154\144\040\123\145\162\166\151\143\145\163\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION
CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "AffirmTrust Commercial"
#
Issuer: CN=AffirmTrust Commercial,O=AffirmTrust,C=US
Serial Number:77:77:06:27:26:a9:b1:7c
Subject: CN=AffirmTrust Commercial,O=AffirmTrust,C=US
Not Valid Before: Fri Jan 29 14:06:06 2010
Not Valid After : Tue Dec 31 14:06:06 2030
Fingerprint (SHA-256):
03:76:AB:1D:54:C5:F9:80:3C:E4:B2:E2:01:A0:EE:7E:EF:7B:57:B6:36:E8:A9:3C:9B:8D:48:60:C9:6F:5F:A7
Fingerprint (SHA1): F9:B5:B6:32:45:5F:9C:BE:EC:57:5F:80:DC:E9:6E:2C:C7:B2:78:B7
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Commercial"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL

```

\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155  
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026  
\101\146\146\151\162\155\124\162\165\163\164\040\103\157\155\155  
\145\162\143\151\141\154

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155  
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026  
\101\146\146\151\162\155\124\162\165\163\164\040\103\157\155\155  
\145\162\143\151\141\154

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\167\167\006\047\046\251\261\174

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\114\060\202\002\064\240\003\002\001\002\002\010\167  
\167\006\047\046\251\261\174\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\060\104\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\024\060\022\006\003\125\004\012\014\013  
\101\146\146\151\162\155\124\162\165\163\164\061\037\060\035\006  
\003\125\004\003\014\026\101\146\146\151\162\155\124\162\165\163  
\164\040\103\157\155\155\145\162\143\151\141\154\060\036\027\015  
\061\060\060\061\062\071\061\064\060\066\060\066\132\027\015\063  
\060\061\062\063\061\061\064\060\066\060\066\132\060\104\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\024\060\022\006  
\003\125\004\012\014\013\101\146\146\151\162\155\124\162\165\163  
\164\061\037\060\035\006\003\125\004\003\014\026\101\146\146\151  
\162\155\124\162\165\163\164\040\103\157\155\155\145\162\143\151  
\141\154\060\202\001\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202  
\001\001\000\366\033\117\147\007\053\241\025\365\006\042\313\037  
\001\262\343\163\105\006\104\111\054\273\111\045\024\326\316\303  
\267\253\054\117\306\101\062\224\127\372\022\247\133\016\342\217  
\037\036\206\031\247\252\265\055\271\137\015\212\302\257\205\065  
\171\062\055\273\034\142\067\362\261\133\112\075\312\315\161\137  
\351\102\276\224\350\310\336\371\042\110\144\306\345\253\306\053  
\155\255\005\360\372\325\013\317\232\345\360\120\244\213\073\107  
\245\043\133\172\172\370\063\077\270\357\231\227\343\040\301\326  
\050\211\317\224\373\271\105\355\343\100\027\021\324\164\360\013  
\061\342\053\046\152\233\114\127\256\254\040\076\272\105\172\005  
\363\275\233\151\025\256\175\116\040\143\304\065\166\072\007\002  
\311\067\375\307\107\356\350\361\166\035\163\025\362\227\244\265  
\310\172\171\331\102\252\053\177\134\376\316\046\117\243\146\201  
\065\257\104\272\124\036\034\060\062\145\235\346\074\223\136\120

\116\172\343\072\324\156\314\032\373\371\322\067\256\044\052\253  
\127\003\042\050\015\111\165\177\267\050\332\165\277\216\343\334  
\016\171\061\002\003\001\000\001\243\102\060\100\060\035\006\003  
\125\035\016\004\026\004\024\235\223\306\123\213\136\312\257\077  
\237\036\017\345\231\225\274\044\366\224\217\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011  
\052\206\110\206\367\015\001\001\013\005\000\003\202\001\001\000  
\130\254\364\004\016\315\300\015\377\012\375\324\272\026\137\051  
\275\173\150\231\130\111\322\264\035\067\115\177\047\175\106\006  
\135\103\306\206\056\076\163\262\046\175\117\223\251\266\304\052  
\232\253\041\227\024\261\336\214\323\253\211\025\330\153\044\324  
\361\026\256\330\244\134\324\177\121\216\355\030\001\261\223\143  
\275\274\370\141\200\232\236\261\316\102\160\342\251\175\006\045  
\175\047\241\376\157\354\263\036\044\332\343\113\125\032\000\073  
\065\264\073\331\327\135\060\375\201\023\211\362\302\006\053\355  
\147\304\216\311\103\262\134\153\025\211\002\274\142\374\116\362  
\265\063\252\262\157\323\012\242\120\343\366\073\350\056\104\302  
\333\146\070\251\063\126\110\361\155\033\063\215\015\214\077\140  
\067\235\323\312\155\176\064\176\015\237\162\166\213\033\237\162  
\375\122\065\101\105\002\226\057\034\262\232\163\111\041\261\111  
\107\105\107\264\357\152\064\021\311\115\232\314\131\267\326\002  
\236\132\116\145\265\224\256\033\337\051\260\026\361\277\000\236  
\007\072\027\144\265\004\265\043\041\231\012\225\073\227\174\357

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "AffirmTrust Commercial"

# Issuer: CN=AffirmTrust Commercial,O=AffirmTrust,C=US

# Serial Number:77:77:06:27:26:a9:b1:7c

# Subject: CN=AffirmTrust Commercial,O=AffirmTrust,C=US

# Not Valid Before: Fri Jan 29 14:06:06 2010

# Not Valid After : Tue Dec 31 14:06:06 2030

# Fingerprint (SHA-256):

03:76:AB:1D:54:C5:F9:80:3C:E4:B2:E2:01:A0:EE:7E:EF:7B:57:B6:36:E8:A9:3C:9B:8D:48:60:C9:6F:5F:A7

# Fingerprint (SHA1): F9:B5:B6:32:45:5F:9C:BE:EC:57:5F:80:DC:E9:6E:2C:C7:B2:78:B7

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "AffirmTrust Commercial"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\371\265\266\062\105\137\234\276\354\127\137\200\334\351\156\054  
\307\262\170\267

END

```

CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\202\222\272\133\357\315\212\157\246\075\125\371\204\366\326\267
END
CKA_ISSUER MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\103\157\155\155
\145\162\143\151\141\154
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\167\167\006\047\046\251\261\174
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "AffirmTrust Networking"
#
Issuer: CN=AffirmTrust Networking,O=AffirmTrust,C=US
Serial Number:7c:4f:04:39:1c:d4:99:2d
Subject: CN=AffirmTrust Networking,O=AffirmTrust,C=US
Not Valid Before: Fri Jan 29 14:08:24 2010
Not Valid After : Tue Dec
31 14:08:24 2030
Fingerprint (SHA-256):
0A:81:EC:5A:92:97:77:F1:45:90:4A:F3:8D:5D:50:9F:66:B5:E2:C5:8F:CD:B5:31:05:8B:0E:17:F3:F0:B4:1B
Fingerprint (SHA1): 29:36:21:02:8B:20:ED:02:F5:66:C5:32:D1:D6:ED:90:9F:45:00:2F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Networking"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\116\145\164\167
\157\162\153\151\156\147
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155

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\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026  
\101\146\146\151\162\155\124\162\165\163\164\040\116\145\164\167  
\157\162\153\151\156\147  
END  
CKA\_SERIAL\_NUMBER  
MULTILINE\_OCTAL  
\002\010\174\117\004\071\034\324\231\055  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\003\114\060\202\002\064\240\003\002\001\002\002\010\174  
\117\004\071\034\324\231\055\060\015\006\011\052\206\110\206\367  
\015\001\001\005\005\000\060\104\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\024\060\022\006\003\125\004\012\014\013  
\101\146\146\151\162\155\124\162\165\163\164\061\037\060\035\006  
\003\125\004\003\014\026\101\146\146\151\162\155\124\162\165\163  
\164\040\116\145\164\167\157\162\153\151\156\147\060\036\027\015  
\061\060\060\061\062\071\061\064\060\070\062\064\132\027\015\063  
\060\061\062\063\061\061\064\060\070\062\064\132\060\104\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\024\060\022\006  
\003\125\004\012\014\013\101\146\146\151\162\155\124\162\165\163  
\164\061\037\060\035\006\003\125\004\003\014\026\101\146\146\151  
\162\155\124\162\165\163\164\040\116\145\164\167\157\162\153\151  
\156\147\060\202\001\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202  
\001\001\000\264\204\314\063\027\056\153\224\154\153\141\122\240  
\353\243\317\171\224\114\345\224\200\231\313\125\144\104\145\217  
\147\144\342\006\343\134\067\111\366\057\233\204\204\036\055\362  
\140\235\060\116\314\204\205\342\054\317\036\236\376\066\253\063  
\167\065\104\330\065\226\032\075\066\350\172\016\330\325\107\241  
\152\151\213\331\374\273\072\256\171\132\325\364\326\161\273\232  
\220\043\153\232\267\210\164\207\014\036\137\271\236\055\372\253  
\123\053\334\273\166\076\223\114\010\010\214\036\242\043\034\324  
\152\255\042\272\231\001\056\155\145\313\276\044\146\125\044\113  
\100\104\261\033\327\341\302\205\300\336\020\077\075\355\270\374  
\361\361\043\123\334\277\145\227\157\331\371\100\161\215\175\275  
\225\324\316\276\240\136\047\043\336\375\246\320\046\016\000\051  
\353\074\106\360\075\140\277\077\120\322\334\046\101\121\236\024  
\067\102\004\243\160\127\250\033\207\355\055\372\173\356\214\012  
\343\251\146\211\031\313\101\371\335\104\066\141\317\342\167\106  
\310\175\366\364\222\201\066\375\333\064\361\162\176\363\014\026  
\275\264\025\002\003\001\000\001\243\102\060\100\060\035\006\003  
\125\035\016\004\026\004\024\007\037\322\347\234\332\302\156\242  
\100\264\260\172\120\020\120\164\304\310\275\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011  
\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000  
\211\127\262\026\172\250\302\375\326\331\233\233\064\302\234\264  
\062\024\115\247\244\337\354\276\247\276\370\103\333\221\067\316

```
\264\062\056\120\125\032\065\116\166\103\161\040\357\223\167\116
\025\160\056\207\303\301\035\155\334\313\265\047\324\054\126\321
\122\123\072\104\322\163\310\304\033\005\145\132\142\222\234\356
\101\215\061\333\347\064\352\131\041\325\001\172\327\144\270\144
\071\315\311\355\257\355\113\003\110\247\240\231\001\200\334\145
\243\066\256\145\131\110\117\202\113\310\145\361\127\035\345\131
\056\012\077\154\330\321\365\345\011\264\154\124\000\012\340\025
\115\207\165\155\267\130\226\132\335\155\322\000\240\364\233\110
\276\303\067\244\272\066\340\174\207\205\227\032\025\242\336\056
\242\133\275\257\030\371\220\120\315\160\131\370\047\147\107\313
\307\240\007\072\175\321\054\135\154\031\072\146\265\175\375\221
\157\202\261\276\010\223\333\024\107\361\242\067\307\105\236\074
\307\167\257\144\250\223\337\366\151\203\202\140\362\111\102\064
\355\132\000\124\205\034\026\066\222\014\134\372\246\255\277\333
END
```

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "AffirmTrust Networking"

# Issuer: CN=AffirmTrust Networking,O=AffirmTrust,C=US

# Serial Number:7c:4f:04:39:1c:d4:99:2d

# Subject: CN=AffirmTrust Networking,O=AffirmTrust,C=US

# Not Valid Before: Fri Jan

29 14:08:24 2010

# Not Valid After : Tue Dec 31 14:08:24 2030

# Fingerprint (SHA-256):

0A:81:EC:5A:92:97:77:F1:45:90:4A:F3:8D:5D:50:9F:66:B5:E2:C5:8F:CD:B5:31:05:8B:0E:17:F3:F0:B4:1B

# Fingerprint (SHA1): 29:36:21:02:8B:20:ED:02:F5:66:C5:32:D1:D6:ED:90:9F:45:00:2F

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "AffirmTrust Networking"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\051\066\041\002\213\040\355\002\365\146\305\062\321\326\355\220
\237\105\000\057
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\102\145\312\276\001\232\232\114\251\214\101\111\315\300\325\177
```

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\116\145\164\167
\157\162\153\151\156\147
```

```

END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\174\117\004\071\034\324\231\055
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "AffirmTrust Premium"
#
Issuer: CN=AffirmTrust Premium,O=AffirmTrust,C=US
Serial Number:6d:8c:14:46:b1:a6:0a:ee
Subject: CN=AffirmTrust Premium,O=AffirmTrust,C=US
Not Valid Before: Fri Jan 29 14:10:36 2010
Not Valid After : Mon Dec 31 14:10:36 2040
Fingerprint (SHA-256):
70:A7:3F:7F:37:6B:60:07:42:48:90:45:34:B1:14:82:D5:BF:0E:69:8E:CC:49:8D:F5:25:77:EB:F2:E9:3B:9A
Fingerprint (SHA1): D8:A6:33:2C:E0:03:6F:B1:85:F6:63:4F:7D:6A:06:65:26:32:28:27
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Premium"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\034\060\032\006\003\125\004\003\014\023
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\034\060\032\006\003\125\004\003\014\023
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\155\214\024\106\261\246\012\356
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\106\060\202\003\056\240\003\002\001\002\002\010\155

```



\214\024\106\261\246\012\356\060\015\006\011\052\206\110\206\367  
\015\001\001\014\005\000\060\101\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\024\060\022\006\003\125\004\012\014\013  
\101\146\146\151\162\155\124\162\165\163\164\061\034\060\032\006  
\003\125\004\003\014\023\101\146\146\151\162\155\124\162\165\163  
\164\040\120\162\145\155\151\165\155\060\036\027\015\061\060\060  
\061\062\071\061\064\061\060\063\066\132\027\015\064\060\061\062  
\063\061\061\064\061\060\063\066\132\060\101\061\013\060\011\006  
\003\125\004\006\023\002\125\123\061\024\060\022\006\003\125\004  
\012\014\013\101\146\146\151\162\155\124\162\165\163\164\061\034  
\060\032\006\003\125\004\003\014\023\101\146\146\151\162\155\124  
\162\165\163\164\040\120\162\145\155\151\165\155\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\304\022\337  
\251\137\376\101\335\335\365\237\212\343\366\254\341\074\170\232  
\274\330\360\177\172\240\063\052\334\215\040\133\256\055\157\347  
\223\331\066\160\152\150\317\216\121\243\205\133\147\004\240\020  
\044\157\135\050\202\301\227\127\330\110\051\023\266\341\276\221  
\115\337\205\014\123\030\232\036\044\242\117\217\360\242\205\013  
\313\364\051\177\322\244\130\356\046\115\311\252\250\173\232\331  
\372\070\336\104\127\025\345\370\214\310\331\110\342\015\026\047  
\035\036\310\203\205\045\267\272\252\125\101\314\003\042\113\055  
\221\215\213\346\211\257\146\307\351\377\053\351\074\254\332\322  
\263\303\341\150\234\211\370\172\000\126\336\364\125\225\154\373  
\272\144\335\142\213\337\013\167\062\353\142\314\046\232\233\273  
\252\142\203\114\264\006\172\060\310\051\277\355\006\115\227\271  
\034\304\061\053\325\137\274\123\022\027\234\231\127\051\146\167  
\141\041\061\007\056\045\111\235\030\362\356\363\053\161\214\265  
\272\071\007\111\167\374\357\056\222\220\005\215\055\057\167\173  
\357\103\277\065\273\232\330\371\163\247\054\362\320\127\356\050  
\116\046\137\217\220\150\011\057\270\370\334\006\351\056\232\076  
\121\247\321\042\304\012\247\070\110\154\263\371\377\175\253\206  
\127\343\272\326\205\170\167\272\103\352\110\177\366\330\276\043  
\155\036\277\321\066\154\130\134\361\356\244\031\124\032\365\003  
\322\166\346\341\214\275\074\263\323\110\113\342\310\370\177\222  
\250\166\106\234\102\145\076\244\036\301\007\003\132\106\055\270  
\227\363\267\325\262\125\041\357\272\334\114\000\227\373\024\225  
\047\063\277\350\103\107\106\322\010\231\026\140\073\232\176\322  
\346\355\070\352\354\001\036\074\110\126\111\011\307\114\067\000  
\236\210\016\300\163\341\157\146\351\162\107\060\076\020\345\013  
\003\311\232\102\000\154\305\224\176\141\304\212\337\177\202\032  
\013\131\304\131\062\167\263\274\140\151\126\071\375\264\006\173  
\054\326\144\066\331\275\110\355\204\037\176\245\042\217\052\270  
\102\364\202\267\324\123\220\170\116\055\032\375\201\157\104\327  
\073\001\164\226\102\340\000\342\056\153\352\305\356\162\254\273  
\277\376\352\252\250\370\334\366\262\171\212\266\147\002\003\001  
\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026\004  
\024\235\300\147\246\014\042\331\046\365\105\253\246\145\122\021

\047\330\105\254\143\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\015\006\011\052\206\110\206\367\015  
\001\001\014\005\000\003\202\002\001\000\263\127\115\020\142\116  
\072\344\254\352\270\034\257\062\043\310\263\111\132\121\234\166  
\050\215\171\252\127\106\027\325\365\122\366\267\104\350\010\104  
\277\030\204\322\013\200\315\305\022\375\000\125\005\141\207\101  
\334\265\044\236\074\304\330\310\373\160\236\057\170\226\203\040  
\066\336\174\017\151\023\210\245\165\066\230\010\246\306\337\254  
\316\343\130\326\267\076\336\272\363\353\064\100\330\242\201\365  
\170\077\057\325\245\374\331\242\324\136\004\016\027\255\376\101  
\360\345\262\162\372\104\202\063\102\350\055\130\367\126\214\142  
\077\272\102\260\234\014\134\176\056\145\046\134\123\117\000\262  
\170\176\241\015\231\055\215\270\035\216\242\304\260\375\140\320  
\060\244\216\310\004\142\251\304\355\065\336\172\227\355\016\070  
\136\222\057\223\160\245\251\234\157\247\175\023\035\176\306\010  
\110\261\136\147\353\121\010\045\351\346\045\153\122\051\221\234  
\322\071\163\010\127\336\231\006\264\133\235\020\006\341\302\000  
\250\270\034\112\002\012\024\320\301\101\312\373\214\065\041\175  
\202\070\362\251\124\221\031\065\223\224\155\152\072\305\262\320  
\273\211\206\223\350\233\311\017\072\247\172\270\241\360\170\106  
\372\374\067\057\345\212\204\363\337\376\004\331\241\150\240\057  
\044\342\011\225\006\325\225\312\341\044\226\353\174\366\223\005  
\273\355\163\351\055\321\165\071\327\347\044\333\330\116\137\103  
\217\236\320\024\071\277\125\160\110\231\127\061\264\234\356\112  
\230\003\226\060\037\140\006\356\033\043\376\201\140\043\032\107  
\142\205\245\314\031\064\200\157\263\254\032\343\237\360\173\110  
\255\325\001\331\147\266\251\162\223\352\055\146\265\262\270\344  
\075\074\262\357\114\214\352\353\007\277\253\065\232\125\206\274  
\030\246\265\250\136\264\203\154\153\151\100\323\237\334\361\303  
\151\153\271\341\155\011\364\361\252\120\166\012\172\175\172\027  
\241\125\226\102\231\061\011\335\140\021\215\005\060\176\346\216  
\106\321\235\024\332\307\027\344\005\226\214\304\044\265\033\317  
\024\007\262\100\370\243\236\101\206\274\004\320\153\226\310\052  
\200\064\375\277\357\006\243\335\130\305\205\075\076\217\376\236  
\051\340\266\270\011\150\031\034\030\103

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "AffirmTrust Premium"

# Issuer: CN=AffirmTrust Premium,O=AffirmTrust,C=US

# Serial Number:6d:8c:14:46:b1:a6:0a:ee

# Subject: CN=AffirmTrust Premium,O=AffirmTrust,C=US

# Not Valid Before: Fri Jan 29 14:10:36 2010

# Not Valid After : Mon Dec 31 14:10:36 2040

```

Fingerprint (SHA-256):
70:A7:3F:7F:37:6B:60:07:42:48:90:45:34:B1:14:82:D5:BF:0E:69:8E:CC:49:8D:F5:25:77:EB:F2:E9:3B:9A
Fingerprint (SHA1): D8:A6:33:2C:E0:03:6F:B1:85:F6:63:4F:7D:6A:06:65:26:32:28:27
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Premium"
CKA_CERT_SHA1_HASH
MULTILINE_OCTAL
\330\246\063\054\340\003\157\261\205\366\143\117\175\152\006\145
\046\062\050\047
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\304\135\016\110\266\254\050\060\116\012\274\371\070\026\207\127
END
CKA_ISSUER MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\034\060\032\006\003\125\004\003\014\023
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\155\214\024\106\261\246\012\356
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "AffirmTrust Premium ECC"
#
Issuer: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US
Serial Number:74:97:25:8a:c7:3f:7a:54
Subject: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US
#
Not Valid Before: Fri Jan 29 14:20:24 2010
Not Valid After : Mon Dec 31 14:20:24 2040
Fingerprint (SHA-256):
BD:71:FD:F6:DA:97:E4:CF:62:D1:64:7A:DD:25:81:B0:7D:79:AD:F8:39:7E:B4:EC:BA:9C:5E:84:88:82:14:23
Fingerprint (SHA1): B8:23:6B:00:2F:1D:16:86:53:01:55:6C:11:A4:37:CA:EB:FF:C3:BB
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Premium ECC"

```

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155  
\124\162\165\163\164\061\040\060\036\006\003\125\004\003\014\027  
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155  
\151\165\155\040\105\103\103

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155  
\124\162\165\163\164\061\040\060\036\006\003\125\004\003\014\027  
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155  
\151\165\155\040\105\103\103

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\010\164\227\045\212\307\077\172\124

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\001\376\060\202\001\205\240\003\002\001\002\002\010\164  
\227\045\212\307\077\172\124\060\012\006\010\052\206\110\316\075  
\004\003\003\060\105\061\013\060\011\006\003\125\004\006\023\002  
\125\123\061\024\060\022\006\003\125\004\012\014\013\101\146\146  
\151\162\155\124\162\165\163\164\061\040\060\036\006\003\125\004  
\003\014\027\101\146\146\151\162\155\124\162\165\163\164\040\120  
\162\145\155\151\165\155\040\105\103\103\060\036\027\015\061\060  
\060\061\062\071\061\064\062\060\062\064\132\027\015\064\060\061  
\062\063\061\061\064\062\060\062\064\132\060\105\061\013\060\011  
\006\003\125\004\006\023\002\125\123\061\024\060\022\006\003\125  
\004\012\014\013\101\146\146\151\162\155\124\162\165\163\164\061  
\040\060\036\006\003\125\004\003\014\027\101\146\146\151\162\155  
\124\162\165\163\164\040\120\162\145\155\151\165\155\040\105\103  
\103\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005  
\053\201\004\000\042\003\142\000\004\015\060\136\033\025\235\003  
\320\241\171\065\267\072\074\222\172\312\025\034\315\142\363\234  
\046\134\007\075\345\124\372\243\326\314\022\352\364\024\137\350  
\216\031\253\057\056\110\346\254\030\103\170\254\320\067\303\275  
\262\315\054\346\107\342\032\346\143\270\075\056\057\170\304\117  
\333\364\017\244\150\114\125\162\153\225\035\116\030\102\225\170  
\314\067\074\221\342\233\145\053\051\243\102\060\100\060\035\006  
\003\125\035\016\004\026\004\024\232\257\051\172\300\021\065\065  
\046\121\060\000\303\152\376\100\325\256\326\074\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\012\006  
\010\052\206\110\316\075\004\003\003\003\147\000\060\144\002\060  
\027\011\363\207\210\120\132\257\310\300\102\277\107\137\365\154

```
\152\206\340\304\047\164\344\070\123\327\005\177\033\064\343\306
\057\263\312\011\074\067\235\327\347\270\106\361\375\241\342\161
\002\060\102\131\207\103\324\121\337\272\323\011\062\132\316\210
\176\127\075\234\137\102\153\365\007\055\265\360\202\223\371\131
\157\256\144\372\130\345\213\036\343\143\276\265\201\315\157\002
\214\171
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "AffirmTrust Premium ECC"

# Issuer: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US

# Serial Number:74:97:25:8a:c7:3f:7a:54

# Subject: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US

# Not Valid Before: Fri Jan 29 14:20:24 2010

# Not Valid After : Mon Dec 31 14:20:24 2040

# Fingerprint (SHA-256):

BD:71:FD:F6:DA:97:E4:CF:62:D1:64:7A:DD:25:81:B0:7D:79:AD:F8:39:7E:B4:EC:BA:9C:5E:84:88:82:14:23

# Fingerprint (SHA1): B8:23:6B:00:2F:1D:16:86:53:01:55:6C:11:A4:37:CA:EB:FF:C3:BB

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "AffirmTrust Premium ECC"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\270\043\153\000\057\035\026\206\123\001\125\154\021\244\067\312
\353\377\303\273
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\144\260\011\125\317\261\325\231\342\276\023\253\246\135\352\115
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\040\060\036\006\003\125\004\003\014\027
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155\040\105\103\103
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\010\164\227\045\212\307\077\172\124
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED

CK\_BBOOL CK\_FALSE

#

# Certificate "Certum Trusted Network CA"

#

# Issuer: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies S.A.,C=PL

# Serial Number: 279744 (0x444c0)

# Subject: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies S.A.,C=PL

# Not Valid Before: Wed Oct 22 12:07:37 2008

# Not Valid After : Mon Dec 31 12:07:37 2029

# Fingerprint (SHA-256):

5C:58:46:8D:55:F5:8E:49:7E:74:39:82:D2:B5:00:10:B6:D1:65:37:4A:CF:83:A7:D4:A3:2D:B7:68:C4:40:8E

# Fingerprint (SHA1): 07:E0:32:E0:20:B7:2C:3F:19:2F:06:28:A2:59:3A:19:A7:0F:06:9E

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certum Trusted Network CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114\061  
\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164  
\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123  
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145  
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060\040  
\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124\162  
\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101  
END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114\061  
\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164  
\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123  
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145  
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060\040  
\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124\162  
\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101  
END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\003\004\104\300

END

CKA\_VALUE

MULTILINE\_OCTAL

\060\202\003\273\060\202\002\243\240\003\002\001\002\002\003\004  
\104\300\060\015\006\011\052\206\110\206\367\015\001\001\005\005  
\000\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114  
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145  
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040  
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103  
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164  
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060  
\040\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124  
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103  
\101\060\036\027\015\060\070\061\060\062\062\061\062\060\067\063  
\067\132\027\015\062\071\061\062\063\061\061\062\060\067\063\067  
\132\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114  
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145  
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040  
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103  
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164  
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060  
\040\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124  
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103  
\101\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001  
\001\000\343\373\175\243\162\272\302\360\311\024\207\365\153\001  
\116\341\156\100\007\272\155\047\135\177\367\133\055\263\132\307  
\121\137\253\244\062\246\141\207\266\156\017\206\322\060\002\227  
\370\327\151\127\241\030\071\135\152\144\171\306\001\131\254\074  
\061\112\070\174\322\004\322\113\050\350\040\137\073\007\242\314  
\115\163\333\363\256\117\307\126\325\132\247\226\211\372\363\253  
\150\324\043\206\131\047\317\011\047\274\254\156\162\203\034\060  
\162\337\340\242\351\322\341\164\165\031\275\052\236\173\025\124  
\004\033\327\103\071\255\125\050\305\342\032\273\364\300\344\256  
\070\111\063\314\166\205\237\071\105\322\244\236\362\022\214\121  
\370\174\344\055\177\365\254\137\353\026\237\261\055\321\272\314  
\221\102\167\114\045\311\220\070\157\333\360\314\373\216\036\227  
\131\076\325\140\116\346\005\050\355\111\171\023\113\272\110\333  
\057\371\162\323\071\312\376\037\330\064\162\365\264\100\317\061  
\001\303\354\336\021\055\027\135\037\270\120\321\136\031\247\151  
\336\007\063\050\312\120\225\371\247\124\313\124\206\120\105\251  
\371\111\002\003\001\000\001\243\102\060\100\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003  
\125\035\016\004\026\004\024\010\166\315\313\007\377\044\366\305  
\315\355\273\220\274\342\204\067\106\165\367\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052  
\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000\246  
\250\255\042\316\001\075\246\243\377\142\320\110\235\213\136\162  
\260\170\104\343\334\034\257\011\375\043\110\372\275\052\304\271  
\125\004\265\020\243\215\047\336\013\202\143\320\356\336\014\067

```
\171\101\133\042\262\260\232\101\134\246\160\340\324\320\167\313
\043\323\000\340\154\126\057\341\151\015\015\331\252\277\041\201
\120\331\006\245\250\377\225\067\320\252\376\342\263\365\231\055
\105\204\212\345\102\011\327\164\002\057\367\211\330\231\351\274
\047\324\107\215\272\015\106\034\167\317\024\244\034\271\244\061
\304\234\050\164\003\064\377\063\031\046\245\351\015\164\267\076
\227\306\166\350\047\226\243\146\335\341\256\362\101\133\312\230
\126\203\163\160\344\206\032\322\061\101\272\057\276\055\023\132
\166\157\116\350\116\201\016\077\133\003\042\240\022\276\146\130
\021\112\313\003\304\264\052\052\055\226\027\340\071\124\274\110
\323\166\047\235\232\055\006\246\311\354\071\322\253\333\237\232
\013\047\002\065\051\261\100\225\347\371\350\234\125\210\031\106
\326\267\064\365\176\316\071\232\331\070\361\121\367\117\054
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certum Trusted Network CA"

# Issuer: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies  
S.A.,C=PL

# Serial Number: 279744 (0x444c0)

# Subject: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies  
S.A.,C=PL

# Not Valid Before: Wed Oct 22 12:07:37 2008

# Not Valid After : Mon Dec 31 12:07:37 2029

# Fingerprint (SHA-256):

5C:58:46:8D:55:F5:8E:49:7E:74:39:82:D2:B5:00:10:B6:D1:65:37:4A:CF:83:A7:D4:A3:2D:B7:68:C4:40:8E

# Fingerprint (SHA1): 07:E0:32:E0:20:B7:2C:3F:19:2F:06:28:A2:59:3A:19:A7:0F:06:9E

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certum Trusted Network CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\007\340\062\340\040\267\054\077\031\057\006\050\242\131\072\031
\247\017\006\236
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\325\351\201\100\305\030\151\374\106\054\211\165\142\017\252\170
```

END

CKA\_ISSUER

MULTILINE\_OCTAL

```
\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164
\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123
```



```
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060\040
\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124\162
\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101
END
```

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\003\004\104\300
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "TWCA Root Certification Authority"

#

# Issuer: CN=TWCA Root Certification Authority,OU=Root

CA,O=TAIWAN-CA,C=TW

# Serial Number: 1 (0x1)

# Subject: CN=TWCA Root Certification Authority,OU=Root CA,O=TAIWAN-CA,C=TW

# Not Valid Before: Thu Aug 28 07:24:33 2008

# Not Valid After : Tue Dec 31 15:59:59 2030

# Fingerprint (SHA-256):

BF:D8:8F:E1:10:1C:41:AE:3E:80:1B:F8:BE:56:35:0E:E9:BA:D1:A6:B9:BD:51:5E:DC:5C:6D:5B:87:11:AC:44

# Fingerprint (SHA1): CF:9E:87:6D:D3:EB:FC:42:26:97:A3:B5:A3:7A:A0:76:A9:06:23:48

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TWCA Root Certification Authority"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041
\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
```

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041
```

\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146  
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164  
\171  
END  
CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\001\001  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\003\173\060\202\002\143\240\003\002\001\002\002\001\001  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060  
\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061\022  
\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116\055  
\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157\157  
\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041\124  
\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\060\036\027\015\060\070\060\070\062\070\060\067\062\064\063\063  
\132\027\015\063\060\061\062\063\061\061\065\065\071\065\071\132  
\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061  
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116  
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157  
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041  
\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146  
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164  
\171\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001  
\001\000\260\176\162\270\244\003\224\346\247\336\011\070\221\112  
\021\100\207\247\174\131\144\024\173\265\021\020\335\376\277\325  
\300\273\126\342\205\045\364\065\162\017\370\123\320\101\341\104  
\001\302\264\034\303\061\102\026\107\205\063\042\166\262\012\157  
\017\345\045\120\117\205\206\276\277\230\056\020\147\036\276\021  
\005\206\005\220\304\131\320\174\170\020\260\200\134\267\341\307  
\053\165\313\174\237\256\265\321\235\043\067\143\247\334\102\242  
\055\222\004\033\120\301\173\270\076\033\311\126\004\213\057\122  
\233\255\251\126\351\301\377\255\251\130\207\060\266\201\367\227  
\105\374\031\127\073\053\157\344\107\364\231\105\376\035\361\370  
\227\243\210\035\067\034\134\217\340\166\045\232\120\370\240\124  
\377\104\220\166\043\322\062\306\303\253\006\277\374\373\277\363  
\255\175\222\142\002\133\051\323\065\243\223\232\103\144\140\135  
\262\372\062\377\073\004\257\115\100\152\371\307\343\357\043\375  
\153\313\345\017\213\070\015\356\012\374\376\017\230\237\060\061  
\335\154\122\145\371\213\201\276\042\341\034\130\003\272\221\033  
\211\007\002\003\001\000\001\243\102\060\100\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003  
\125\035\016\004\026\004\024\152\070\133\046\215\336\213\132\362  
\117\172\124\203\031\030\343\010\065\246\272\060\015\006\011\052  
\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000\074

```
\325\167\075\332\337\211\272\207\014\010\124\152\040\120\222\276
\260\101\075\271\046\144\203\012\057\350\100\300\227\050\047\202
\060\112\311\223\377\152\347\246\000\177\211\102\232\326\021\345
\123\316\057\314\362\332\005\304\376\342\120\304\072\206\175\314
\332\176\020\011\073\222\065\052\123\262\376\353\053\005\331\154
\135\346\320\357\323\152\146\236\025\050\205\172\350\202\000\254
\036\247\011\151\126\102\323\150\121\030\276\124\232\277\104\101
\272\111\276\040\272\151\134\356\270\167\315\316\154\037\255\203
\226\030\175\016\265\024\071\204\361\050\351\055\243\236\173\036
\172\162\132\203\263\171\157\357\264\374\320\012\245\130\117\106
\337\373\155\171\131\362\204\042\122\256\017\314\373\174\073\347
\152\312\107\141\303\172\370\323\222\004\037\270\040\204\341\066
\124\026\307\100\336\073\212\163\334\337\306\011\114\337\354\332
\377\324\123\102\241\311\362\142\035\042\203\074\227\305\371\031
\142\047\254\145\042\327\323\074\306\345\216\262\123\314\111\316
\274\060\376\173\016\063\220\373\355\322\024\221\037\007\257
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "TWCA Root Certification Authority"

# Issuer: CN=TWCA Root Certification Authority,OU=Root CA,O=TAIWAN-CA,C=TW

# Serial Number: 1 (0x1)

# Subject: CN=TWCA Root Certification Authority,OU=Root CA,O=TAIWAN-CA,C=TW

# Not Valid Before: Thu Aug 28 07:24:33 2008

# Not Valid After : Tue Dec 31 15:59:59 2030

# Fingerprint (SHA-256):

BF:D8:8F:E1:10:1C:41:AE:3E:80:1B:F8:BE:56:35:0E:E9:BA:D1:A6:B9:BD:51:5E:DC:5C:6D:5B:87:11:AC:44

# Fingerprint (SHA1): CF:9E:87:6D:D3:EB:FC:42:26:97:A3:B5:A3:7A:A0:76:A9:06:23:48

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE

CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TWCA Root Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\317\236\207\155\323\353\374\102\046\227\243\265\243\172\240\166
\251\006\043\110
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\252\010\217\366\371\173\267\362\261\247\036\233\352\352\275\171
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157
```

```

\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041
\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
#
Certificate "Explicitly Distrust DigiNotar Root CA"
#
Issuer: E=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL
Serial Number:0f:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff
Subject: E=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL
Not Valid Before: Fri Jul 27 17:19:37 2007
Not Valid After : Mon Mar 31 18:19:22 2025
Fingerprint (MD5): 0A:A4:D5:CC:BA:B4:FB:A3:59:E3:E6:01:DD:53:D9:4E
Fingerprint (SHA1): C1:77:CB:4B:E0:B4:26:8E:F5:C7:CF:45:99:22:B9:B0:CE:BA:21:2F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Explicitly Distrust DigiNotar Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\022\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157
\164\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151
\147\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061
\040\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021
\151\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156
\154
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\022\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157
\164\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151
\147\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061
\040\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021
\151\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156

```

\154  
END  
CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\020\017\377\377\377\377\377\377\377\377\377\377\377\377\377\377  
\377\377  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\005\212\060\202\003\162\240\003\002\001\002\002\020\017  
\377\377\377\377\377\377\377\377\377\377\377\377\377\377\377\377\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\137  
\061\013\060\011\006\003\125\004\006\023\002\116\114\061\022\060  
\020\006\003\125\004\012\023\011\104\151\147\151\116\157\164\141  
\162\061\032\060\030\006\003\125\004\003\023\021\104\151\147\151  
\116\157\164\141\162\040\122\157\157\164\040\103\101\061\040\060  
\036\006\011\052\206\110\206\367\015\001\011\001\026\021\151\156  
\146\157\100\144\151\147\151\156\157\164\141\162\056\156\154\060  
\036\027\015\060\067\060\067\062\067\061\067\061\071\063\067\132  
\027\015\062\065\060\063\063\061\061\070\061\071\062\062\132\060  
\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061\022  
\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157\164  
\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151\147  
\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061\040  
\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021\151  
\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156\154  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\254\260\130\301\000\275\330\041\010\013\053\232\376\156\126  
\060\005\237\033\167\220\020\101\134\303\015\207\021\167\216\201  
\361\312\174\351\214\152\355\070\164\065\273\332\337\371\273\300  
\011\067\264\226\163\201\175\063\032\230\071\367\223\157\225\177  
\075\271\261\165\207\272\121\110\350\213\160\076\225\004\305\330  
\266\303\026\331\210\260\261\207\035\160\332\206\264\017\024\213  
\172\317\020\321\164\066\242\022\173\167\206\112\171\346\173\337  
\002\021\150\245\116\206\256\064\130\233\044\023\170\126\042\045  
\036\001\213\113\121\161\373\202\314\131\226\151\210\132\150\123  
\305\271\015\002\067\313\113\274\146\112\220\176\052\013\005\007  
\355\026\137\125\220\165\330\106\311\033\203\342\010\276\361\043  
\314\231\035\326\052\017\203\040\025\130\047\202\056\372\342\042  
\302\111\261\271\001\201\152\235\155\235\100\167\150\166\116\041  
\052\155\204\100\205\116\166\231\174\202\363\363\267\002\131\324  
\046\001\033\216\337\255\123\006\321\256\030\335\342\262\072\313  
\327\210\070\216\254\133\051\271\031\323\230\371\030\003\317\110  
\202\206\146\013\033\151\017\311\353\070\210\172\046\032\005\114  
\222\327\044\324\226\362\254\122\055\243\107\325\122\366\077\376  
\316\204\006\160\246\252\076\242\362\266\126\064\030\127\242\344  
\201\155\347\312\360\152\323\307\221\153\002\203\101\174\025\357  
\153\232\144\136\343\320\074\345\261\353\173\135\206\373\313\346  
\167\111\315\243\145\334\367\271\234\270\344\013\137\223\317\314

\060\032\062\034\316\034\143\225\245\371\352\341\164\213\236\351  
\053\251\060\173\240\030\037\016\030\013\345\133\251\323\321\154  
\036\007\147\217\221\113\251\212\274\322\146\252\223\001\210\262  
\221\372\061\134\325\246\301\122\010\011\315\012\143\242\323\042  
\246\350\241\331\071\006\227\365\156\215\002\220\214\024\173\077  
\200\315\033\234\272\304\130\162\043\257\266\126\237\306\172\102  
\063\051\007\077\202\311\346\037\005\015\315\114\050\066\213\323  
\310\076\034\306\210\357\136\356\211\144\351\035\353\332\211\176  
\062\246\151\321\335\314\210\237\321\320\311\146\041\334\006\147  
\305\224\172\232\155\142\114\175\314\340\144\200\262\236\107\216  
\243\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003\125  
\035\016\004\026\004\024\210\150\277\340\216\065\304\073\070\153  
\142\367\050\073\204\201\310\014\327\115\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\003\202\002\001\000\073\002  
\215\313\074\060\350\156\240\255\362\163\263\137\236\045\023\004  
\005\323\366\343\213\273\013\171\316\123\336\344\226\305\321\257  
\163\274\325\303\320\100\125\174\100\177\315\033\137\011\325\362  
\174\237\150\035\273\135\316\172\071\302\214\326\230\173\305\203  
\125\250\325\175\100\312\340\036\367\211\136\143\135\241\023\302  
\135\212\266\212\174\000\363\043\303\355\205\137\161\166\360\150  
\143\252\105\041\071\110\141\170\066\334\361\103\223\324\045\307  
\362\200\145\341\123\002\165\121\374\172\072\357\067\253\204\050  
\127\014\330\324\324\231\126\154\343\242\376\131\204\264\061\350  
\063\370\144\224\224\121\227\253\071\305\113\355\332\335\200\013  
\157\174\051\015\304\216\212\162\015\347\123\024\262\140\101\075  
\204\221\061\150\075\047\104\333\345\336\364\372\143\105\310\114  
\076\230\365\077\101\272\116\313\067\015\272\146\230\361\335\313  
\237\134\367\124\066\202\153\054\274\023\141\227\102\370\170\273  
\314\310\242\237\312\360\150\275\153\035\262\337\215\157\007\235  
\332\216\147\307\107\036\312\271\277\052\102\221\267\143\123\146  
\361\102\243\341\364\132\115\130\153\265\344\244\063\255\134\160  
\035\334\340\362\353\163\024\221\232\003\301\352\000\145\274\007  
\374\317\022\021\042\054\256\240\275\072\340\242\052\330\131\351  
\051\323\030\065\244\254\021\137\031\265\265\033\377\042\112\134  
\306\172\344\027\357\040\251\247\364\077\255\212\247\232\004\045  
\235\016\312\067\346\120\375\214\102\051\004\232\354\271\317\113  
\162\275\342\010\066\257\043\057\142\345\312\001\323\160\333\174  
\202\043\054\026\061\014\306\066\007\220\172\261\037\147\130\304  
\073\130\131\211\260\214\214\120\263\330\206\313\150\243\304\012  
\347\151\113\040\316\301\036\126\113\225\251\043\150\330\060\330  
\303\353\260\125\121\315\345\375\053\270\365\273\021\237\123\124  
\366\064\031\214\171\011\066\312\141\027\045\027\013\202\230\163  
\014\167\164\303\325\015\307\250\022\114\307\247\124\161\107\056  
\054\032\175\311\343\053\073\110\336\047\204\247\143\066\263\175  
\217\240\144\071\044\015\075\173\207\257\146\134\164\033\113\163  
\262\345\214\360\206\231\270\345\305\337\204\301\267\353

END

#

Trust for Certificate "Explicitly Distrust DigiNotar Root CA"

# Issuer: E=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL

# Serial Number:0f:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff

# Subject: E=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL

# Not Valid Before: Fri Jul 27 17:19:37 2007

# Not Valid After : Mon Mar 31 18:19:22 2025

# Fingerprint (MD5): 0A:A4:D5:CC:BA:B4:FB:A3:59:E3:E6:01:DD:53:D9:4E

# Fingerprint (SHA1): C1:77:CB:4B:E0:B4:26:8E:F5:C7:CF:45:99:22:B9:B0:CE:BA:21:2F

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Explicitly Distrust DigiNotar Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\301\167\313\113\340\264\046\216\365\307\317\105\231\042\271\260

\316\272\041\057

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\012\244\325\314\272\264\373\243\131\343\346\001\335\123\331\116

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061

\022\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157

\164\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151

\147\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061

\040\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021

\151\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156

\154

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\017\377\377\377\377\377\377\377\377\377\377\377\377\377

\377\377

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST

CKT\_NSS\_NOT\_TRUSTED

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_NOT\_TRUSTED

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_NOT\_TRUSTED

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Security Communication RootCA2"

#

# Issuer: OU=Security Communication RootCA2,O="SECOM Trust Systems CO.,LTD.",C=JP

# Serial Number: 0 (0x0)

```
Subject: OU=Security Communication RootCA2,O="SECOM Trust Systems CO.,LTD.",C=JP
Not Valid Before: Fri May 29 05:00:39 2009
Not Valid After : Tue May 29 05:00:39 2029
Fingerprint (SHA-256):
51:3B:2C:EC:B8:10:D4:CD:E5:DD:85:39:1A:DF:C6:C2:DD:60:D8:7B:B7:36:D2:B5:21:48:4A:A4:7A:0E:BE:F6
Fingerprint (SHA1): 5F:3B:8C:F2:F8:10:B3:7D:78:B4:CE:EC:19:19:C3:73:34:B9:C7:74
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication RootCA2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\062
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\167\060\202\002\137\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061\045
\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040\124
\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117\056
\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023\036
\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156\151
\143\141\164\151\157\156\040\122\157\157\164\103\101\062\060\036
\027\015\060\071\060\065\062\071\060\065\060\060\063\071\132\027
\015\062\071\060\065\062\071\060\065\060\060\063\071\132\060\135
\061\013\060\011\006\003\125\004\006\023\002\112\120\061\045\060
\043\006\003\125\004\012\023\034\123\105\103\117\115\040\124\162
\165\163\164\040\123\171\163\164\145\155\163\040\103\117\056\054
\114\124\104\056\061\047\060\045\006\003\125\004\013\023\036\123
```



\145\143\165\162\151\164\171\040\103\157\155\155\165\156\151\143  
\141\164\151\157\156\040\122\157\157\164\103\101\062\060\202\001  
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000  
\003\202\001\017\000\060\202\001\012\002\202\001\001\000\320\025  
\071\122\261\122\263\272\305\131\202\304\135\122\256\072\103\145  
\200\113\307\362\226\274\333\066\227\326\246\144\214\250\136\360  
\343\012\034\367\337\227\075\113\256\366\135\354\041\265\101\253  
\315\271\176\166\237\276\371\076\066\064\240\073\301\366\061\021  
\105\164\223\075\127\200\305\371\211\231\312\345\253\152\324\265  
\332\101\220\020\301\326\326\102\211\302\277\364\070\022\225\114  
\124\005\367\066\344\105\203\173\024\145\326\334\014\115\321\336  
\176\014\253\073\304\025\276\072\126\246\132\157\166\151\122\251  
\172\271\310\353\152\232\135\122\320\055\012\153\065\026\011\020  
\204\320\152\312\072\006\000\067\107\344\176\127\117\077\213\353  
\147\270\210\252\305\276\123\125\262\221\304\175\271\260\205\031  
\006\170\056\333\141\032\372\205\365\112\221\241\347\026\325\216  
\242\071\337\224\270\160\037\050\077\213\374\100\136\143\203\074  
\203\052\032\231\153\317\336\131\152\073\374\157\026\327\037\375  
\112\020\353\116\202\026\072\254\047\014\123\361\255\325\044\260  
\153\003\120\301\055\074\026\335\104\064\047\032\165\373\002\003  
\001\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026  
\004\024\012\205\251\167\145\005\230\174\100\201\370\017\227\054  
\070\361\012\354\074\317\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\003\202\001\001\000\114\072\243\104\254  
\271\105\261\307\223\176\310\013\012\102\337\144\352\034\356\131  
\154\010\272\211\137\152\312\112\225\236\172\217\007\305\332\105  
\162\202\161\016\072\322\314\157\247\264\241\043\273\366\044\237  
\313\027\376\214\246\316\302\322\333\314\215\374\161\374\003\051  
\301\154\135\063\137\144\266\145\073\211\157\030\166\170\365\334  
\242\110\037\031\077\216\223\353\361\372\027\356\315\116\343\004  
\022\125\326\345\344\335\373\076\005\174\342\035\136\306\247\274  
\227\117\150\072\365\351\056\012\103\266\257\127\134\142\150\174  
\267\375\243\212\204\240\254\142\276\053\011\207\064\360\152\001  
\273\233\051\126\074\376\000\067\317\043\154\361\116\252\266\164  
\106\022\154\221\356\064\325\354\232\221\347\104\276\220\061\162  
\325\111\002\366\002\345\364\037\353\174\331\226\125\251\377\354  
\212\371\231\107\377\065\132\002\252\004\313\212\133\207\161\051  
\221\275\244\264\172\015\275\232\365\127\043\000\007\041\027\077  
\112\071\321\005\111\013\247\266\067\201\245\135\214\252\063\136  
\201\050\174\247\175\047\353\000\256\215\067

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

```

Trust for "Security Communication RootCA2"
Issuer: OU=Security Communication RootCA2,O="SECOM Trust Systems CO.,LTD.",C=JP
Serial Number: 0 (0x0)
Subject: OU=Security Communication RootCA2,O="SECOM Trust Systems CO.,LTD.",C=JP
Not Valid Before: Fri May 29 05:00:39 2009
Not Valid After : Tue May 29 05:00:39 2029
Fingerprint (SHA-256):
51:3B:2C:EC:B8:10:D4:CD:E5:DD:85:39:1A:DF:C6:C2:DD:60:D8:7B:B7:36:D2:B5:21:48:4A:A4:7A:0E:BE:F6
#
Fingerprint (SHA1): 5F:3B:8C:F2:F8:10:B3:7D:78:B4:CE:EC:19:19:C3:73:34:B9:C7:74
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication RootCA2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\137\073\214\362\370\020\263\175\170\264\316\354\031\031\303\163
\064\271\307\164
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\154\071\175\244\016\125\131\262\077\326\101\261\022\120\336\103
END
CKA_ISSUER MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Actalis Authentication Root CA"
#
Issuer: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT
Serial Number:57:0a:11:97:42:c4:e3:cc
Subject: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT
Not Valid Before: Thu Sep 22 11:22:02 2011
Not Valid After : Sun Sep 22 11:22:02 2030
Fingerprint (SHA-256):

```

55:92:60:84:EC:96:3A:64:B9:6E:2A:BE:01:CE:0B:A8:6A:64:FB:FE:BC:C7:AA:B5:AF:C1:55:B3:7F:D7:60:66

# Fingerprint (SHA1): F3:73:B3:87:06:5A:28:84:8A:F2:F3:4A:CE:19:2B:DD:C7:8E:9C:AC

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Actalis Authentication Root CA"

CKA\_CERTIFICATE\_TYPE

CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\153\061\013\060\011\006\003\125\004\006\023\002\111\124\061  
\016\060\014\006\003\125\004\007\014\005\115\151\154\141\156\061  
\043\060\041\006\003\125\004\012\014\032\101\143\164\141\154\151  
\163\040\123\056\160\056\101\056\057\060\063\063\065\070\065\062  
\060\071\066\067\061\047\060\045\006\003\125\004\003\014\036\101  
\143\164\141\154\151\163\040\101\165\164\150\145\156\164\151\143  
\141\164\151\157\156\040\122\157\157\164\040\103\101

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\153\061\013\060\011\006\003\125\004\006\023\002\111\124\061  
\016\060\014\006\003\125\004\007\014\005\115\151\154\141\156\061  
\043\060\041\006\003\125\004\012\014\032\101\143\164\141\154\151  
\163\040\123\056\160\056\101\056\057\060\063\063\065\070\065\062  
\060\071\066\067\061\047\060\045\006\003\125\004\003\014\036\101  
\143\164\141\154\151\163\040\101\165\164\150\145\156\164\151\143  
\141\164\151\157\156\040\122\157\157\164\040\103\101

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\010\127\012\021\227\102\304\343\314

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\273\060\202\003\243\240\003\002\001\002\002\010\127  
\012\021\227\102\304\343\314\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\060\153\061\013\060\011\006\003\125\004  
\006\023\002\111\124\061\016\060\014\006\003\125\004\007\014\005  
\115\151\154\141\156\061\043\060\041\006\003\125\004\012\014\032  
\101\143\164\141\154\151\163\040\123\056\160\056\101\056\057\060  
\063\063\065\070\065\062\060\071\066\067\061\047\060\045\006\003  
\125\004\003\014\036\101\143\164\141\154\151\163\040\101\165\164  
\150\145\156\164\151\143\141\164\151\157\156\040\122\157\157\164  
\040\103\101\060\036\027\015\061\061\060\071\062\062\061\061\062  
\062\060\062\132\027\015\063\060\060\071\062\062\061\061\062\062  
\060\062\132\060\153\061\013\060\011\006\003\125\004\006\023\002  
\111\124\061\016\060\014\006\003\125\004\007\014\005\115\151\154  
\141\156\061\043\060\041\006\003\125\004\012\014\032\101\143\164  
\141\154\151\163\040\123\056\160\056\101\056\057\060\063\063\065

\070\065\062\060\071\066\067\061\047\060\045\006\003\125\004\003  
\014\036\101\143\164\141\154\151\163\040\101\165\164\150\145\156  
\164\151\143\141\164\151\157\156\040\122\157\157\164\040\103\101  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\247\306\304\245\051\244\054\357\345\030\305\260\120\243\157  
\121\073\237\012\132\311\302\110\070\012\302\034\240\030\177\221  
\265\207\271\100\077\335\035\150\037\010\203\325\055\036\210\240  
\370\217\126\217\155\231\002\222\220\026\325\137\010\154\211\327  
\341\254\274\040\302\261\340\203\121\212\151\115\000\226\132\157  
\057\300\104\176\243\016\344\221\315\130\356\334\373\307\036\105  
\107\335\047\271\010\001\237\246\041\035\365\101\055\057\114\375  
\050\255\340\212\255\042\264\126\145\216\206\124\217\223\103\051  
\336\071\106\170\243\060\043\272\315\360\175\023\127\300\135\322  
\203\153\110\114\304\253\237\200\132\133\072\275\311\247\042\077  
\200\047\063\133\016\267\212\014\135\007\067\010\313\154\322\172  
\107\042\104\065\305\314\314\056\216\335\052\355\267\175\146\015  
\137\141\121\042\125\033\343\106\343\343\075\320\065\142\232\333  
\257\024\310\133\241\314\211\033\341\060\046\374\240\233\037\201  
\247\107\037\004\353\243\071\222\006\237\231\323\277\323\352\117  
\120\234\031\376\226\207\036\074\145\366\243\030\044\203\206\020  
\347\124\076\250\072\166\044\117\201\041\305\343\017\002\370\223  
\224\107\040\273\376\324\016\323\150\271\335\304\172\204\202\343  
\123\124\171\335\333\234\322\362\007\233\056\266\274\076\355\205  
\155\357\045\021\362\227\032\102\141\367\112\227\350\213\261\020  
\007\372\145\201\262\242\071\317\367\074\377\030\373\306\361\132  
\213\131\342\002\254\173\222\320\116\024\117\131\105\366\014\136  
\050\137\260\350\077\105\317\317\257\233\157\373\204\323\167\132  
\225\157\254\224\204\236\356\274\300\112\217\112\223\370\104\041  
\342\061\105\141\120\116\020\330\343\065\174\114\031\264\336\005  
\277\243\006\237\310\265\315\344\037\327\027\006\015\172\225\164  
\125\015\150\032\374\020\033\142\144\235\155\340\225\240\303\224  
\007\127\015\024\346\275\005\373\270\237\346\337\213\342\306\347  
\176\226\366\123\305\200\064\120\050\130\360\022\120\161\027\060  
\272\346\170\143\274\364\262\255\233\053\262\376\341\071\214\136  
\272\013\040\224\336\173\203\270\377\343\126\215\267\021\351\073  
\214\362\261\301\135\235\244\013\114\053\331\262\030\365\265\237  
\113\002\003\001\000\001\243\143\060\141\060\035\006\003\125\035  
\016\004\026\004\024\122\330\210\072\310\237\170\146\355\211\363  
\173\070\160\224\311\002\002\066\320\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125\035  
\043\004\030\060\026\200\024\122\330\210\072\310\237\170\146\355  
\211\363\173\070\160\224\311\002\002\066\320\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\013  
\173\162\207\300\140\246\111\114\210\130\346\035\210\367\024\144  
\110\246\330\130\012\016\117\023\065\337\065\035\324\355\006\061  
\310\201\076\152\325\335\073\032\062\356\220\075\021\322\056\364

\216\303\143\056\043\146\260\147\276\157\266\300\023\071\140\252  
\242\064\045\223\165\122\336\247\235\255\016\207\211\122\161\152  
\026\074\031\035\203\370\232\051\145\276\364\077\232\331\360\363  
\132\207\041\161\200\115\313\340\070\233\077\273\372\340\060\115  
\317\206\323\145\020\031\030\321\227\002\261\053\162\102\150\254  
\240\275\116\132\332\030\277\153\230\201\320\375\232\276\136\025  
\110\315\021\025\271\300\051\134\264\350\210\367\076\066\256\267  
\142\375\036\142\336\160\170\020\034\110\133\332\274\244\070\272  
\147\355\125\076\136\127\337\324\003\100\114\201\244\322\117\143  
\247\011\102\011\024\374\000\251\302\200\163\117\056\300\100\331  
\021\173\110\352\172\002\300\323\353\050\001\046\130\164\301\300  
\163\042\155\223\225\375\071\175\273\052\343\366\202\343\054\227  
\137\116\037\221\224\372\376\054\243\330\166\032\270\115\262\070  
\117\233\372\035\110\140\171\046\342\363\375\251\320\232\350\160  
\217\111\172\326\345\275\012\016\333\055\363\215\277\353\343\244  
\175\313\307\225\161\350\332\243\174\305\302\370\164\222\004\033  
\206\254\244\042\123\100\266\254\376\114\166\317\373\224\062\300  
\065\237\166\077\156\345\220\156\240\246\046\242\270\054\276\321  
\053\205\375\247\150\310\272\001\053\261\154\164\035\270\163\225  
\347\356\267\307\045\360\000\114\000\262\176\266\013\213\034\363  
\300\120\236\045\271\340\010\336\066\146\377\067\245\321\273\124  
\144\054\311\047\265\113\222\176\145\377\323\055\341\271\116\274  
\177\244\101\041\220\101\167\246\071\037\352\236\343\237\320\146  
\157\005\354\252\166\176\277\153\026\240\353\265\307\374\222\124  
\057\053\021\047\045\067\170\114\121\152\260\363\314\130\135\024  
\361\152\110\025\377\302\007\266\261\215\017\216\134\120\106\263  
\075\277\001\230\117\262\131\124\107\076\064\173\170\155\126\223  
\056\163\352\146\050\170\315\035\024\277\240\217\057\056\270\056  
\216\362\024\212\314\351\265\174\373\154\235\014\245\341\226

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Actalis Authentication Root CA"

# Issuer: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT

# Serial Number:57:0a:11:97:42:c4:e3:cc

# Subject: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT

# Not Valid Before: Thu Sep 22 11:22:02 2011

# Not Valid After : Sun Sep 22 11:22:02 2030

# Fingerprint (SHA-256):

55:92:60:84:EC:96:3A:64:B9:6E:2A:BE:01:CE:0B:A8:6A:64:FB:FE:BC:C7:AA:B5:AF:C1:55:B3:7F:D7:60:66

# Fingerprint (SHA1): F3:73:B3:87:06:5A:28:84:8A:F2:F3:4A:CE:19:2B:DD:C7:8E:9C:AC

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

```

CKA_LABEL UTF8 "Actalis Authentication Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\363\163\263\207\006\132\050\204\212\362\363\112\316\031\053\335
\307\216\234\254
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\151\301\015\117\007\243\033\303\376\126\075\004\274\021\366\246
END
CKA_ISSUER MULTILINE_OCTAL
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\124\061
\016\060\014\006\003\125\004\007\014\005\115\151\154\141\156\061
\043\060\041\006\003\125\004\012\014\032\101\143\164\141\154\151
\163\040\123\056\160\056\101\056\057\060\063\063\065\070\065\062
\060\071\066\067\061\047\060\045\006\003\125\004\003\014\036\101
\143\164\141\154\151\163\040\101\165\164\150\145\156\164\151\143
\141\164\151\157\156\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\127\012\021\227\102\304\343\314
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Buypass Class 2 Root
CA"
#
Issuer: CN=Buypass Class 2 Root CA,O=Buypass AS-983163327,C=NO
Serial Number: 2 (0x2)
Subject: CN=Buypass Class 2 Root CA,O=Buypass AS-983163327,C=NO
Not Valid Before: Tue Oct 26 08:38:03 2010
Not Valid After : Fri Oct 26 08:38:03 2040
Fingerprint (SHA-256):
9A:11:40:25:19:7C:5B:B9:5D:94:E6:3D:55:CD:43:79:08:47:B6:46:B2:3C:DF:11:AD:A4:A0:0E:FF:15:FB:48
Fingerprint (SHA1): 49:0A:75:74:DE:87:0A:47:FE:58:EE:F6:C7:6B:EB:C6:0B:12:40:99
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Buypass Class 2 Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040

```

```
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\002
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\131\060\202\003\101\240\003\002\001\002\002\001\002
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040
\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101\060
\036\027\015\061\060\061\060\062\066\060\070\063\070\060\063\132
\027\015\064\060\061\060\062\066\060\070\063\070\060\063\132\060
\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040
\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101\060
\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001
\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000
\327\307\136\367\301\007\324\167\373\103\041\364\364\365\151\344
\356\062\001\333\243\206\037\344\131\015\272\347\165\203\122\353
\352\034\141\025\110\273\035\007\312\214\256\260\334\226\235\352
\303\140\222\206\202\050\163\234\126\006\377\113\144\360\014\052
\067\111\265\345\317\014\174\356\361\112\273\163\060\145\363\325
\057\203\266\176\343\347\365\236\253\140\371\323\361\235\222\164
\212\344\034\226\254\133\200\351\265\364\061\207\243\121\374\307
\176\241\157\216\123\167\324\227\301\125\063\222\076\030\057\165
\324\255\206\111\313\225\257\124\006\154\330\006\023\215\133\377
\341\046\031\131\300\044\272\201\161\171\220\104\120\150\044\224
\137\270\263\021\361\051\101\141\243\101\313\043\066\325\301\361
\062\120\020\116\177\364\206\223\354\204\323\216\274\113\277\134
\001\116\007\075\334\024\212\224\012\244\352\163\373\013\121\350
\023\007\030\372\016\361\053\321\124\025\175\074\341\367\264\031
\102\147\142\136\167\340\242\125\354\266\331\151\027\325\072\257
\104\355\112\305\236\344\172\047\174\345\165\327\252\313\045\347
```

\337\153\012\333\017\115\223\116\250\240\315\173\056\362\131\001  
\152\267\015\270\007\201\176\213\070\033\070\346\012\127\231\075  
\356\041\350\243\365\014\026\335\213\354\064\216\234\052\034\000  
\025\027\215\150\203\322\160\237\030\010\315\021\150\325\311\153  
\122\315\304\106\217\334\265\363\330\127\163\036\351\224\071\004  
\277\323\336\070\336\264\123\354\151\034\242\176\304\217\344\033  
\160\255\362\242\371\373\367\026\144\146\151\237\111\121\242\342  
\025\030\147\006\112\177\325\154\265\115\263\063\340\141\353\135  
\276\351\230\017\062\327\035\113\074\056\132\001\122\221\011\362  
\337\352\215\330\006\100\143\252\021\344\376\303\067\236\024\122  
\077\364\342\314\362\141\223\321\375\147\153\327\122\256\277\150  
\253\100\103\240\127\065\123\170\360\123\370\141\102\007\144\306  
\327\157\233\114\070\015\143\254\142\257\066\213\242\163\012\015  
\365\041\275\164\252\115\352\162\003\111\333\307\137\035\142\143  
\307\375\335\221\354\063\356\365\155\264\156\060\150\336\310\326  
\046\260\165\136\173\264\007\040\230\241\166\062\270\115\154\117  
\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035  
\016\004\026\004\024\311\200\167\340\142\222\202\365\106\234\363  
\272\367\114\303\336\270\243\255\071\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\001\006\060\015\006\011\052\206\110  
\206\367\015\001\001\013\005\000\003\202\002\001\000\123\137\041  
\365\272\260\072\122\071\054\222\260\154\000\311\357\316\040\357  
\006\362\226\236\351\244\164\177\172\026\374\267\365\266\373\025  
\033\077\253\246\300\162\135\020\261\161\356\274\117\343\255\254  
\003\155\056\161\056\257\304\343\255\243\275\014\021\247\264\377  
\112\262\173\020\020\037\247\127\101\262\300\256\364\054\131\326  
\107\020\210\363\041\121\051\060\312\140\206\257\106\253\035\355  
\072\133\260\224\336\104\343\101\010\242\301\354\035\326\375\117  
\266\326\107\320\024\013\312\346\312\265\173\167\176\101\037\136  
\203\307\266\214\071\226\260\077\226\201\101\157\140\220\342\350  
\371\373\042\161\331\175\263\075\106\277\264\204\257\220\034\017  
\217\022\152\257\357\356\036\172\256\002\112\212\027\053\166\376  
\254\124\211\044\054\117\077\266\262\247\116\214\250\221\227\373  
\051\306\173\134\055\271\313\146\266\267\250\133\022\121\205\265  
\011\176\142\170\160\376\251\152\140\266\035\016\171\014\375\312  
\352\044\200\162\303\227\077\362\167\253\103\042\012\307\353\266  
\014\204\202\054\200\153\101\212\010\300\353\245\153\337\231\022  
\313\212\325\136\200\014\221\340\046\010\066\110\305\372\070\021  
\065\377\045\203\055\362\172\277\332\375\216\376\245\313\105\054  
\037\304\210\123\256\167\016\331\232\166\305\216\054\035\243\272  
\325\354\062\256\300\252\254\367\321\172\115\353\324\007\342\110  
\367\042\216\260\244\237\152\316\216\262\262\140\364\243\042\320  
\043\353\224\132\172\151\335\017\277\100\127\254\153\131\120\331  
\243\231\341\156\376\215\001\171\047\043\025\336\222\235\173\011  
\115\132\347\113\110\060\132\030\346\012\155\346\217\340\322\273  
\346\337\174\156\041\202\301\150\071\115\264\230\130\146\142\314  
\112\220\136\303\372\047\004\261\171\025\164\231\314\276\255\040



```
\336\046\140\034\353\126\121\246\243\352\344\243\077\247\377\141
\334\361\132\115\154\062\043\103\356\254\250\356\356\112\022\011
\074\135\161\302\276\171\372\302\207\150\035\013\375\134\151\314
\006\320\232\175\124\231\052\311\071\032\031\257\113\052\103\363
\143\135\132\130\342\057\343\035\344\251\326\320\012\320\236\277
\327\201\011\361\311\307\046\015\254\230\026\126\240
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Buypass Class 2 Root CA"

# Issuer: CN=Buypass Class 2 Root CA,O=Buypass AS-983163327,C=NO

# Serial Number: 2 (0x2)

# Subject: CN=Buypass Class 2 Root CA,O=Buypass AS-983163327,C=NO

# Not Valid Before: Tue Oct 26 08:38:03 2010

# Not Valid After : Fri Oct 26 08:38:03 2040

# Fingerprint (SHA-256):

9A:11:40:25:19:7C:5B:B9:5D:94:E6:3D:55:CD:43:79:08:47:B6:46:B2:3C:DF:11:AD:A4:A0:0E:FF:15:FB:48

# Fingerprint (SHA1): 49:0A:75:74:DE:87:0A:47:FE:58:EE:F6:C7:6B:EB:C6:0B:12:40:99

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Buypass Class 2 Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\111\012\165\164\336\207\012\107\376\130\356\366\307\153\353\306
\013\022\100\231
```

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

```
\106\247\322\376\105\373\144\132\250\131\220\233\170\104\233\051
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\001\002
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

```
#
Certificate "Buypass Class 3 Root CA"
#
Issuer: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO
Serial Number: 2 (0x2)
Subject: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO
Not Valid Before: Tue Oct 26 08:28:58 2010
Not Valid After : Fri Oct 26 08:28:58
2040
Fingerprint (SHA-256):
ED:F7:EB:BC:A2:7A:2A:38:4D:38:7B:7D:40:10:C6:66:E2:ED:B4:84:3E:4C:29:B4:AE:1D:5B:93:32:E6:B2:4D
Fingerprint (SHA1): DA:FA:F7:FA:66:84:EC:06:8F:14:50:BD:C7:C2:81:A5:BC:A9:64:57
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Buypass Class 3 Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\002
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\131\060\202\003\101\240\003\002\001\002\002\001\002
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040
\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101\060
\036\027\015\061\060\061\060\062\066\060\070\062\070\065\070\132
\027\015\064\060\061\060\062\066\060\070\062\070\065\070\132\060
```

\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035  
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163  
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060  
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040  
\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101\060  
\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001  
\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000  
\245\332\012\225\026\120\343\225\362\136\235\166\061\006\062\172  
\233\361\020\166\270\000\232\265\122\066\315\044\107\260\237\030  
\144\274\232\366\372\325\171\330\220\142\114\042\057\336\070\075  
\326\340\250\351\034\054\333\170\021\351\216\150\121\025\162\307  
\363\063\207\344\240\135\013\134\340\127\007\052\060\365\315\304  
\067\167\050\115\030\221\346\277\325\122\375\161\055\160\076\347  
\306\304\212\343\360\050\013\364\166\230\241\213\207\125\262\072  
\023\374\267\076\047\067\216\042\343\250\117\052\357\140\273\075  
\267\071\303\016\001\107\231\135\022\117\333\103\372\127\241\355  
\371\235\276\021\107\046\133\023\230\253\135\026\212\260\067\034  
\127\235\105\377\210\226\066\277\273\312\007\173\157\207\143\327  
\320\062\152\326\135\154\014\361\263\156\071\342\153\061\056\071  
\000\047\024\336\070\300\354\031\146\206\022\350\235\162\026\023  
\144\122\307\251\067\034\375\202\060\355\204\030\035\364\256\134  
\377\160\023\000\353\261\365\063\172\113\326\125\370\005\215\113  
\151\260\365\263\050\066\134\024\304\121\163\115\153\013\361\064  
\007\333\027\071\327\334\050\173\153\365\237\363\056\301\117\027  
\052\020\363\314\312\350\353\375\153\253\056\232\237\055\202\156  
\004\324\122\001\223\055\075\206\374\176\374\337\357\102\035\246  
\153\357\271\040\306\367\275\240\247\225\375\247\346\211\044\330  
\314\214\064\154\342\043\057\331\022\032\041\271\125\221\157\013  
\221\171\031\014\255\100\210\013\160\342\172\322\016\330\150\110  
\273\202\023\071\020\130\351\330\052\007\306\022\333\130\333\322  
\073\125\020\107\005\025\147\142\176\030\143\246\106\077\011\016  
\124\062\136\277\015\142\172\047\357\200\350\333\331\113\006\132  
\067\132\045\320\010\022\167\324\157\011\120\227\075\310\035\303  
\337\214\105\060\126\306\323\144\253\146\363\300\136\226\234\303  
\304\357\303\174\153\213\072\171\177\263\111\317\075\342\211\237  
\240\060\113\205\271\234\224\044\171\217\175\153\251\105\150\017  
\053\320\361\332\034\313\151\270\312\111\142\155\310\320\143\142  
\335\140\017\130\252\217\241\274\005\245\146\242\317\033\166\262  
\204\144\261\114\071\122\300\060\272\360\214\113\002\260\266\267  
\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035  
\016\004\026\004\024\107\270\315\377\345\157\356\370\262\354\057  
\116\016\371\045\260\216\074\153\303\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\001\006\060\015\006\011\052\206\110  
\206\367\015\001\001\013\005\000\003\202\002\001\000\000\040\043  
\101\065\004\220\302\100\142\140\357\342\065\114\327\077\254\342  
\064\220\270\241\157\166\372\026\026\244\110\067\054\351\220\302  
\362\074\370\012\237\330\201\345\273\133\332\045\054\244\247\125

\161\044\062\366\310\013\362\274\152\370\223\254\262\007\302\137  
\237\333\314\310\212\252\276\152\157\341\111\020\314\061\327\200  
\273\273\310\330\242\016\144\127\352\242\365\302\251\061\025\322  
\040\152\354\374\042\001\050\317\206\270\200\036\251\314\021\245  
\074\362\026\263\107\235\374\322\200\041\304\313\320\107\160\101  
\241\312\203\031\010\054\155\362\135\167\234\212\024\023\324\066  
\034\222\360\345\006\067\334\246\346\220\233\070\217\134\153\033  
\106\206\103\102\137\076\001\007\123\124\135\145\175\367\212\163  
\241\232\124\132\037\051\103\024\047\302\205\017\265\210\173\032  
\073\224\267\035\140\247\265\234\347\051\151\127\132\233\223\172  
\103\060\033\003\327\142\310\100\246\252\374\144\344\112\327\221  
\123\001\250\040\210\156\234\137\104\271\313\140\201\064\354\157  
\323\175\332\110\137\353\264\220\274\055\251\034\013\254\034\325  
\242\150\040\200\004\326\374\261\217\057\273\112\061\015\112\206  
\034\353\342\066\051\046\365\332\330\304\362\165\141\317\176\256  
\166\143\112\172\100\145\223\207\370\036\200\214\206\345\206\326  
\217\016\374\123\054\140\350\026\141\032\242\076\103\173\315\071  
\140\124\152\365\362\211\046\001\150\203\110\242\063\350\311\004  
\221\262\021\064\021\076\352\320\103\031\037\003\223\220\014\377  
\121\075\127\364\101\156\341\313\240\276\353\311\143\315\155\314  
\344\370\066\252\150\235\355\275\135\227\160\104\015\266\016\065  
\334\341\014\135\273\240\121\224\313\176\026\353\021\057\243\222  
\105\310\114\161\331\274\311\231\122\127\106\057\120\317\275\065  
\151\364\075\025\316\006\245\054\017\076\366\201\272\224\273\303  
\273\277\145\170\322\206\171\377\111\073\032\203\014\360\336\170  
\354\310\362\115\114\032\336\202\051\370\301\132\332\355\356\346  
\047\136\350\105\320\235\034\121\250\150\253\104\343\320\213\152  
\343\370\073\273\334\115\327\144\362\121\276\346\252\253\132\351  
\061\356\006\274\163\277\023\142\012\237\307\271\227

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Buypass Class 3 Root CA"

#

Issuer: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO

# Serial Number: 2 (0x2)

# Subject: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO

# Not Valid Before: Tue Oct 26 08:28:58 2010

# Not Valid After : Fri Oct 26 08:28:58 2040

# Fingerprint (SHA-256):

ED:F7:EB:BC:A2:7A:2A:38:4D:38:7B:7D:40:10:C6:66:E2:ED:B4:84:3E:4C:29:B4:AE:1D:5B:93:32:E6:B2:4D

# Fingerprint (SHA1): DA:FA:F7:FA:66:84:EC:06:8F:14:50:BD:C7:C2:81:A5:BC:A9:64:57

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

```

CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Bypass Class 3 Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\332\372\367\372\146\204\354\006\217\024\120\275\307\302\201\245
\274\251\144\127
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\075\073\030\236\054\144\132\350\325\210\316\016\371\067\302\354
END
CKA_ISSUER MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "T-TeleSec GlobalRoot Class 3"
#
Issuer: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE
Serial Number: 1 (0x1)
Subject: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE
Not Valid Before: Wed Oct 01 10:29:56 2008
Not Valid After : Sat Oct 01 23:59:59 2033
Fingerprint (SHA-256):
FD:73:DA:D3:1C:64:4F:F1:B4:3B:EF:0C:CD:DA:96:71:0B:9C:D9:87:5E:CA:7E:31:70:7A:F3:E9:6D:52:2B:BD
Fingerprint (SHA1):
55:A6:72:3E:CB:F2:EC:CD:C3:23:74:70:19:9D:2A:BE:11:E3:81:D1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "T-TeleSec GlobalRoot Class 3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163

```

\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040  
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060  
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155  
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045  
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123  
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154  
\141\163\163\040\063

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105  
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163  
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040  
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060  
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155  
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045  
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123  
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154  
\141\163\163\040\063

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\001

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\303\060\202\002\253\240\003\002\001\002\002\001\001  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163\164  
\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040\123  
\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060\035  
\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155\163  
\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045\060  
\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123\145  
\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154\141  
\163\163\040\063\060\036\027\015\060\070\061\060\060\061\061\060  
\062\071\065\066\132\027\015\063\063\061\060\060\061\062\063\065  
\071\065\071\132\060\201\202\061\013\060\011\006\003\125\004\006  
\023\002\104\105\061\053\060\051\006\003\125\004\012\014\042\124  
\055\123\171\163\164\145\155\163\040\105\156\164\145\162\160\162  
\151\163\145\040\123\145\162\166\151\143\145\163\040\107\155\142  
\110\061\037\060\035\006\003\125\004\013\014\026\124\055\123\171  
\163\164\145\155\163\040\124\162\165\163\164\040\103\145\156\164  
\145\162\061\045\060\043\006\003\125\004\003\014\034\124\055\124  
\145\154\145\123\145\143\040\107\154\157\142\141\154\122\157\157  
\164\040\103\154\141\163\163\040\063\060\202\001\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017  
\000\060\202\001\012\002\202\001\001\000\275\165\223\360\142\042

\157\044\256\340\172\166\254\175\275\331\044\325\270\267\374\315  
\360\102\340\353\170\210\126\136\233\232\124\035\115\014\212\366  
\323\317\160\364\122\265\330\223\004\343\106\206\161\101\112\053  
\360\052\054\125\003\326\110\303\340\071\070\355\362\134\074\077  
\104\274\223\075\141\253\116\315\015\276\360\040\047\130\016\104  
\177\004\032\207\245\327\226\024\066\220\320\111\173\241\165\373  
\032\153\163\261\370\316\251\011\054\362\123\325\303\024\104\270  
\206\245\366\213\053\071\332\243\063\124\331\372\162\032\367\042  
\025\034\210\221\153\177\146\345\303\152\200\260\044\363\337\206  
\105\210\375\031\177\165\207\037\037\261\033\012\163\044\133\271  
\145\340\054\124\310\140\323\146\027\077\341\314\124\063\163\221  
\002\072\246\177\173\166\071\242\037\226\266\070\256\265\310\223  
\164\035\236\271\264\345\140\235\057\126\321\340\353\136\133\114  
\022\160\014\154\104\040\253\021\330\364\031\366\322\234\122\067  
\347\372\266\302\061\073\112\324\024\231\255\307\032\365\135\137  
\372\007\270\174\015\037\326\203\036\263\002\003\001\000\001\243  
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024\265  
\003\367\166\073\141\202\152\022\252\030\123\353\003\041\224\277  
\376\316\312\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\001\001\000\126\075\357\224\325\275\332\163\262  
\130\276\256\220\255\230\047\227\376\001\261\260\122\000\270\115  
\344\033\041\164\033\176\300\356\136\151\052\045\257\134\326\035  
\332\322\171\311\363\227\051\340\206\207\336\004\131\017\361\131  
\324\144\205\113\231\257\045\004\036\311\106\251\227\336\202\262  
\033\160\237\234\366\257\161\061\335\173\005\245\054\323\271\312  
\107\366\312\362\366\347\255\271\110\077\274\026\267\301\155\364  
\352\011\257\354\363\265\347\005\236\246\036\212\123\121\326\223  
\201\314\164\223\366\271\332\246\045\005\164\171\132\176\100\076  
\202\113\046\021\060\156\341\077\101\307\107\000\065\325\365\323  
\367\124\076\201\075\332\111\152\232\263\357\020\075\346\353\157  
\321\310\042\107\313\314\317\001\061\222\331\030\343\042\276\011  
\036\032\076\132\262\344\153\014\124\172\175\103\116\270\211\245  
\173\327\242\075\226\206\314\362\046\064\055\152\222\235\232\032  
\320\060\342\135\116\004\260\137\213\040\176\167\301\075\225\202  
\321\106\232\073\074\170\270\157\241\320\015\144\242\170\036\051  
\116\223\303\244\124\024\133

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "T-TeleSec GlobalRoot Class 3"

# Issuer: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services GmbH,C=DE

# Serial Number: 1 (0x1)

```

Subject: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE
Not Valid Before: Wed Oct 01 10:29:56 2008
Not Valid After : Sat Oct 01 23:59:59 2033
Fingerprint (SHA-256):
FD:73:DA:D3:1C:64:4F:F1:B4:3B:EF:0C:CD:DA:96:71:0B:9C:D9:87:5E:CA:7E:31:70:7A:F3:E9:6D:52:2B:BD
Fingerprint (SHA1): 55:A6:72:3E:CB:F2:EC:CD:C3:23:74:70:19:9D:2A:BE:11:E3:81:D1
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "T-TeleSec GlobalRoot Class 3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\125\246\162\076\313\362\354\315\303\043\164\160\031\235\052\276
\021\343\201\321
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\312\373\100\250\116\071\222\212\035\376\216\057\304\047\352\357
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154
\141\163\163\040\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "D-TRUST Root Class 3 CA 2 2009"
#
Issuer: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE
Serial Number: 623603 (0x983f3)
Subject: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE
Not Valid Before: Thu Nov 05 08:35:58 2009
Not Valid After : Mon Nov 05 08:35:58 2029
Fingerprint (SHA-256):

```



49:E7:A4:42:AC:F0:EA:62:87:05:00:54:B5:25:64:B6:50:E4:F4:9E:42:E3:48:D6:AA:38:E0:39:E9:57:B1:C1  
# Fingerprint (SHA1): 58:E8:AB:B0:36:15:33:FB:80:F7:9B:1B:6D:29:D3:FF:8D:5F:00:F0  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE  
CKA\_TOKEN CK\_BBOOL  
CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "D-TRUST Root Class 3 CA 2 2009"  
CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509  
CKA\_SUBJECT MULTILINE\_OCTAL  
\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163  
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014  
\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154  
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071  
END  
CKA\_ID UTF8 "0"  
CKA\_ISSUER MULTILINE\_OCTAL  
\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163  
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014  
\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154  
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071  
END  
CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\003\011\203\363  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\004\063\060\202\003\033\240\003\002\001\002\002\003\011  
\203\363\060\015\006\011\052\206\110\206\367\015\001\001\013\005  
\000\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105  
\061\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165  
\163\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003  
\014\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103  
\154\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071  
\060\036\027\015\060\071\061\061\060\065\060\070\063\065\065\070  
\132\027\015\062\071\061\061\060\065\060\070\063\065\065\070\132  
\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163  
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014  
\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154  
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071\060  
\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001  
\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000  
\323\262\112\317\172\107\357\165\233\043\372\072\057\326\120\105  
\211\065\072\306\153\333\376\333\000\150\250\340\003\021\035\067  
\120\010\237\115\112\150\224\065\263\123\321\224\143\247\040\126  
\257\336\121\170\354\052\075\363\110\110\120\076\012\337\106\125

\213\047\155\303\020\115\015\221\122\103\330\207\340\135\116\066  
\265\041\312\137\071\100\004\137\133\176\314\243\306\053\251\100  
\036\331\066\204\326\110\363\222\036\064\106\040\044\301\244\121  
\216\112\032\357\120\077\151\135\031\177\105\303\307\001\217\121  
\311\043\350\162\256\264\274\126\011\177\022\313\034\261\257\051  
\220\012\311\125\314\017\323\264\032\355\107\065\132\112\355\234  
\163\004\041\320\252\275\014\023\265\000\312\046\154\304\153\014  
\224\132\225\224\332\120\232\361\377\245\053\146\061\244\311\070  
\240\337\035\037\270\011\056\363\247\350\147\122\253\225\037\340  
\106\076\330\244\303\312\132\305\061\200\350\110\232\237\224\151  
\376\031\335\330\163\174\201\312\226\336\216\355\263\062\005\145  
\204\064\346\346\375\127\020\265\137\166\277\057\260\020\015\305  
\002\003\001\000\001\243\202\001\032\060\202\001\026\060\017\006  
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\035  
\006\003\125\035\016\004\026\004\024\375\332\024\304\237\060\336  
\041\275\036\102\071\374\253\143\043\111\340\361\204\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\201\323  
\006\003\125\035\037\004\201\313\060\201\310\060\201\200\240\176  
\240\174\206\172\154\144\141\160\072\057\057\144\151\162\145\143  
\164\157\162\171\056\144\055\164\162\165\163\164\056\156\145\164  
\057\103\116\075\104\055\124\122\125\123\124\045\062\060\122\157  
\157\164\045\062\060\103\154\141\163\163\045\062\060\063\045\062  
\060\103\101\045\062\060\062\045\062\060\062\060\060\071\054\117  
\075\104\055\124\162\165\163\164\045\062\060\107\155\142\110\054  
\103\075\104\105\077\143\145\162\164\151\146\151\143\141\164\145  
\162\145\166\157\143\141\164\151\157\156\154\151\163\164\060\103  
\240\101\240\077\206\075\150\164\164\160\072\057\057\167\167\167  
\056\144\055\164\162\165\163\164\056\156\145\164\057\143\162\154  
\057\144\055\164\162\165\163\164\137\162\157\157\164\137\143\154  
\141\163\163\137\063\137\143\141\137\062\137\062\060\060\071\056  
\143\162\154\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\001\001\000\177\227\333\060\310\337\244\234\175  
\041\172\200\160\316\024\022\151\210\024\225\140\104\001\254\262  
\351\060\117\233\120\302\146\330\176\215\060\265\160\061\351\342  
\151\307\363\160\333\040\025\206\320\015\360\276\254\001\165\204  
\316\176\237\115\277\267\140\073\234\363\312\035\342\136\150\330  
\243\235\227\345\100\140\322\066\041\376\320\264\270\027\332\164  
\243\177\324\337\260\230\002\254\157\153\153\054\045\044\162\241  
\145\356\045\132\345\346\062\347\362\337\253\111\372\363\220\151  
\043\333\004\331\347\134\130\374\145\324\227\276\314\374\056\012  
\314\045\052\065\004\370\140\221\025\165\075\101\377\043\037\031  
\310\154\353\202\123\004\246\344\114\042\115\215\214\272\316\133  
\163\354\144\124\120\155\321\234\125\373\151\303\066\303\214\274  
\074\205\246\153\012\046\015\340\223\230\140\256\176\306\044\227  
\212\141\137\221\216\146\222\011\207\066\315\213\233\055\076\366  
\121\324\120\324\131\050\275\203\362\314\050\173\123\206\155\330  
\046\210\160\327\352\221\315\076\271\312\300\220\156\132\306\136  
\164\145\327\134\376\243\342

```

END
CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "D-TRUST Root Class 3 CA 2 2009"
Issuer: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE
Serial Number: 623603 (0x983f3)
Subject: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE
Not Valid Before: Thu Nov 05 08:35:58 2009
Not Valid After : Mon Nov 05 08:35:58 2029
Fingerprint (SHA-256):
49:E7:A4:42:AC:F0:EA:62:87:05:00:54:B5:25:64:B6:50:E4:F4:9E:42:E3:48:D6:AA:38:E0:39:E9:57:B1:C1
Fingerprint (SHA1): 58:E8:AB:B0:36:15:33:FB:80:F7:9B:1B:6D:29:D3:FF:8D:5F:00:F0
CKA_CLASS
CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root Class 3 CA 2 2009"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\130\350\253\260\066\025\063\373\200\367\233\033\155\051\323\377
\215\137\000\360
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\315\340\045\151\215\107\254\234\211\065\220\367\375\121\075\057
END
CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014
\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\011\203\363
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

#
Certificate "D-TRUST Root Class 3 CA 2 EV 2009"
#
Issuer: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE

```

```
Serial Number: 623604 (0x983f4)
Subject: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE
Not Valid Before: Thu Nov 05 08:50:46 2009
Not Valid After : Mon Nov 05 08:50:46 2029
Fingerprint (SHA-256):
EE:C5:49:6B:98:8C:E9:86:25:B9:34:09:2E:EC:29:08:BE:D0:B0:F3:16:C2:D4:73:0C:84:EA:F1:F3:D3:48:81
Fingerprint (SHA1): 96:C9:1B:0B:95:B4:10:98:42:FA:D0:D8:22:79:FE:60:FA:B9:16:83
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root Class 3 CA 2 EV 2009"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003\014
\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062\060
\060\071
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003\014
\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062\060
\060\071
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\011\203\364
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\103\060\202\003\053\240\003\002\001\002\002\003\011
\203\364\060\015\006\011\052\206\110\206\367\015\001\001\013\005
\000\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165
\163\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003
\014\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103
\154\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062
\060\060\071\060\036\027\015\060\071\061\061\060\065\060\070\065
\060\064\066\132\027\015\062\071\061\061\060\065\060\070\065\060
\064\066\132\060\120\061\013\060\011\006\003\125\004\006\023\002
\104\105\061\025\060\023\006\003\125\004\012\014\014\104\055\124
\162\165\163\164\040\107\155\142\110\061\052\060\050\006\003\125
\004\003\014\041\104\055\124\122\125\123\124\040\122\157\157\164
```

\040\103\154\141\163\163\040\063\040\103\101\040\062\040\105\126  
\040\062\060\060\071\060\202\001\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001  
\012\002\202\001\001\000\231\361\204\064\160\272\057\267\060\240  
\216\275\174\004\317\276\142\274\231\375\202\227\322\172\012\147  
\226\070\011\366\020\116\225\042\163\231\215\332\025\055\347\005  
\374\031\163\042\267\216\230\000\274\074\075\254\241\154\373\326  
\171\045\113\255\360\314\144\332\210\076\051\270\017\011\323\064  
\335\063\365\142\321\341\315\031\351\356\030\117\114\130\256\342  
\036\326\014\133\025\132\330\072\270\304\030\144\036\343\063\262  
\265\211\167\116\014\277\331\224\153\023\227\157\022\243\376\231  
\251\004\314\025\354\140\150\066\355\010\173\267\365\277\223\355  
\146\061\203\214\306\161\064\207\116\027\352\257\213\221\215\034  
\126\101\256\042\067\136\067\362\035\331\321\055\015\057\151\121  
\247\276\146\246\212\072\052\275\307\032\261\341\024\360\276\072  
\035\271\317\133\261\152\376\264\261\106\040\242\373\036\073\160  
\357\223\230\175\214\163\226\362\305\357\205\160\255\051\046\374  
\036\004\076\034\240\330\017\313\122\203\142\174\356\213\123\225  
\220\251\127\242\352\141\005\330\371\115\304\047\372\156\255\355  
\371\327\121\367\153\245\002\003\001\000\001\243\202\001\044\060  
\202\001\040\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\323  
\224\212\114\142\023\052\031\056\314\257\162\212\175\066\327\232  
\034\334\147\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\201\335\006\003\125\035\037\004\201\325\060\201  
\322\060\201\207\240\201\204\240\201\201\206\177\154\144\141\160  
\072\057\057\144\151\162\145\143\164\157\162\171\056\144\055\164  
\162\165\163\164\056\156\145\164\057\103\116\075\104\055\124\122  
\125\123\124\045\062\060\122\157\157\164\045\062\060\103\154\141  
\163\163\045\062\060\063\045\062\060\103\101\045\062\060\062\045  
\062\060\105\126\045\062\060\062\060\060\071\054\117\075\104\055  
\124\162\165\163\164\045\062\060\107\155\142\110\054\103\075\104  
\105\077\143\145\162\164\151\146\151\143\141\164\145\162\145\166  
\157\143\141\164\151\157\156\154\151\163\164\060\106\240\104\240  
\102\206\100\150\164\164\160\072\057\057\167\167\167\056\144\055  
\164\162\165\163\164\056\156\145\164\057\143\162\154\057\144\055  
\164\162\165\163\164\137\162\157\157\164\137\143\154\141\163\163  
\137\063\137\143\141\137\062\137\145\166\137\062\060\060\071\056  
\143\162\154\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\001\001\000\064\355\173\132\074\244\224\210\357  
\032\021\165\007\057\263\376\074\372\036\121\046\353\207\366\051  
\336\340\361\324\306\044\011\351\301\317\125\033\264\060\331\316  
\032\376\006\121\246\025\244\055\357\262\113\277\040\050\045\111  
\321\246\066\167\064\350\144\337\122\261\021\307\163\172\315\071  
\236\302\255\214\161\041\362\132\153\257\337\074\116\125\257\262  
\204\145\024\211\271\167\313\052\061\276\317\243\155\317\157\110  
\224\062\106\157\347\161\214\240\246\204\031\067\007\362\003\105  
\011\053\206\165\174\337\137\151\127\000\333\156\330\246\162\042

```
\113\120\324\165\230\126\337\267\030\377\103\103\120\256\172\104
\173\360\171\121\327\103\075\247\323\201\323\360\311\117\271\332
\306\227\206\320\202\303\344\102\155\376\260\342\144\116\016\046
\347\100\064\046\265\010\211\327\010\143\143\070\047\165\036\063
\352\156\250\335\237\231\117\164\115\201\211\200\113\335\232\227
\051\134\057\276\201\101\271\214\377\352\175\140\006\236\315\327
\075\323\056\243\025\274\250\346\046\345\157\303\334\270\003\041
\352\237\026\361\054\124\265
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "D-TRUST Root Class 3 CA 2 EV 2009"

# Issuer: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE

# Serial Number: 623604 (0x983f4)

# Subject: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE

# Not Valid Before: Thu Nov 05 08:50:46 2009

# Not Valid After : Mon Nov 05 08:50:46 2029

# Fingerprint (SHA-256):

EE:C5:49:6B:98:8C:E9:86:25:B9:34:09:2E:EC:29:08:BE:D0:B0:F3:16:C2:D4:73:0C:84:EA:F1:F3:D3:48:81

# Fingerprint (SHA1): 96:C9:1B:0B:95:B4:10:98:42:FA:D0:D8:22:79:FE:60:FA:B9:16:83

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "D-TRUST Root Class 3 CA 2 EV 2009"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\226\311\033\013\225\264\020\230\102\372\320\330\042\171\376\140
\372\271\026\203
```

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

```
\252\306\103\054\136\055\315\304\064\300\120\117\021\002\117\266
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003\014
\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062\060
\060\071
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\003\011\203\364
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
Certificate "CA Disig Root R2"
```

```
#
```

```
Issuer: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK
```

```
Serial Number:00:92:b8:88:db:b0:8a:c1:63
```

```
Subject: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK
```

```
Not Valid Before: Thu
```

```
Jul 19 09:15:30 2012
```

```
Not Valid After : Sat Jul 19 09:15:30 2042
```

```
Fingerprint (SHA-256):
```

```
E2:3D:4A:03:6D:7B:70:E9:F5:95:B1:42:20:79:D2:B9:1E:DF:BB:1F:B6:51:A0:63:3E:AA:8A:9D:C5:F8:07:03
```

```
Fingerprint (SHA1): B5:61:EB:EA:A4:DE:E4:25:4B:69:1A:98:A5:57:47:C2:34:C7:D9:71
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "CA Disig Root R2"
```

```
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
```

```
CKA_SUBJECT MULTILINE_OCTAL
```

```
\060\122\061\013\060\011\006\003\125\004\006\023\002\123\113\061
\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163
\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104
\151\163\151\147\040\141\056\163\056\061\031\060\027\006\003\125
\004\003\023\020\103\101\040\104\151\163\151\147\040\122\157\157
\164\040\122\062
```

```
END
```

```
CKA_ID UTF8 "0"
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\122\061\013\060\011\006\003\125\004\006\023\002\123\113\061
\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163
\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104
\151\163\151\147\040\141\056\163\056\061\031\060\027\006\003\125
\004\003\023\020\103\101\040\104\151\163\151\147\040\122\157\157
\164\040\122\062
```

```
END
```

```
CKA_SERIAL_NUMBER
```

```
MULTILINE_OCTAL
```

```
\002\011\000\222\270\210\333\260\212\301\143
```

```
END
```

```
CKA_VALUE MULTILINE_OCTAL
```

```
\060\202\005\151\060\202\003\121\240\003\002\001\002\002\011\000
\222\270\210\333\260\212\301\143\060\015\006\011\052\206\110\206
\367\015\001\001\013\005\000\060\122\061\013\060\011\006\003\125
\004\006\023\002\123\113\061\023\060\021\006\003\125\004\007\023
```

\012\102\162\141\164\151\163\154\141\166\141\061\023\060\021\006  
\003\125\004\012\023\012\104\151\163\151\147\040\141\056\163\056  
\061\031\060\027\006\003\125\004\003\023\020\103\101\040\104\151  
\163\151\147\040\122\157\157\164\040\122\062\060\036\027\015\061  
\062\060\067\061\071\060\071\061\065\063\060\132\027\015\064\062  
\060\067\061\071\060\071\061\065\063\060\132\060\122\061\013\060  
\011\006\003\125\004\006\023\002\123\113\061\023\060\021\006\003  
\125\004\007\023\012\102\162\141\164\151\163\154\141\166\141\061  
\023\060\021\006\003\125\004\012\023\012\104\151\163\151\147\040  
\141\056\163\056\061\031\060\027\006\003\125\004\003\023\020\103  
\101\040\104\151\163\151\147\040\122\157\157\164\040\122\062\060  
\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001  
\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000  
\242\243\304\000\011\326\205\135\055\155\024\366\302\303\163\236  
\065\302\161\125\176\201\373\253\106\120\340\301\174\111\170\346  
\253\171\130\074\332\377\174\034\237\330\227\002\170\076\153\101  
\004\351\101\275\276\003\054\105\366\057\144\324\253\135\243\107  
\075\144\233\351\150\232\306\314\033\077\272\276\262\213\064\002  
\056\230\125\031\374\214\157\252\137\332\114\316\115\003\041\243  
\330\322\064\223\126\226\313\114\014\000\026\074\137\032\315\310  
\307\154\246\255\323\061\247\274\350\345\341\146\326\322\373\003  
\264\101\145\311\020\256\016\005\143\306\200\152\151\060\375\322  
\356\220\357\015\047\337\237\225\163\364\341\045\332\154\026\336  
\101\070\064\352\213\374\321\350\004\024\141\055\101\176\254\307  
\167\116\313\121\124\373\136\222\030\033\004\132\150\306\311\304  
\372\267\023\240\230\267\021\053\267\326\127\314\174\236\027\321  
\313\045\376\206\116\044\056\126\014\170\115\236\001\022\246\053  
\247\001\145\156\174\142\035\204\204\337\352\300\153\265\245\052  
\225\203\303\123\021\014\163\035\013\262\106\220\321\102\072\316  
\100\156\225\255\377\306\224\255\156\227\204\216\175\157\236\212  
\200\015\111\155\163\342\173\222\036\303\363\301\363\353\056\005  
\157\331\033\317\067\166\004\310\264\132\344\027\247\313\335\166  
\037\320\031\166\350\054\005\263\326\234\064\330\226\334\141\207  
\221\005\344\104\010\063\301\332\271\010\145\324\256\262\066\015  
\353\272\070\272\014\345\233\236\353\215\146\335\231\317\326\211  
\101\366\004\222\212\051\051\155\153\072\034\347\165\175\002\161  
\016\363\300\347\275\313\031\335\235\140\262\302\146\140\266\261  
\004\356\311\346\206\271\232\146\100\250\347\021\355\201\105\003  
\213\366\147\131\350\301\006\021\275\335\317\200\002\117\145\100  
\170\134\107\120\310\233\346\037\201\173\344\104\250\133\205\232  
\342\336\132\325\307\371\072\104\146\113\344\062\124\174\344\154  
\234\263\016\075\027\242\262\064\022\326\176\262\250\111\273\321  
\172\050\100\276\242\026\037\337\344\067\037\021\163\373\220\012  
\145\103\242\015\174\370\006\001\125\063\175\260\015\270\364\365  
\256\245\102\127\174\066\021\214\173\136\304\003\235\214\171\235  
\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\006\060\035\006\003\125\035



\016\004\026\004\024\265\231\370\257\260\224\365\343\040\326\012  
\255\316\116\126\244\056\156\102\355\060\015\006\011\052\206\110  
\206\367\015\001\001\013\005\000\003\202\002\001\000\046\006\136  
\160\347\145\063\310\202\156\331\234\027\072\033\172\146\262\001  
\366\170\073\151\136\057\352\377\116\371\050\303\230\052\141\114  
\264\044\022\212\175\155\021\024\367\234\265\312\346\274\236\047  
\216\114\031\310\251\275\172\300\327\066\016\155\205\162\156\250  
\306\242\155\366\372\163\143\177\274\156\171\010\034\235\212\237  
\032\212\123\246\330\273\331\065\125\261\021\305\251\003\263\126  
\073\271\204\223\042\136\176\301\366\022\122\213\352\054\147\274  
\376\066\114\365\270\317\321\263\111\222\073\323\051\016\231\033  
\226\367\141\270\073\304\053\266\170\154\264\043\157\360\375\323  
\262\136\165\037\231\225\250\254\366\332\341\305\061\173\373\321  
\106\263\322\274\147\264\142\124\272\011\367\143\260\223\242\232  
\371\351\122\056\213\140\022\253\374\365\140\126\357\020\134\213  
\304\032\102\334\203\133\144\016\313\265\274\326\117\301\174\074  
\156\215\023\155\373\173\353\060\320\334\115\257\305\325\266\245  
\114\133\161\311\350\061\276\350\070\006\110\241\032\342\352\322  
\336\022\071\130\032\377\200\016\202\165\346\267\311\007\154\016  
\357\377\070\361\230\161\304\267\177\016\025\320\045\151\275\042  
\235\053\355\005\366\106\107\254\355\300\360\324\073\342\354\356  
\226\133\220\023\116\036\126\072\353\260\357\226\273\226\043\021  
\272\362\103\206\164\144\225\310\050\165\337\035\065\272\322\067  
\203\070\123\070\066\073\317\154\351\371\153\016\320\373\004\350  
\117\167\327\145\001\170\206\014\172\076\041\142\361\177\143\161  
\014\311\237\104\333\250\047\242\165\276\156\201\076\327\300\353  
\033\230\017\160\134\064\262\212\314\300\205\030\353\156\172\263  
\367\132\241\007\277\251\102\222\363\140\042\227\344\024\241\007  
\233\116\166\300\216\175\375\244\045\307\107\355\377\037\163\254  
\314\303\245\351\157\012\216\233\145\302\120\205\265\243\240\123  
\022\314\125\207\141\363\201\256\020\106\141\275\104\041\270\302  
\075\164\317\176\044\065\372\034\007\016\233\075\042\312\357\061  
\057\214\254\022\275\357\100\050\374\051\147\237\262\023\117\146  
\044\304\123\031\351\036\051\025\357\346\155\260\177\055\147\375  
\363\154\033\165\106\243\345\112\027\351\244\327\013

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "CA Disig Root R2"

# Issuer: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK

# Serial Number:00:92:b8:88:db:b0:8a:c1:63

# Subject: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK

# Not Valid Before: Thu Jul 19 09:15:30 2012

# Not Valid After : Sat Jul 19 09:15:30 2042

# Fingerprint (SHA-256):

```

E2:3D:4A:03:6D:7B:70:E9:F5:95:B1:42:20:79:D2:B9:1E:DF:BB:1F:B6:51:A0:63:3E:AA:8A:9D:C5:F8:07:03
Fingerprint (SHA1): B5:61:EB:EA:A4:DE:E4:25:4B:69:1A:98:A5:57:47:C2:34:C7:D9:71
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CA Disig Root R2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\265\141\353\352\244\336\344\045\113\151\032\230\245\127\107\302
\064\307\331\161
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\046\001\373\330\047\247\027\232\105\124\070\032\103\001\073\003
END
CKA_ISSUER
MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\123\113\061
\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163
\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104
\151\163\151\147\040\141\056\163\056\061\031\060\027\006\003\125
\004\003\023\020\103\101\040\104\151\163\151\147\040\122\157\157
\164\040\122\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\222\270\210\333\260\212\301\143
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "ACCVRAIZ1"
#
Issuer: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1
Serial Number:5e:c3:b7:a6:43:7f:a4:e0
Subject: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1
Not Valid Before: Thu May 05 09:37:37 2011
Not Valid After : Tue Dec 31 09:37:37 2030
Fingerprint (SHA-256):
9A:6E:C0:12:E1:A7:DA:9D:BE:34:19:4D:47:8A:D7:C0:DB:18:22:FB:07:1D:F1:29:81:49:6E:D1:04:38:41:13
#
Fingerprint (SHA1): 93:05:7A:88:15:C6:4F:CE:88:2F:FA:91:16:52:28:78:BC:53:64:17
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ACCVRAIZ1"

```

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\102\061\022\060\020\006\003\125\004\003\014\011\101\103\103  
\126\122\101\111\132\061\061\020\060\016\006\003\125\004\013\014  
\007\120\113\111\101\103\103\126\061\015\060\013\006\003\125\004  
\012\014\004\101\103\103\126\061\013\060\011\006\003\125\004\006  
\023\002\105\123

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\102\061\022\060\020\006\003\125\004\003\014\011\101\103\103  
\126\122\101\111\132\061\061\020\060\016\006\003\125\004\013\014  
\007\120\113\111\101\103\103\126\061\015\060\013\006\003\125\004  
\012\014\004\101\103\103\126\061\013\060\011\006\003\125\004\006  
\023\002\105\123

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\010\136\303\267\246\103\177\244\340

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\007\323\060\202\005\273\240\003\002\001\002\002\010\136  
\303\267\246\103\177\244\340\060\015\006\011\052\206\110\206\367  
\015\001\001\005\005\000\060\102\061\022\060\020\006\003\125\004  
\003\014\011\101\103\103\126\122\101\111\132\061\061\020\060\016  
\006\003\125\004\013\014\007\120\113\111\101\103\103\126\061\015  
\060\013\006\003\125\004\012\014\004\101\103\103\126\061\013\060  
\011\006\003\125\004\006\023\002\105\123\060\036\027\015\061\061  
\060\065\060\065\060\071\063\067\063\067\132\027\015\063\060\061  
\062\063\061\060\071\063\067\063\067\132\060\102\061\022\060\020  
\006\003\125\004\003\014\011\101\103\103\126\122\101\111\132\061  
\061\020\060\016\006\003\125\004\013\014\007\120\113\111\101\103  
\103\126\061\015\060\013\006\003\125\004\012\014\004\101\103\103  
\126\061\013\060\011\006\003\125\004\006\023\002\105\123\060\202  
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005  
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\233  
\251\253\277\141\112\227\257\057\227\146\232\164\137\320\331\226  
\375\317\342\344\146\357\037\037\107\063\302\104\243\337\232\336  
\037\265\124\335\025\174\151\065\021\157\273\310\014\216\152\030  
\036\330\217\331\026\274\020\110\066\134\360\143\263\220\132\134  
\044\067\327\243\326\313\011\161\271\361\001\162\204\260\175\333  
\115\200\315\374\323\157\311\370\332\266\016\202\322\105\205\250  
\033\150\250\075\350\364\104\154\275\241\302\313\003\276\214\076  
\023\000\204\337\112\110\300\343\042\012\350\351\067\247\030\114  
\261\011\015\043\126\177\004\115\331\027\204\030\245\310\332\100  
\224\163\353\316\016\127\074\003\201\072\235\012\241\127\103\151  
\254\127\155\171\220\170\345\265\264\073\330\274\114\215\050\241  
\247\243\247\272\002\116\045\321\052\256\355\256\003\042\270\153

\040\017\060\050\124\225\177\340\356\316\012\146\235\321\100\055  
\156\042\257\235\032\301\005\031\322\157\300\362\237\370\173\263  
\002\102\373\120\251\035\055\223\017\043\253\306\301\017\222\377  
\320\242\025\365\123\011\161\034\377\105\023\204\346\046\136\370  
\340\210\034\012\374\026\266\250\163\006\270\360\143\204\002\240  
\306\132\354\347\164\337\160\256\243\203\045\352\326\307\227\207  
\223\247\306\212\212\063\227\140\067\020\076\227\076\156\051\025  
\326\241\017\321\210\054\022\237\157\252\244\306\102\353\101\242  
\343\225\103\323\001\205\155\216\273\073\363\043\066\307\376\073  
\340\241\045\007\110\253\311\211\164\377\010\217\200\277\300\226  
\145\363\356\354\113\150\275\235\210\303\061\263\100\361\350\317  
\366\070\273\234\344\321\177\324\345\130\233\174\372\324\363\016  
\233\165\221\344\272\122\056\031\176\321\365\315\132\031\374\272  
\006\366\373\122\250\113\231\004\335\370\371\264\213\120\243\116  
\142\211\360\207\044\372\203\102\301\207\372\325\055\051\052\132  
\161\172\144\152\327\047\140\143\015\333\316\111\365\215\037\220  
\211\062\027\370\163\103\270\322\132\223\206\141\326\341\165\012  
\352\171\146\166\210\117\161\353\004\045\326\012\132\172\223\345  
\271\113\027\100\017\261\266\271\365\336\117\334\340\263\254\073  
\021\160\140\204\112\103\156\231\040\300\051\161\012\300\145\002  
\003\001\000\001\243\202\002\313\060\202\002\307\060\175\006\010  
\053\006\001\005\005\007\001\001\004\161\060\157\060\114\006\010  
\053\006\001\005\005\007\060\002\206\100\150\164\164\160\072\057  
\057\167\167\167\056\141\143\143\166\056\145\163\057\146\151\154  
\145\141\144\155\151\156\057\101\162\143\150\151\166\157\163\057  
\143\145\162\164\151\146\151\143\141\144\157\163\057\162\141\151  
\172\141\143\143\166\061\056\143\162\164\060\037\006\010\053\006  
\001\005\005\007\060\001\206\023\150\164\164\160\072\057\057\157  
\143\163\160\056\141\143\143\166\056\145\163\060\035\006\003\125  
\035\016\004\026\004\024\322\207\264\343\337\067\047\223\125\366  
\126\352\201\345\066\314\214\036\077\275\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125  
\035\043\004\030\060\026\200\024\322\207\264\343\337\067\047\223  
\125\366\126\352\201\345\066\314\214\036\077\275\060\202\001\163  
\006\003\125\035\040\004\202\001\152\060\202\001\146\060\202\001  
\142\006\004\125\035\040\000\060\202\001\130\060\202\001\042\006  
\010\053\006\001\005\005\007\002\002\060\202\001\024\036\202\001  
\020\000\101\000\165\000\164\000\157\000\162\000\151\000\144\000  
\141\000\144\000\040\000\144\000\145\000\040\000\103\000\145\000  
\162\000\164\000\151\000\146\000\151\000\143\000\141\000\143\000  
\151\000\363\000\156\000\040\000\122\000\141\000\355\000\172\000  
\040\000\144\000\145\000\040\000\154\000\141\000\040\000\101\000  
\103\000\103\000\126\000\040\000\050\000\101\000\147\000\145\000  
\156\000\143\000\151\000\141\000\040\000\144\000\145\000\040\000  
\124\000\145\000\143\000\156\000\157\000\154\000\157\000\147\000  
\355\000\141\000\040\000\171\000\040\000\103\000\145\000\162\000  
\164\000\151\000\146\000\151\000\143\000\141\000\143\000\151\000  
\363\000\156\000\040\000\105\000\154\000\145\000\143\000\164\000

\162\000\363\000\156\000\151\000\143\000\141\000\054\000\040\000  
\103\000\111\000\106\000\040\000\121\000\064\000\066\000\060\000  
\061\000\061\000\065\000\066\000\105\000\051\000\056\000\040\000  
\103\000\120\000\123\000\040\000\145\000\156\000\040\000\150\000  
\164\000\164\000\160\000\072\000\057\000\057\000\167\000\167\000  
\167\000\056\000\141\000\143\000\143\000\166\000\056\000\145\000  
\163\060\060\006\010\053\006\001\005\005\007\002\001\026\044\150  
\164\164\160\072\057\057\167\167\167\056\141\143\143\166\056\145  
\163\057\154\145\147\151\163\154\141\143\151\157\156\137\143\056  
\150\164\155\060\125\006\003\125\035\037\004\116\060\114\060\112  
\240\110\240\106\206\104\150\164\164\160\072\057\057\167\167\167  
\056\141\143\143\166\056\145\163\057\146\151\154\145\141\144\155  
\151\156\057\101\162\143\150\151\166\157\163\057\143\145\162\164  
\151\146\151\143\141\144\157\163\057\162\141\151\172\141\143\143  
\166\061\137\144\145\162\056\143\162\154\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\006\060\027\006\003\125\035  
\021\004\020\060\016\201\014\141\143\143\166\100\141\143\143\166  
\056\145\163\060\015\006\011\052\206\110\206\367\015\001\001\005  
\005\000\003\202\002\001\000\227\061\002\237\347\375\103\147\110  
\104\024\344\051\207\355\114\050\146\320\217\065\332\115\141\267  
\112\227\115\265\333\220\340\005\056\016\306\171\320\362\227\151  
\017\275\004\107\331\276\333\265\051\332\233\331\256\251\231\325  
\323\074\060\223\365\215\241\250\374\006\215\104\364\312\026\225  
\174\063\334\142\213\250\067\370\047\330\011\055\033\357\310\024  
\047\040\251\144\104\377\056\326\165\252\154\115\140\100\031\111  
\103\124\143\332\342\314\272\146\345\117\104\172\133\331\152\201  
\053\100\325\177\371\001\047\130\054\310\355\110\221\174\077\246  
\000\317\304\051\163\021\066\336\206\031\076\235\356\031\212\033  
\325\260\355\216\075\234\052\300\015\330\075\146\343\074\015\275  
\325\224\134\342\342\247\065\033\004\000\366\077\132\215\352\103  
\275\137\211\035\251\301\260\314\231\342\115\000\012\332\311\047  
\133\347\023\220\134\344\365\063\242\125\155\334\340\011\115\057  
\261\046\133\047\165\000\011\304\142\167\051\010\137\236\131\254  
\266\176\255\237\124\060\042\003\301\036\161\144\376\371\070\012  
\226\030\335\002\024\254\043\313\006\034\036\244\175\215\015\336  
\047\101\350\255\332\025\267\260\043\335\053\250\323\332\045\207  
\355\350\125\104\115\210\364\066\176\204\232\170\254\367\016\126  
\111\016\326\063\045\326\204\120\102\154\040\022\035\052\325\276  
\274\362\160\201\244\160\140\276\005\265\233\236\004\104\276\141  
\043\254\351\245\044\214\021\200\224\132\242\242\271\111\322\301  
\334\321\247\355\061\021\054\236\031\246\356\341\125\341\300\352  
\317\015\204\344\027\267\242\174\245\336\125\045\006\356\314\300  
\207\134\100\332\314\225\077\125\340\065\307\270\204\276\264\135  
\315\172\203\001\162\356\207\346\137\035\256\265\205\306\046\337  
\346\301\232\351\036\002\107\237\052\250\155\251\133\317\354\105  
\167\177\230\047\232\062\135\052\343\204\356\305\230\146\057\226  
\040\035\335\330\303\047\327\260\371\376\331\175\315\320\237\217  
\013\024\130\121\237\057\213\303\070\055\336\350\217\326\215\207

```
\244\365\126\103\026\231\054\364\244\126\264\064\270\141\067\311
\302\130\200\033\240\227\241\374\131\215\351\021\366\321\017\113
\125\064\106\052\213\206\073
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "ACCVRAIZ1"

# Issuer: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1

# Serial Number:5e:c3:b7:a6:43:7f:a4:e0

# Subject: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1

# Not Valid Before: Thu May 05 09:37:37 2011

# Not Valid After : Tue Dec 31 09:37:37 2030

# Fingerprint (SHA-256):

9A:6E:C0:12:E1:A7:DA:9D:BE:34:19:4D:47:8A:D7:C0:DB:18:22:FB:07:1D:F1:29:81:49:6E:D1:04:38:41:13

# Fingerprint (SHA1): 93:05:7A:88:15:C6:4F:CE:88:2F:FA:91:16:52:28:78:BC:53:64:17

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8

"ACCVRAIZ1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\223\005\172\210\025\306\117\316\210\057\372\221\026\122\050\170
\274\123\144\027
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\320\240\132\356\005\266\011\224\041\241\175\361\262\051\202\002
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\102\061\022\060\020\006\003\125\004\003\014\011\101\103\103
\126\122\101\111\132\061\061\020\060\016\006\003\125\004\013\014
\007\120\113\111\101\103\103\126\061\015\060\013\006\003\125\004
\012\014\004\101\103\103\126\061\013\060\011\006\003\125\004\006
\023\002\105\123
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\010\136\303\267\246\103\177\244\340
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "TWCA Global Root CA"

```

#
Issuer: CN=TWCA Global Root CA,OU=Root CA,O=TAIWAN-CA,C=TW
Serial Number: 3262 (0xcbe)
Subject: CN=TWCA Global
 Root CA,OU=Root CA,O=TAIWAN-CA,C=TW
Not Valid Before: Wed Jun 27 06:28:33 2012
Not Valid After : Tue Dec 31 15:59:59 2030
Fingerprint (SHA-256):
59:76:90:07:F7:68:5D:0F:CD:50:87:2F:9F:95:D5:75:5A:5B:2B:45:7D:81:F3:69:2B:61:0A:98:67:2F:0E:1B
Fingerprint (SHA1): 9C:BB:48:53:F6:A4:F6:D3:52:A4:E8:32:52:55:60:13:F5:AD:AF:65
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TWCA Global Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\023\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\023\007\122\157
\157\164\040\103\101\061\034\060\032\006\003\125\004\003\023\023
\124\127\103\101\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\023\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\023\007\122\157
\157\164\040\103\101\061\034\060\032\006\003\125\004\003\023\023
\124\127\103\101\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\002\014\276
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\101\060\202\003\051\240\003\002\001\002\002\002\014
\276\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000
\060\121\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\023\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\023\007\122\157
\157\164\040\103\101\061\034\060\032\006\003\125\004\003\023\023
\124\127\103\101\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101\060\036\027\015\061\062\060\066\062\067\060\066\062
\070\063\063\132\027\015\063\060\061\062\063\061\061\065\065\071
\065\071\132\060\121\061\013\060\011\006\003\125\004\006\023\002

```

\124\127\061\022\060\020\006\003\125\004\012\023\011\124\101\111  
\127\101\116\055\103\101\061\020\060\016\006\003\125\004\013\023  
\007\122\157\157\164\040\103\101\061\034\060\032\006\003\125\004  
\003\023\023\124\127\103\101\040\107\154\157\142\141\154\040\122  
\157\157\164\040\103\101\060\202\002\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202  
\002\012\002\202\002\001\000\260\005\333\310\353\214\304\156\212  
\041\357\216\115\234\161\012\037\122\160\355\155\202\234\227\305  
\327\114\116\105\111\313\100\102\265\022\064\154\031\302\164\244  
\061\137\205\002\227\354\103\063\012\123\322\234\214\216\267\270  
\171\333\053\325\152\362\216\146\304\356\053\001\007\222\324\263  
\320\002\337\120\366\125\257\146\016\313\340\107\140\057\053\062  
\071\065\122\072\050\203\370\173\026\306\030\270\142\326\107\045  
\221\316\360\031\022\115\255\143\365\323\077\165\137\051\360\241  
\060\034\052\240\230\246\025\275\356\375\031\066\360\342\221\103  
\217\372\312\326\020\047\111\114\357\335\301\361\205\160\233\312  
\352\250\132\103\374\155\206\157\163\351\067\105\251\360\066\307  
\314\210\165\036\273\154\006\377\233\153\076\027\354\141\252\161  
\174\306\035\242\367\111\351\025\265\074\326\241\141\365\021\367  
\005\157\035\375\021\276\320\060\007\302\051\260\011\116\046\334  
\343\242\250\221\152\037\302\221\105\210\134\345\230\270\161\245  
\025\031\311\174\165\021\314\160\164\117\055\233\035\221\104\375  
\126\050\240\376\273\206\152\310\372\134\013\130\334\306\113\166  
\310\253\042\331\163\017\245\364\132\002\211\077\117\236\042\202  
\356\242\164\123\052\075\123\047\151\035\154\216\062\054\144\000  
\046\143\141\066\116\243\106\267\077\175\263\055\254\155\220\242  
\225\242\316\317\332\202\347\007\064\031\226\351\270\041\252\051  
\176\246\070\276\216\051\112\041\146\171\037\263\303\265\011\147  
\336\326\324\007\106\363\052\332\346\042\067\140\313\201\266\017  
\240\017\351\310\225\177\277\125\221\005\172\317\075\025\300\157  
\336\011\224\001\203\327\064\033\314\100\245\360\270\233\147\325  
\230\221\073\247\204\170\225\046\244\132\010\370\053\164\264\000  
\004\074\337\270\024\216\350\337\251\215\154\147\222\063\035\300  
\267\322\354\222\310\276\011\277\054\051\005\157\002\153\236\357  
\274\277\052\274\133\300\120\217\101\160\161\207\262\115\267\004  
\251\204\243\062\257\256\356\153\027\213\262\261\376\154\341\220  
\214\210\250\227\110\316\310\115\313\363\006\317\137\152\012\102  
\261\036\036\167\057\216\240\346\222\016\006\374\005\042\322\046  
\341\061\121\175\062\334\017\002\003\001\000\001\243\043\060\041  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000  
\003\202\002\001\000\137\064\201\166\357\226\035\325\345\265\331  
\002\143\204\026\301\256\240\160\121\247\367\114\107\065\310\013  
\327\050\075\211\161\331\252\063\101\352\024\033\154\041\000\300  
\154\102\031\176\237\151\133\040\102\337\242\322\332\304\174\227  
\113\215\260\350\254\310\356\245\151\004\231\012\222\246\253\047  
\056\032\115\201\277\204\324\160\036\255\107\376\375\112\235\063



\340\362\271\304\105\010\041\012\332\151\151\163\162\015\276\064  
\376\224\213\255\303\036\065\327\242\203\357\345\070\307\245\205  
\037\253\317\064\354\077\050\376\014\361\127\206\116\311\125\367  
\034\324\330\245\175\006\172\157\325\337\020\337\201\116\041\145  
\261\266\341\027\171\225\105\006\316\137\314\334\106\211\143\150  
\104\215\223\364\144\160\240\075\235\050\005\303\071\160\270\142  
\173\040\375\344\333\351\010\241\270\236\075\011\307\117\373\054  
\370\223\166\101\336\122\340\341\127\322\235\003\274\167\236\376  
\236\051\136\367\301\121\140\037\336\332\013\262\055\165\267\103  
\110\223\347\366\171\306\204\135\200\131\140\224\374\170\230\217  
\074\223\121\355\100\220\007\337\144\143\044\313\116\161\005\241  
\327\224\032\210\062\361\042\164\042\256\245\246\330\022\151\114  
\140\243\002\356\053\354\324\143\222\013\136\276\057\166\153\243  
\266\046\274\217\003\330\012\362\114\144\106\275\071\142\345\226  
\353\064\143\021\050\314\225\361\255\357\357\334\200\130\110\351  
\113\270\352\145\254\351\374\200\265\265\310\105\371\254\301\237  
\331\271\352\142\210\216\304\361\113\203\022\255\346\213\204\326  
\236\302\353\203\030\237\152\273\033\044\140\063\160\314\354\367  
\062\363\134\331\171\175\357\236\244\376\311\043\303\044\356\025  
\222\261\075\221\117\046\206\275\146\163\044\023\352\244\256\143  
\301\255\175\204\003\074\020\170\206\033\171\343\304\363\362\004  
\225\040\256\043\202\304\263\072\000\142\277\346\066\044\341\127  
\272\307\036\220\165\325\137\077\225\141\053\301\073\315\345\263  
\150\141\320\106\046\251\041\122\151\055\353\056\307\353\167\316  
\246\072\265\003\063\117\166\321\347\134\124\001\135\313\170\364  
\311\014\277\317\022\216\027\055\043\150\224\347\253\376\251\262  
\053\006\320\004\315

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL

CK\_FALSE

# Trust for "TWCA Global Root CA"

# Issuer: CN=TWCA Global Root CA,OU=Root CA,O=TAIWAN-CA,C=TW

# Serial Number: 3262 (0xcbe)

# Subject: CN=TWCA Global Root CA,OU=Root CA,O=TAIWAN-CA,C=TW

# Not Valid Before: Wed Jun 27 06:28:33 2012

# Not Valid After : Tue Dec 31 15:59:59 2030

# Fingerprint (SHA-256):

59:76:90:07:F7:68:5D:0F:CD:50:87:2F:9F:95:D5:75:5A:5B:2B:45:7D:81:F3:69:2B:61:0A:98:67:2F:0E:1B

# Fingerprint (SHA1): 9C:BB:48:53:F6:A4:F6:D3:52:A4:E8:32:52:55:60:13:F5:AD:AF:65

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TWCA Global Root CA"

```

CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\234\273\110\123\366\244\366\323\122\244\350\062\122\125\140\023
\365\255\257\145
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\371\003\176\317\346\236\074\163\172\052\220\007\151\377\053\226
END
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\023\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\023\007\122\157
\157\164\040\103\101\061\034\060\032\006\003\125\004\003\023\023
\124\127\103\101\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\002\014\276
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "TeliaSonera Root CA v1"
#
Issuer: CN=TeliaSonera Root CA v1,O=TeliaSonera
Serial Number:00:95:be:16:a0:f7:2e:46:f1:7b:39:82:72:fa:8b:cd:96
Subject: CN=TeliaSonera Root CA v1,O=TeliaSonera
Not Valid Before: Thu Oct 18 12:00:50 2007
Not Valid After : Mon Oct 18 12:00:50 2032
Fingerprint (SHA-256):
DD:69:36:FE:21:F8:F0:77:C1:23:A1:A5:21:C1:22:24:F7:22:55:B7:3E:03:A7:26:06:93:E8:A2:4B:0F:A3:89
Fingerprint (SHA1): 43:13:BB:96:F1:D5:86:9B:C1:4E:6A:92:F6:CF:F6:34:69:87:82:37
CKA_CLASS
CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TeliaSonera Root CA v1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154
\151\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004
\003\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122
\157\157\164\040\103\101\040\166\061
END

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CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154  
\151\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004  
\003\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122  
\157\157\164\040\103\101\040\166\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\021\000\225\276\026\240\367\056\106\361\173\071\202\162\372  
\213\315\226

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\070\060\202\003\040\240\003\002\001\002\002\021\000  
\225\276\026\240\367\056\106\361\173\071\202\162\372\213\315\226  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060  
\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154\151  
\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004\003  
\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122\157  
\157\164\040\103\101\040\166\061\060\036\027\015\060\067\061\060  
\061\070\061\062\060\060\065\060\132\027\015\063\062\061\060\061  
\070\061\062\060\060\065\060\132\060\067\061\024\060\022\006\003  
\125\004\012\014\013\124\145\154\151\141\123\157\156\145\162\141  
\061\037\060\035\006\003\125\004\003\014\026\124\145\154\151\141  
\123\157\156\145\162\141\040\122\157\157\164\040\103\101\040\166  
\061\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002  
\001\000\302\276\353\047\360\041\243\363\151\046\125\176\235\305  
\125\026\221\134\375\357\041\277\123\200\172\055\322\221\214\143  
\061\360\354\044\360\303\245\322\162\174\020\155\364\067\267\345  
\346\174\171\352\214\265\202\213\256\110\266\254\000\334\145\165  
\354\052\115\137\301\207\365\040\145\053\201\250\107\076\211\043  
\225\060\026\220\177\350\127\007\110\347\031\256\277\105\147\261  
\067\033\006\052\376\336\371\254\175\203\373\136\272\344\217\227  
\147\276\113\216\215\144\007\127\070\125\151\064\066\075\023\110  
\357\117\342\323\146\036\244\317\032\267\136\066\063\324\264\006  
\275\030\001\375\167\204\120\000\105\365\214\135\350\043\274\176  
\376\065\341\355\120\173\251\060\215\031\323\011\216\150\147\135  
\277\074\227\030\123\273\051\142\305\312\136\162\301\307\226\324  
\333\055\240\264\037\151\003\354\352\342\120\361\014\074\360\254  
\363\123\055\360\034\365\355\154\071\071\163\200\026\310\122\260  
\043\315\340\076\334\335\074\107\240\273\065\212\342\230\150\213  
\276\345\277\162\356\322\372\245\355\022\355\374\230\030\251\046  
\166\334\050\113\020\040\034\323\177\026\167\055\355\157\200\367  
\111\273\123\005\273\135\150\307\324\310\165\026\077\211\132\213  
\367\027\107\324\114\361\322\211\171\076\115\075\230\250\141\336  
\072\036\322\370\136\003\340\301\311\034\214\323\215\115\323\225  
\066\263\067\137\143\143\233\063\024\360\055\046\153\123\174\211  
\214\062\302\156\354\075\041\000\071\311\241\150\342\120\203\056

\260\072\053\363\066\240\254\057\344\157\141\302\121\011\071\076  
\213\123\271\273\147\332\334\123\271\166\131\066\235\103\345\040  
\340\075\062\140\205\042\121\267\307\063\273\335\025\057\244\170  
\246\007\173\201\106\066\004\206\335\171\065\307\225\054\073\260  
\243\027\065\345\163\037\264\134\131\357\332\352\020\145\173\172  
\320\177\237\263\264\052\067\073\160\213\233\133\271\053\267\354  
\262\121\022\227\123\051\132\324\360\022\020\334\117\002\273\022  
\222\057\142\324\077\151\103\174\015\326\374\130\165\001\210\235  
\130\026\113\336\272\220\377\107\001\211\006\152\366\137\262\220  
\152\263\002\246\002\210\277\263\107\176\052\331\325\372\150\170  
\065\115\002\003\001\000\001\243\077\060\075\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\013\006\003  
\125\035\017\004\004\003\002\001\006\060\035\006\003\125\035\016  
\004\026\004\024\360\217\131\070\000\263\365\217\232\226\014\325  
\353\372\173\252\027\350\023\022\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\003\202\002\001\000\276\344\134\142  
\116\044\364\014\010\377\360\323\014\150\344\223\111\042\077\104  
\047\157\273\155\336\203\146\316\250\314\015\374\365\232\006\345  
\167\024\221\353\235\101\173\231\052\204\345\377\374\041\301\135  
\360\344\037\127\267\165\251\241\137\002\046\377\327\307\367\116  
\336\117\370\367\034\106\300\172\117\100\054\042\065\360\031\261  
\320\153\147\054\260\250\340\300\100\067\065\366\204\134\134\343  
\257\102\170\376\247\311\015\120\352\015\204\166\366\121\357\203  
\123\306\172\377\016\126\111\056\217\172\326\014\346\047\124\343  
\115\012\140\162\142\315\221\007\326\245\277\310\231\153\355\304  
\031\346\253\114\021\070\305\157\061\342\156\111\310\077\166\200  
\046\003\046\051\340\066\366\366\040\123\343\027\160\064\027\235  
\143\150\036\153\354\303\115\206\270\023\060\057\135\106\015\107  
\103\325\033\252\131\016\271\134\215\006\110\255\164\207\137\307  
\374\061\124\101\023\342\307\041\016\236\340\036\015\341\300\173  
\103\205\220\305\212\130\306\145\012\170\127\362\306\043\017\001  
\331\040\113\336\017\373\222\205\165\052\134\163\215\155\173\045  
\221\312\356\105\256\006\113\000\314\323\261\131\120\332\072\210  
\073\051\103\106\136\227\053\124\316\123\157\215\112\347\226\372  
\277\161\016\102\213\174\375\050\240\320\110\312\332\304\201\114  
\273\242\163\223\046\310\353\014\326\046\210\266\300\044\317\273  
\275\133\353\165\175\351\010\216\206\063\054\171\167\011\151\245  
\211\374\263\160\220\207\166\217\323\042\273\102\316\275\163\013  
\040\046\052\320\233\075\160\036\044\154\315\207\166\251\027\226  
\267\317\015\222\373\216\030\251\230\111\321\236\376\140\104\162  
\041\271\031\355\302\365\061\361\071\110\210\220\044\165\124\026  
\255\316\364\370\151\024\144\071\373\243\270\272\160\100\307\047  
\034\277\304\126\123\372\143\145\320\363\034\016\026\365\153\206  
\130\115\030\324\344\015\216\245\235\133\221\334\166\044\120\077  
\306\052\373\331\267\234\265\326\346\320\331\350\031\213\025\161  
\110\255\267\352\330\131\210\324\220\277\026\263\331\351\254\131  
\141\124\310\034\272\312\301\312\341\271\040\114\217\072\223\211  
\245\240\314\277\323\366\165\244\165\226\155\126

```

END
CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "TeliaSonera Root CA v1"
Issuer: CN=TeliaSonera Root CA v1,O=TeliaSonera
Serial Number:00:95:be:16:a0:f7:2e:46:f1:7b:39:82:72:fa:8b:cd:96
Subject: CN=TeliaSonera Root CA v1,O=TeliaSonera
Not Valid Before: Thu Oct 18 12:00:50 2007
Not Valid After : Mon Oct 18 12:00:50 2032
Fingerprint (SHA-256):
DD:69:36:FE:21:F8:F0:77:C1:23:A1:A5:21:C1:22:24:F7:22:55:B7:3E:03:A7:26:06:93:E8:A2:4B:0F:A3:89
Fingerprint (SHA1): 43:13:BB:96:F1:D5:86:9B:C1:4E:6A:92:F6:CF:F6:34:69:87:82:37
CKA_CLASS
CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TeliaSonera Root CA v1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\103\023\273\226\361\325\206\233\301\116\152\222\366\317\366\064
\151\207\202\067
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\067\101\111\033\030\126\232\046\365\255\302\146\373\100\245\114
END
CKA_ISSUER MULTILINE_OCTAL
\060\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154
\151\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004
\003\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122
\157\157\164\040\103\101\040\166\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\225\276\026\240\367\056\106\361\173\071\202\162\372
\213\315\226
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

#
Certificate "E-Tugra Certification Authority"
#
Issuer: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im

```

```
Teknolojileri ve Hizmetleri A...,L=Ankara,C=TR
Serial Number:6a:68:3e:9c:51:9b:cb:53
Subject: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im
Teknolojileri ve Hizmetleri A...,L=Ankara,C=TR
Not Valid Before: Tue Mar 05 12:09:48 2013
Not Valid After : Fri Mar 03 12:09:48 2023
Fingerprint (SHA-256):
B0:BF:D5:2B:B0:D7:D9:BD:92:BF:5D:4D:C1:3D:A2:55:C0:2C:54:2F:37:83:65:EA:89:39:11:F5:5E:55:F2:3C
Fingerprint (SHA1): 51:C6:E7:08:49:06:6E:F3:92:D4:5C:A0:0D:6D:A3:62:8F:C3:52:39
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "E-Tugra Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\262\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141\162
\141\061\100\060\076\006\003\125\004\012\014\067\105\055\124\165
\304\237\162\141\040\105\102\107\040\102\151\154\151\305\237\151
\155\040\124\145\153\156\157\154\157\152\151\154\145\162\151\040
\166\145\040\110\151\172\155\145\164\154\145\162\151\040\101\056
\305\236\056\061\046\060\044\006\003\125\004\013\014\035\105\055
\124\165\147\162\141\040\123\145\162\164\151\146\151\153\141\163
\171\157\156\040\115\145\162\153\145\172\151\061\050\060\046\006
\003\125\004\003\014\037\105\055\124\165\147\162\141\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\262\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141\162
\141\061\100\060\076\006\003\125\004\012\014\067\105\055\124\165
\304\237\162\141\040\105\102\107\040\102\151\154\151\305\237\151
\155\040\124\145\153\156\157\154\157\152\151\154\145\162\151\040
\166\145\040\110\151\172\155\145\164\154\145\162\151\040\101\056
\305\236\056\061\046\060\044\006\003\125\004\013\014\035\105\055
\124\165\147\162\141\040\123\145\162\164\151\146\151\153\141\163
\171\157\156\040\115\145\162\153\145\172\151\061\050\060\046\006
\003\125\004\003\014\037\105\055\124\165\147\162\141\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\010\152\150\076\234\121\233\313\123
```

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\006\113\060\202\004\063\240\003\002\001\002\002\010\152  
\150\076\234\121\233\313\123\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\060\201\262\061\013\060\011\006\003\125  
\004\006\023\002\124\122\061\017\060\015\006\003\125\004\007\014  
\006\101\156\153\141\162\141\061\100\060\076\006\003\125\004\012  
\014\067\105\055\124\165\304\237\162\141\040\105\102\107\040\102  
\151\154\151\305\237\151\155\040\124\145\153\156\157\154\157\152  
\151\154\145\162\151\040\166\145\040\110\151\172\155\145\164\154  
\145\162\151\040\101\056\305\236\056\061\046\060\044\006\003\125  
\004\013\014\035\105\055\124\165\147\162\141\040\123\145\162\164  
\151\146\151\153\141\163\171\157\156\040\115\145\162\153\145\172  
\151\061\050\060\046\006\003\125\004\003\014\037\105\055\124\165  
\147\162\141\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\060\036\027\015\061  
\063\060\063\060\065\061\062\060\071\064\070\132\027\015\062\063  
\060\063\060\063\061\062\060\071\064\070\132\060\201\262\061\013  
\060\011\006\003\125\004\006\023\002\124\122\061\017\060\015\006  
\003\125\004\007\014\006\101\156\153\141\162\141\061\100\060\076  
\006\003\125\004\012\014\067\105\055\124\165\304\237\162\141\040  
\105\102\107\040\102\151\154\151\305\237\151\155\040\124\145\153  
\156\157\154\157\152\151\154\145\162\151\040\166\145\040\110\151  
\172\155\145\164\154\145\162\151\040\101\056\305\236\056\061\046  
\060\044\006\003\125\004\013\014\035\105\055\124\165\147\162\141  
\040\123\145\162\164\151\146\151\153\141\163\171\157\156\040\115  
\145\162\153\145\172\151\061\050\060\046\006\003\125\004\003\014  
\037\105\055\124\165\147\162\141\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\342\365\077\223\005\121\036\205\142\124\136\172\013\365\030  
\007\203\256\176\257\174\367\324\212\153\245\143\103\071\271\113  
\367\303\306\144\211\075\224\056\124\200\122\071\071\007\113\113  
\335\205\007\166\207\314\277\057\225\114\314\175\247\075\274\107  
\017\230\160\370\214\205\036\164\216\222\155\033\100\321\231\015  
\273\165\156\310\251\153\232\300\204\061\257\312\103\313\353\053  
\064\350\217\227\153\001\233\325\016\112\010\252\133\222\164\205  
\103\323\200\256\241\210\133\256\263\352\136\313\026\232\167\104  
\310\241\366\124\150\316\336\217\227\053\272\133\100\002\014\144  
\027\300\265\223\315\341\361\023\146\316\014\171\357\321\221\050  
\253\137\240\022\122\060\163\031\216\217\341\214\007\242\303\273  
\112\360\352\037\025\250\356\045\314\244\106\370\033\042\357\263  
\016\103\272\054\044\270\305\054\134\324\034\370\135\144\275\303  
\223\136\050\247\077\047\361\216\036\323\052\120\005\243\125\331  
\313\347\071\123\300\230\236\214\124\142\213\046\260\367\175\215  
\174\344\306\236\146\102\125\202\107\347\262\130\215\146\367\007  
\174\056\066\346\120\034\077\333\103\044\305\277\206\107\171\263

\171\034\367\132\364\023\354\154\370\077\342\131\037\225\356\102  
\076\271\255\250\062\205\111\227\106\376\113\061\217\132\313\255  
\164\107\037\351\221\267\337\050\004\042\240\324\017\135\342\171  
\117\352\154\205\206\275\250\246\316\344\372\303\341\263\256\336  
\074\121\356\313\023\174\001\177\204\016\135\121\224\236\023\014  
\266\056\245\114\371\071\160\066\157\226\312\056\014\104\125\305  
\312\372\135\002\243\337\326\144\214\132\263\001\012\251\265\012  
\107\027\377\357\221\100\052\216\241\106\072\061\230\345\021\374  
\314\273\111\126\212\374\271\320\141\232\157\145\154\346\303\313  
\076\165\111\376\217\247\342\211\305\147\327\235\106\023\116\061  
\166\073\044\263\236\021\145\206\253\177\357\035\324\370\274\347  
\254\132\134\267\132\107\134\125\316\125\264\042\161\133\133\013  
\360\317\334\240\141\144\352\251\327\150\012\143\247\340\015\077  
\240\257\323\252\322\176\357\121\240\346\121\053\125\222\025\027  
\123\313\267\146\016\146\114\370\371\165\114\220\347\022\160\307  
\105\002\003\001\000\001\243\143\060\141\060\035\006\003\125\035  
\016\004\026\004\024\056\343\333\262\111\320\234\124\171\134\372  
\047\052\376\314\116\322\350\116\124\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125\035  
\043\004\030\060\026\200\024\056\343\333\262\111\320\234\124\171  
\134\372\047\052\376\314\116\322\350\116\124\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\005  
\067\072\364\115\267\105\342\105\165\044\217\266\167\122\350\034  
\330\020\223\145\363\362\131\006\244\076\036\051\354\135\321\320  
\253\174\340\012\220\110\170\355\116\230\003\231\376\050\140\221  
\035\060\035\270\143\174\250\346\065\265\372\323\141\166\346\326  
\007\113\312\151\232\262\204\172\167\223\105\027\025\237\044\320  
\230\023\022\377\273\240\056\375\116\114\207\370\316\134\252\230  
\033\005\340\000\106\112\202\200\245\063\213\050\334\355\070\323  
\337\345\076\351\376\373\131\335\141\204\117\322\124\226\023\141  
\023\076\217\200\151\276\223\107\265\065\103\322\132\273\075\134  
\357\263\102\107\315\073\125\023\006\260\011\333\375\143\366\072  
\210\012\231\157\176\341\316\033\123\152\104\146\043\121\010\173  
\274\133\122\242\375\006\067\070\100\141\217\112\226\270\220\067  
\370\146\307\170\220\000\025\056\213\255\121\065\123\007\250\153  
\150\256\371\116\074\007\046\315\010\005\160\314\071\077\166\275  
\245\323\147\046\001\206\246\123\322\140\073\174\103\177\125\212  
\274\225\032\301\050\071\114\037\103\322\221\364\162\131\212\271  
\126\374\077\264\235\332\160\234\166\132\214\103\120\356\216\060  
\162\115\337\377\111\367\306\251\147\331\155\254\002\021\342\072  
\026\045\247\130\010\313\157\123\101\234\110\070\107\150\063\321  
\327\307\217\324\164\041\324\303\005\220\172\377\316\226\210\261  
\025\051\135\043\253\320\140\241\022\117\336\364\027\315\062\345  
\311\277\310\103\255\375\056\216\361\257\342\364\230\372\022\037  
\040\330\300\247\014\205\305\220\364\073\055\226\046\261\054\276  
\114\253\353\261\322\212\311\333\170\023\017\036\011\235\155\217  
\000\237\002\332\301\372\037\172\172\011\304\112\346\210\052\227



```
\237\211\213\375\067\137\137\072\316\070\131\206\113\257\161\013
\264\330\362\160\117\237\062\023\343\260\247\127\345\332\332\103
\313\204\064\362\050\304\352\155\364\052\357\301\153\166\332\373
\176\273\205\074\322\123\302\115\276\161\341\105\321\375\043\147
\015\023\165\373\317\145\147\042\235\256\260\011\321\011\377\035
\064\277\376\043\227\067\322\071\372\075\015\006\013\264\333\073
\243\253\157\134\035\266\176\350\263\202\064\355\006\134\044
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "E-Tugra Certification Authority"

# Issuer: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im  
Teknolojileri ve Hizmetleri A....,L=Ankara,C=TR

# Serial Number:6a:68:3e:9c:51:9b:cb:53

# Subject: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im  
Teknolojileri ve Hizmetleri A....,L=Ankara,C=TR

# Not Valid Before: Tue Mar 05 12:09:48 2013

# Not Valid After : Fri Mar 03 12:09:48 2023

# Fingerprint (SHA-256):

B0:BF:D5:2B:B0:D7:D9:BD:92:BF:5D:4D:C1:3D:A2:55:C0:2C:54:2F:37:83:65:EA:89:39:11:F5:5E:55:F2:3C

# Fingerprint (SHA1): 51:C6:E7:08:49:06:6E:F3:92:D4:5C:A0:0D:6D:A3:62:8F:C3:52:39

CKA\_CLASS CK\_OBJECT\_CLASS

CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "E-Tugra Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\121\306\347\010\111\006\156\363\222\324\134\240\015\155\243\142
\217\303\122\071
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\270\241\003\143\260\275\041\161\160\212\157\023\072\273\171\111
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\262\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141\162
\141\061\100\060\076\006\003\125\004\012\014\067\105\055\124\165
\304\237\162\141\040\105\102\107\040\102\151\154\151\305\237\151
\155\040\124\145\153\156\157\154\157\152\151\154\145\162\151\040
\166\145\040\110\151\172\155\145\164\154\145\162\151\040\101\056
\305\236\056\061\046\060\044\006\003\125\004\013\014\035\105\055
\124\165\147\162\141\040\123\145\162\164\151\146\151\153\141\163
\171\157\156\040\115\145\162\153\145\172\151\061\050\060\046\006
\003\125\004\003\014\037\105\055\124\165\147\162\141\040\103\145
```

\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150

\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\010\152\150\076\234\121\233\313\123

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "T-TeleSec GlobalRoot Class 2"

#

# Issuer: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services GmbH,C=DE

# Serial Number: 1 (0x1)

# Subject: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services GmbH,C=DE

# Not Valid Before: Wed Oct 01 10:40:14 2008

# Not Valid After : Sat Oct 01 23:59:59 2033

# Fingerprint (SHA-256):

91:E2:F5:78:8D:58:10:EB:A7:BA:58:73:7D:E1:54:8A:8E:CA:CD:01:45:98:BC:0B:14:3E:04:1B:17:05:25:52

# Fingerprint (SHA1): 59:0D:2D:7D:88:4F:40:2E:61:7E:A5:62:32:17:65:CF:17:D8:94:E9

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "T-TeleSec GlobalRoot Class 2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105

\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163

\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040

\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060

\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155

\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045

\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123

\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154

\141\163\163\040\062

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105

\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163

\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040

\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060  
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155  
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045  
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123  
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154  
\141\163\163\040\062

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\001

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\303\060\202\002\253\240\003\002\001\002\002\001\001  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163\164  
\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040\123  
\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060\035  
\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155\163  
\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045\060  
\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123\145  
\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154\141  
\163\163\040\062\060\036\027\015\060\070\061\060\060\061\061\060  
\064\060\061\064\132\027\015\063\063\061\060\060\061\062\063\065  
\071\065\071\132\060\201\202\061\013\060\011\006\003\125\004\006  
\023\002\104\105\061\053\060\051\006\003\125\004\012\014\042\124  
\055\123\171\163\164\145\155\163\040\105\156\164\145\162\160\162  
\151\163\145\040\123\145\162\166\151\143\145\163\040\107\155\142  
\110\061\037\060\035\006\003\125\004\013\014\026\124\055\123\171  
\163\164\145\155\163\040\124\162\165\163\164\040\103\145\156\164  
\145\162\061\045\060\043\006\003\125\004\003\014\034\124\055\124  
\145\154\145\123\145\143\040\107\154\157\142\141\154\122\157\157  
\164\040\103\154\141\163\163\040\062\060\202\001\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017  
\000\060\202\001\012\002\202\001\001\000\252\137\332\033\137\350  
\163\221\345\332\134\364\242\346\107\345\363\150\125\140\005\035  
\002\244\263\233\131\363\036\212\257\064\255\374\015\302\331\110  
\031\356\151\217\311\040\374\041\252\007\031\355\260\134\254\145  
\307\137\355\002\174\173\174\055\033\326\272\271\200\302\030\202  
\026\204\372\146\260\010\306\124\043\201\344\315\271\111\077\366  
\117\156\067\110\050\070\017\305\276\347\150\160\375\071\227\115  
\322\307\230\221\120\252\304\104\263\043\175\071\107\351\122\142  
\326\022\223\136\267\061\226\102\005\373\166\247\036\243\365\302  
\374\351\172\305\154\251\161\117\352\313\170\274\140\257\307\336  
\364\331\313\276\176\063\245\156\224\203\360\064\372\041\253\352  
\216\162\240\077\244\336\060\133\357\206\115\152\225\133\103\104  
\250\020\025\034\345\001\127\305\230\361\346\006\050\221\252\040  
\305\267\123\046\121\103\262\013\021\225\130\341\300\017\166\331

\300\215\174\201\363\162\160\236\157\376\032\216\331\137\065\306  
\262\157\064\174\276\110\117\342\132\071\327\330\235\170\236\237  
\206\076\003\136\031\213\104\242\325\307\002\003\001\000\001\243  
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024\277  
\131\040\066\000\171\240\240\042\153\214\325\362\141\322\270\054  
\313\202\112\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\001\001\000\061\003\242\141\013\037\164\350\162  
\066\306\155\371\115\236\372\042\250\341\201\126\317\315\273\237  
\352\253\221\031\070\257\252\174\025\115\363\266\243\215\245\364  
\216\366\104\251\247\350\041\225\255\076\000\142\026\210\360\002  
\272\374\141\043\346\063\233\060\172\153\066\142\173\255\004\043  
\204\130\145\342\333\053\212\347\045\123\067\142\123\137\274\332  
\001\142\051\242\246\047\161\346\072\042\176\301\157\035\225\160  
\040\112\007\064\337\352\377\025\200\345\272\327\172\330\133\165  
\174\005\172\051\107\176\100\250\061\023\167\315\100\073\264\121  
\107\172\056\021\343\107\021\336\235\146\320\213\325\124\146\372  
\203\125\352\174\302\051\211\033\351\157\263\316\342\005\204\311  
\057\076\170\205\142\156\311\137\301\170\143\164\130\300\110\030  
\014\231\071\353\244\314\032\265\171\132\215\025\234\330\024\015  
\366\172\007\127\307\042\203\005\055\074\233\045\046\075\030\263  
\251\103\174\310\310\253\144\217\016\243\277\234\033\235\060\333  
\332\320\031\056\252\074\361\373\063\200\166\344\315\255\031\117  
\005\047\216\023\241\156\302

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "T-TeleSec GlobalRoot Class 2"

# Issuer: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services GmbH,C=DE

# Serial Number: 1 (0x1)

# Subject: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services GmbH,C=DE

# Not Valid Before: Wed Oct 01 10:40:14 2008

# Not Valid After : Sat Oct 01 23:59:59 2033

# Fingerprint (SHA-256):

91:E2:F5:78:8D:58:10:EB:A7:BA:58:73:7D:E1:54:8A:8E:CA:CD:01:45:98:BC:0B:14:3E:04:1B:17:05:25:52

#

Fingerprint (SHA1): 59:0D:2D:7D:88:4F:40:2E:61:7E:A5:62:32:17:65:CF:17:D8:94:E9

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "T-TeleSec GlobalRoot Class 2"

```

CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\131\015\055\175\210\117\100\056\141\176\245\142\062\027\145\317
\027\330\224\351
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\053\233\236\344\173\154\037\000\162\032\314\301\167\171\337\152
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154
\141\163\163\040\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Atos TrustedRoot 2011"
#
Issuer: C=DE,O=Atos,CN=Atos TrustedRoot 2011
Serial Number:5c:33:cb:62:2c:5f:b3:32
Subject: C=DE,O=Atos,CN=Atos TrustedRoot 2011
Not Valid Before: Thu Jul 07 14:58:30 2011
Not Valid After : Tue Dec 31 23:59:59 2030
Fingerprint (SHA-256):
F3:56:BE:A2:44:B7:A9:1E:B3:5D:53:CA:9A:D7:86:4A:CE:01:8E:2D:35:D5:F8:F9:6D:DF:68:A6:F4:1A:A4:74
Fingerprint (SHA1): 2B:B1:F5:3E:55:0C:1D:C5:F1:D4:E6:B7:6A:46:4B:55:06:02:AC:21
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL
CK_FALSE
CKA_LABEL UTF8 "Atos TrustedRoot 2011"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\074\061\036\060\034\006\003\125\004\003\014\025\101\164\157
\163\040\124\162\165\163\164\145\144\122\157\157\164\040\062\060

```

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\061\061\061\015\060\013\006\003\125\004\012\014\004\101\164\157
\163\061\013\060\011\006\003\125\004\006\023\002\104\105
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\074\061\036\060\034\006\003\125\004\003\014\025\101\164\157
\163\040\124\162\165\163\164\145\144\122\157\157\164\040\062\060
\061\061\061\015\060\013\006\003\125\004\012\014\004\101\164\157
\163\061\013\060\011\006\003\125\004\006\023\002\104\105
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\134\063\313\142\054\137\263\062
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\167\060\202\002\137\240\003\002\001\002\002\010\134
\063\313\142\054\137\263\062\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\074\061\036\060\034\006\003\125\004
\003\014\025\101\164\157\163\040\124\162\165\163\164\145\144\122
\157\157\164\040\062\060\061\061\061\015\060\013\006\003\125\004
\012\014\004\101\164\157\163\061\013\060\011\006\003\125\004\006
\023\002\104\105\060\036\027\015\061\061\060\067\060\067\061\064
\065\070\063\060\132\027\015\063\060\061\062\063\061\062\063\065
\071\065\071\132\060\074\061\036\060\034\006\003\125\004\003\014
\025\101\164\157\163\040\124\162\165\163\164\145\144\122\157\157
\164\040\062\060\061\061\061\015\060\013\006\003\125\004\012\014
\004\101\164\157\163\061\013\060\011\006\003\125\004\006\023\002
\104\105\060\202\001\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202
\001\001\000\225\205\073\227\157\052\073\056\073\317\246\363\051
\065\276\317\030\254\076\252\331\370\115\240\076\032\107\271\274
\232\337\362\376\314\076\107\350\172\226\302\044\216\065\364\251
\014\374\202\375\155\301\162\142\047\275\352\153\353\347\212\314
\124\076\220\120\317\200\324\225\373\350\265\202\324\024\305\266
\251\125\045\127\333\261\120\366\260\140\144\131\172\151\317\003
\267\157\015\276\312\076\157\164\162\352\252\060\052\163\142\276
\111\221\141\310\021\376\016\003\052\367\152\040\334\002\025\015
\136\025\152\374\343\202\301\265\305\235\144\011\154\243\131\230
\007\047\307\033\226\053\141\164\161\154\103\361\367\065\211\020
\340\236\354\125\241\067\042\242\207\004\005\054\107\175\264\034
\271\142\051\146\050\312\267\341\223\365\244\224\003\231\271\160
\205\265\346\110\352\215\120\374\331\336\314\157\007\016\335\013
\162\235\200\060\026\007\225\077\050\016\375\305\165\117\123\326
\164\232\264\044\056\216\002\221\317\166\305\233\036\125\164\234
\170\041\261\360\055\361\013\237\302\325\226\030\037\360\124\042
\172\214\007\002\003\001\000\001\243\175\060\173\060\035\006\003
\125\035\016\004\026\004\024\247\245\006\261\054\246\011\140\356
\321\227\351\160\256\274\073\031\154\333\041\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003
```

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\125\035\043\004\030\060\026\200\024\247\245\006\261\054\246\011
\140\356\321\227\351\160\256\274\073\031\154\333\041\060\030\006
\003\125\035\040\004\021\060\017\060\015\006\013\053\006\001\004
\001\260\055\003\004\001\001\060\016\006\003\125\035\017\001\001
\377\004\004\003\002\001\206\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\003\202\001\001\000\046\167\064\333\224
\110\206\052\101\235\054\076\006\220\140\304\214\254\013\124\270
\037\271\173\323\007\071\344\372\076\173\262\075\116\355\237\043
\275\227\363\153\134\357\356\375\100\246\337\241\223\241\012\206
\254\357\040\320\171\001\275\170\367\031\330\044\061\064\004\001
\246\272\025\232\303\047\334\330\117\017\314\030\143\377\231\017
\016\221\153\165\026\341\041\374\330\046\307\107\267\246\317\130
\162\161\176\272\341\115\225\107\073\311\257\155\241\264\301\354
\211\366\264\017\070\265\342\144\334\045\317\246\333\353\232\134
\231\241\305\010\336\375\346\332\325\326\132\105\014\304\267\302
\265\024\357\264\021\377\016\025\265\365\365\333\306\275\353\132
\247\360\126\042\251\074\145\124\306\025\250\275\206\236\315\203
\226\150\172\161\201\211\341\013\341\352\021\033\150\010\314\151
\236\354\236\101\236\104\062\046\172\342\207\012\161\075\353\344
\132\244\322\333\305\315\306\336\140\177\271\363\117\104\222\357
\052\267\030\076\247\031\331\013\175\261\067\101\102\260\272\140
\035\362\376\011\021\260\360\207\173\247\235
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Atos TrustedRoot 2011"

# Issuer: C=DE,O=Atos,CN=Atos TrustedRoot 2011

# Serial Number:5c:33:cb:62:2c:5f:b3:32

# Subject: C=DE,O=Atos,CN=Atos TrustedRoot 2011

# Not Valid Before: Thu Jul 07 14:58:30 2011

# Not Valid After : Tue Dec 31 23:59:59 2030

# Fingerprint (SHA-256):

F3:56:BE:A2:44:B7:A9:1E:B3:5D:53:CA:9A:D7:86:4A:CE:01:8E:2D:35:D5:F8:F9:6D:DF:68:A6:F4:1A:A4:74

# Fingerprint (SHA1): 2B:B1:F5:3E:55:0C:1D:C5:F1:D4:E6:B7:6A:46:4B:55:06:02:AC:21

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Atos TrustedRoot 2011"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\053\261\365\076\125\014\035\305\361\324\346\267\152\106\113\125
\006\002\254\041
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```

\256\271\304\062\113\254\177\135\146\314\167\224\273\052\167\126
END
CKA_ISSUER MULTILINE_OCTAL
\060\074\061\036\060\034\006\003\125\004\003\014\025\101\164\157
\163\040\124\162\165\163\164\145\144\122\157\157\164\040\062\060
\061\061\061\015\060\013\006\003\125\004\012\014\004\101\164\157
\163\061\013\060\011\006\003\125\004\006\023\002\104\105
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\134\063\313\142\054\137\263\062
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate
"QuoVadis Root CA 1 G3"
#
Issuer: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM
Serial Number:78:58:5f:2e:ad:2c:19:4b:e3:37:07:35:34:13:28:b5:96:d4:65:93
Subject: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM
Not Valid Before: Thu Jan 12 17:27:44 2012
Not Valid After : Sun Jan 12 17:27:44 2042
Fingerprint (SHA-256):
8A:86:6F:D1:B2:76:B5:7E:57:8E:92:1C:65:82:8A:2B:ED:58:E9:F2:F2:88:05:41:34:B7:F1:F4:BF:C9:CC:74
Fingerprint (SHA1): 1B:8E:EA:57:96:29:1A:C9:39:EA:B8:0A:81:1A:73:73:C0:93:79:67
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 1 G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\061\040\107\063
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157

```



\157\164\040\103\101\040\061\040\107\063

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\024\170\130\137\056\255\054\031\113\343\067\007\065\064\023  
\050\265\226\324\145\223

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\140\060\202\003\110\240\003\002\001\002\002\024\170  
\130\137\056\255\054\031\113\343\067\007\065\064\023\050\265\226  
\324\145\223\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\110\061\013\060\011\006\003\125\004\006\023\002\102  
\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126  
\141\144\151\163\040\114\151\155\151\164\145\144\061\036\060\034  
\006\003\125\004\003\023\025\121\165\157\126\141\144\151\163\040  
\122\157\157\164\040\103\101\040\061\040\107\063\060\036\027\015  
\061\062\060\061\061\062\061\067\062\067\064\064\132\027\015\064  
\062\060\061\061\062\061\067\062\067\064\064\132\060\110\061\013  
\060\011\006\003\125\004\006\023\002\102\115\061\031\060\027\006  
\003\125\004\012\023\020\121\165\157\126\141\144\151\163\040\114  
\151\155\151\164\145\144\061\036\060\034\006\003\125\004\003\023  
\025\121\165\157\126\141\144\151\163\040\122\157\157\164\040\103  
\101\040\061\040\107\063\060\202\002\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202  
\002\012\002\202\002\001\000\240\276\120\020\216\351\362\154\100  
\264\004\234\205\271\061\312\334\055\344\021\251\004\074\033\125  
\301\347\130\060\035\044\264\303\357\205\336\214\054\341\301\075  
\337\202\346\117\255\107\207\154\354\133\111\301\112\325\273\217  
\354\207\254\177\202\232\206\354\075\003\231\122\001\322\065\236  
\254\332\360\123\311\146\074\324\254\002\001\332\044\323\073\250  
\002\106\257\244\034\343\370\163\130\166\267\366\016\220\015\265  
\360\317\314\372\371\306\114\345\303\206\060\012\215\027\176\065  
\353\305\337\273\016\234\300\215\207\343\210\070\205\147\372\076  
\307\253\340\023\234\005\030\230\317\223\365\261\222\264\374\043  
\323\317\325\304\047\111\340\236\074\233\010\243\213\135\052\041  
\340\374\071\252\123\332\175\176\317\032\011\123\274\135\005\004  
\317\241\112\217\213\166\202\015\241\370\322\307\024\167\133\220  
\066\007\201\233\076\006\372\122\136\143\305\246\000\376\245\351  
\122\033\122\265\222\071\162\003\011\142\275\260\140\026\156\246  
\335\045\302\003\146\335\363\004\321\100\342\116\213\206\364\157  
\345\203\240\047\204\136\004\301\365\220\275\060\075\304\357\250  
\151\274\070\233\244\244\226\321\142\332\151\300\001\226\256\313  
\304\121\064\352\014\252\377\041\216\131\217\112\134\344\141\232  
\247\322\351\052\170\215\121\075\072\025\356\242\131\216\251\134  
\336\305\371\220\042\345\210\105\161\335\221\231\154\172\237\075  
\075\230\174\136\366\276\026\150\240\136\256\013\043\374\132\017  
\252\042\166\055\311\241\020\035\344\323\104\043\220\210\237\306  
\052\346\327\365\232\263\130\036\057\060\211\010\033\124\242\265  
\230\043\354\010\167\034\225\135\141\321\313\211\234\137\242\112

\221\232\357\041\252\111\026\010\250\275\141\050\061\311\164\255  
\205\366\331\305\261\213\321\345\020\062\115\137\213\040\072\074  
\111\037\063\205\131\015\333\313\011\165\103\151\163\373\153\161  
\175\360\337\304\114\175\306\243\056\310\225\171\313\163\242\216  
\116\115\044\373\136\344\004\276\162\033\246\047\055\111\132\231  
\172\327\134\011\040\267\177\224\271\117\361\015\034\136\210\102  
\033\021\267\347\221\333\236\154\364\152\337\214\006\230\003\255  
\314\050\357\245\107\363\123\002\003\001\000\001\243\102\060\100  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\035\006\003\125\035\016\004\026\004\024\243\227\326\363  
\136\242\020\341\253\105\237\074\027\144\074\356\001\160\234\314  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003  
\202\002\001\000\030\372\133\165\374\076\172\307\137\167\307\312  
\337\317\137\303\022\304\100\135\324\062\252\270\152\327\325\025  
\025\106\230\043\245\346\220\133\030\231\114\343\255\102\243\202  
\061\066\210\315\351\373\304\004\226\110\213\001\307\215\001\317  
\133\063\006\226\106\146\164\035\117\355\301\266\271\264\015\141  
\314\143\176\327\056\167\214\226\034\052\043\150\153\205\127\166  
\160\063\023\376\341\117\246\043\167\030\372\032\214\350\275\145  
\311\317\077\364\311\027\334\353\307\274\300\004\056\055\106\057  
\151\146\303\033\217\376\354\076\323\312\224\277\166\012\045\015  
\251\173\002\034\251\320\073\137\013\300\201\072\075\144\341\277  
\247\055\116\275\115\304\330\051\306\042\030\320\305\254\162\002  
\202\077\252\072\242\072\042\227\061\335\010\143\303\165\024\271  
\140\050\055\133\150\340\026\251\146\202\043\121\365\353\123\330  
\061\233\173\351\267\235\113\353\210\026\317\371\135\070\212\111  
\060\217\355\361\353\031\364\167\032\061\030\115\147\124\154\057  
\157\145\371\333\075\354\041\354\136\364\364\213\312\140\145\124  
\321\161\144\364\371\246\243\201\063\066\063\161\360\244\170\137  
\116\255\203\041\336\064\111\215\350\131\254\235\362\166\132\066  
\362\023\364\257\340\011\307\141\052\154\367\340\235\256\273\206  
\112\050\157\056\356\264\171\315\220\063\303\263\166\372\365\360  
\154\235\001\220\372\236\220\366\234\162\317\107\332\303\037\344  
\065\040\123\362\124\321\337\141\203\246\002\342\045\070\336\205  
\062\055\136\163\220\122\135\102\304\316\075\113\341\371\031\204  
\035\325\242\120\314\101\373\101\024\303\275\326\311\132\243\143  
\146\002\200\275\005\072\073\107\234\354\000\046\114\365\210\121  
\277\250\043\177\030\007\260\013\355\213\046\241\144\323\141\112  
\353\134\237\336\263\257\147\003\263\037\335\155\135\151\150\151  
\253\136\072\354\174\151\274\307\073\205\116\236\025\271\264\025  
\117\303\225\172\130\327\311\154\351\154\271\363\051\143\136\264  
\054\360\055\075\355\132\145\340\251\133\100\302\110\231\201\155  
\236\037\006\052\074\022\264\213\017\233\242\044\360\246\215\326  
\172\340\113\266\144\226\143\225\204\302\112\315\034\056\044\207  
\063\140\345\303

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

```

CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "QuoVadis Root CA 1 G3"
Issuer: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM
Serial Number:78:58:5f:2e:ad:2c:19:4b:e3:37:07:35:34:13:28:b5:96:d4:65:93
Subject: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM
Not Valid Before: Thu Jan 12 17:27:44 2012
Not Valid After : Sun Jan 12 17:27:44 2042
Fingerprint (SHA-256):
8A:86:6F:D1:B2:76:B5:7E:57:8E:92:1C:65:82:8A:2B:ED:58:E9:F2:F2:88:05:41:34:B7:F1:F4:BF:C9:CC:74
Fingerprint (SHA1): 1B:8E:EA:57:96:29:1A:C9:39:EA:B8:0A:81:1A:73:73:C0:93:79:67
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis
Root CA 1 G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\03\216\352\127\226\051\032\311\071\352\270\012\201\032\163\163
\300\223\171\147
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\244\274\133\077\376\067\232\372\144\360\342\372\005\075\013\253
END
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\061\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\170\130\137\056\255\054\031\113\343\067\007\065\064\023
\050\265\226\324\145\223
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "QuoVadis Root CA 2 G3"
#
Issuer: CN=QuoVadis Root CA
2 G3,O=QuoVadis Limited,C=BM
Serial Number:44:57:34:24:5b:81:89:9b:35:f2:ce:b8:2b:3b:5b:a7:26:f0:75:28

```

```
Subject: CN=QuoVadis Root CA 2 G3,O=QuoVadis Limited,C=BM
Not Valid Before: Thu Jan 12 18:59:32 2012
Not Valid After : Sun Jan 12 18:59:32 2042
Fingerprint (SHA-256):
8F:E4:FB:0A:F9:3A:4D:0D:67:DB:0B:EB:B2:3E:37:C7:1B:F3:25:DC:BC:DD:24:0E:A0:4D:AF:58:B4:7E:18:40
Fingerprint (SHA1): 09:3C:61:F3:8B:8B:DC:7D:55:DF:75:38:02:05:00:E1:25:F5:C8:36
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 2 G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062\040\107\063
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\104\127\064\044\133\201\211\233\065\362\316\270\053\073
\133\247\046\360\165\050
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\140\060\202\003\110\240\003\002\001\002\002\024\104
\127\064\044\133\201\211\233\065\362\316\270\053\073\133\247\046
\360\165\050\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\110\061\013\060\011\006\003\125\004\006\023\002\102
\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126
\141\144\151\163\040\114\151\155\151\164\145\144\061\036\060\034
\006\003\125\004\003\023\025\121\165\157\126\141\144\151\163\040
\122\157\157\164\040\103\101\040\062\040\107\063\060\036\027\015
\061\062\060\061\061\062\061\070\065\071\063\062\132\027\015\064
\062\060\061\061\062\061\070\065\071\063\062\132\060\110\061\013
\060\011\006\003\125\004\006\023\002\102\115\061\031\060\027\006
\003\125\004\012\023\020\121\165\157\126\141\144\151\163\040\114
\151\155\151\164\145\144\061\036\060\034\006\003\125\004\003\023
\025\121\165\157\126\141\144\151\163\040\122\157\157\164\040\103
\101\040\062\040\107\063\060\202\002\042\060\015\006\011\052\206
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\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202  
\002\012\002\202\002\001\000\241\256\045\262\001\030\334\127\210  
\077\106\353\371\257\342\353\043\161\342\232\321\141\146\041\137  
\252\257\047\121\345\156\033\026\324\055\175\120\260\123\167\275  
\170\072\140\342\144\002\233\174\206\233\326\032\216\255\377\037  
\025\177\325\225\036\022\313\346\024\204\004\301\337\066\263\026  
\237\212\343\311\333\230\064\316\330\063\027\050\106\374\247\311  
\360\322\264\325\115\011\162\111\371\362\207\343\251\332\175\241  
\175\153\262\072\045\251\155\122\104\254\370\276\156\373\334\246  
\163\221\220\141\246\003\024\040\362\347\207\243\210\255\255\240  
\214\377\246\013\045\122\045\347\026\001\325\313\270\065\201\014  
\243\073\360\341\341\374\132\135\316\200\161\155\370\111\253\076  
\073\272\270\327\200\001\373\245\353\133\263\305\136\140\052\061  
\240\257\067\350\040\072\237\250\062\054\014\314\011\035\323\236  
\216\135\274\114\230\356\305\032\150\173\354\123\246\351\024\065  
\243\337\315\200\237\014\110\373\034\364\361\277\112\270\372\325  
\214\161\112\307\037\255\376\101\232\263\203\135\362\204\126\357  
\245\127\103\316\051\255\214\253\125\277\304\373\133\001\335\043  
\041\241\130\000\216\303\320\152\023\355\023\343\022\053\200\334  
\147\346\225\262\315\036\042\156\052\370\101\324\362\312\024\007  
\215\212\125\022\306\151\365\270\206\150\057\123\136\260\322\252  
\041\301\230\346\060\343\147\125\307\233\156\254\031\250\125\246  
\105\006\320\043\072\333\353\145\135\052\021\021\360\073\117\312  
\155\364\064\304\161\344\377\000\132\366\134\256\043\140\205\163  
\361\344\020\261\045\256\325\222\273\023\301\014\340\071\332\264  
\071\127\265\253\065\252\162\041\073\203\065\347\061\337\172\041  
\156\270\062\010\175\035\062\221\025\112\142\162\317\343\167\241  
\274\325\021\033\166\001\147\010\340\101\013\303\353\025\156\370  
\244\031\331\242\253\257\342\047\122\126\053\002\212\054\024\044  
\371\277\102\002\277\046\310\306\217\340\156\070\175\123\055\345  
\355\230\263\225\143\150\177\371\065\364\337\210\305\140\065\222  
\300\174\151\034\141\225\026\320\353\336\013\257\076\004\020\105  
\145\130\120\070\257\110\362\131\266\026\362\074\015\220\002\306  
\160\056\001\255\074\025\327\002\003\001\000\001\243\102\060\100  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\035\006\003\125\035\016\004\026\004\024\355\347\157\166  
\132\277\140\354\111\133\306\245\167\273\162\026\161\233\304\075  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003  
\202\002\001\000\221\337\200\077\103\011\176\161\302\367\353\263  
\210\217\341\121\262\274\075\165\371\050\135\310\274\231\233\173  
\135\252\345\312\341\012\367\350\262\323\237\335\147\061\176\272  
\001\252\307\152\101\073\220\324\010\134\262\140\152\220\360\310  
\316\003\142\371\213\355\373\156\052\334\006\115\074\051\017\211  
\026\212\130\114\110\017\350\204\141\352\074\162\246\167\344\102  
\256\210\243\103\130\171\176\256\312\245\123\015\251\075\160\275  
\040\031\141\244\154\070\374\103\062\341\301\107\377\370\354\361  
\021\042\062\226\234\302\366\133\151\226\173\040\014\103\101\232

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\133\366\131\031\210\336\125\210\067\121\013\170\134\012\036\243
\102\375\307\235\210\017\300\362\170\002\044\124\223\257\211\207
\210\311\112\200\035\352\320\156\076\141\056\066\273\065\016\047
\226\375\146\064\073\141\162\163\361\026\134\107\006\124\111\000
\172\130\022\260\012\357\205\375\261\270\063\165\152\223\034\022
\346\140\136\157\035\177\311\037\043\313\204\141\237\036\202\104
\371\137\255\142\125\044\232\122\230\355\121\347\241\176\227\072
\346\057\037\021\332\123\200\054\205\236\253\065\020\333\042\137
\152\305\136\227\123\362\062\002\011\060\243\130\360\015\001\325
\162\306\261\174\151\173\303\365\066\105\314\141\156\136\114\224
\305\136\256\350\016\136\213\277\367\315\340\355\241\016\033\063
\356\124\030\376\017\276\357\176\204\153\103\343\160\230\333\135
\165\262\015\131\007\205\025\043\071\326\361\337\251\046\017\326
\110\307\263\246\042\365\063\067\132\225\107\237\173\272\030\025
\157\377\326\024\144\203\111\322\012\147\041\333\017\065\143\140
\050\042\343\261\225\203\315\205\246\335\057\017\347\147\122\156
\273\057\205\174\365\112\163\347\305\076\300\275\041\022\005\077
\374\267\003\111\002\133\310\045\346\342\124\070\365\171\207\214
\035\123\262\116\205\173\006\070\307\054\370\370\260\162\215\045
\345\167\122\364\003\034\110\246\120\137\210\040\060\156\362\202
\103\253\075\227\204\347\123\373\041\301\117\017\042\232\206\270
\131\052\366\107\075\031\210\055\350\205\341\236\354\205\010\152
\261\154\064\311\035\354\110\053\073\170\355\146\304\216\171\151
\203\336\177\214
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "QuoVadis Root CA 2 G3"

# Issuer: CN=QuoVadis Root CA 2 G3,O=QuoVadis Limited,C=BM

# Serial Number:44:57:34:24:5b:81:89:9b:35:f2:ce:b8:2b:3b:5b:a7:26:f0:75:28

# Subject: CN=QuoVadis Root CA 2 G3,O=QuoVadis Limited,C=BM

# Not Valid Before: Thu Jan 12 18:59:32 2012

# Not Valid After : Sun Jan 12 18:59:32 2042

# Fingerprint (SHA-256):

8F:E4:FB:0A:F9:3A:4D:0D:67:DB:0B:EB:B2:3E:37:C7:1B:F3:25:DC:BC:DD:24:0E:A0:4D:AF:58:B4:7E:18:40

# Fingerprint (SHA1): 09:3C:61:F3:8B:8B:DC:7D:55:DF:75:38:02:05:00:E1:25:F5:C8:36

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "QuoVadis Root CA 2 G3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\011\074\141\363\213\213\334\175\125\337\165\070\002\005\000\341
\045\365\310\066
```

END

```

CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\257\014\206\156\277\100\055\177\013\076\022\120\272\022\075\006
END
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\104\127\064\044\133\201\211\233\065\362\316\270\053\073
\133\247\046\360\165\050
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "QuoVadis Root CA 3 G3"
#
Issuer: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM
Serial Number:2e:f5:9b:02:28:a7:db:7a:ff:d5:a3:a9:ee:bd:03:a0:cf:12:6a:1d
#
Subject: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM
Not Valid Before: Thu Jan 12 20:26:32 2012
Not Valid After : Sun Jan 12 20:26:32 2042
Fingerprint (SHA-256):
88:EF:81:DE:20:2E:B0:18:45:2E:43:F8:64:72:5C:EA:5F:BD:1F:C2:D9:D2:05:73:07:09:C5:D8:B8:69:0F:46
Fingerprint (SHA1): 48:12:BD:92:3C:A8:C4:39:06:E7:30:6D:27:96:E6:A4:CF:22:2E:7D
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 3 G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061

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\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144  
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003  
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157  
\157\164\040\103\101\040\063\040\107\063

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\024\056\365\233\002\050\247\333\172\377\325\243\251\356\275  
\003\240\317\022\152\035

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\140\060\202\003\110\240\003\002\001\002\002\024\056  
\365\233\002\050\247\333\172\377\325\243\251\356\275\003\240\317  
\022\152\035\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\110\061\013\060\011\006\003\125\004\006\023\002\102  
\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126  
\141\144\151\163\040\114\151\155\151\164\145\144\061\036\060\034  
\006\003\125\004\003\023\025\121\165\157\126\141\144\151\163\040  
\122\157\157\164\040\103\101\040\063\040\107\063\060\036\027\015  
\061\062\060\061\061\062\062\060\062\066\063\062\132\027\015\064  
\062\060\061\061\062\062\060\062\066\063\062\132\060\110\061\013  
\060\011\006\003\125\004\006\023\002\102\115\061\031\060\027\006  
\003\125\004\012\023\020\121\165\157\126\141\144\151\163\040\114  
\151\155\151\164\145\144\061\036\060\034\006\003\125\004\003\023  
\025\121\165\157\126\141\144\151\163\040\122\157\157\164\040\103  
\101\040\063\040\107\063\060\202\002\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202  
\002\012\002\202\002\001\000\263\313\016\020\147\216\352\024\227  
\247\062\052\012\126\066\177\150\114\307\263\157\072\043\024\221  
\377\031\177\245\312\254\356\263\166\235\172\351\213\033\253\153  
\061\333\372\013\123\114\257\305\245\032\171\074\212\114\377\254  
\337\045\336\116\331\202\062\013\104\336\312\333\214\254\243\156  
\026\203\073\246\144\113\062\211\373\026\026\070\176\353\103\342  
\323\164\112\302\142\012\163\012\335\111\263\127\322\260\012\205  
\235\161\074\336\243\313\300\062\363\001\071\040\103\033\065\321  
\123\263\261\356\305\223\151\202\076\026\265\050\106\241\336\352  
\211\011\355\103\270\005\106\212\206\365\131\107\276\033\157\001  
\041\020\271\375\251\322\050\312\020\071\011\312\023\066\317\234  
\255\255\100\164\171\053\002\077\064\377\372\040\151\175\323\356  
\141\365\272\263\347\060\320\067\043\206\162\141\105\051\110\131  
\150\157\167\246\056\201\276\007\115\157\257\316\304\105\023\221  
\024\160\006\217\037\237\370\207\151\261\016\357\303\211\031\353  
\352\034\141\374\172\154\212\334\326\003\013\236\046\272\022\335  
\324\124\071\253\046\243\063\352\165\201\332\055\315\017\117\344  
\003\321\357\025\227\033\153\220\305\002\220\223\146\002\041\261  
\107\336\213\232\112\200\271\125\217\265\242\057\300\326\063\147  
\332\176\304\247\264\004\104\353\107\373\346\130\271\367\014\360  
\173\053\261\300\160\051\303\100\142\055\073\110\151\334\043\074



\110\353\173\011\171\251\155\332\250\060\230\317\200\162\003\210  
\246\133\106\256\162\171\174\010\003\041\145\256\267\341\034\245  
\261\052\242\061\336\146\004\367\300\164\350\161\336\377\075\131  
\314\226\046\022\213\205\225\127\032\253\153\165\013\104\075\021  
\050\074\173\141\267\342\217\147\117\345\354\074\114\140\200\151  
\127\070\036\001\133\215\125\350\307\337\300\314\167\043\064\111  
\165\174\366\230\021\353\055\336\355\101\056\024\005\002\177\340  
\376\040\353\065\347\021\254\042\316\127\075\336\311\060\155\020  
\003\205\315\361\377\214\026\265\301\262\076\210\154\140\177\220  
\117\225\367\366\055\255\001\071\007\004\372\165\200\175\277\111  
\120\355\357\311\304\174\034\353\200\176\333\266\320\335\023\376  
\311\323\234\327\262\227\251\002\003\001\000\001\243\102\060\100  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\035\006\003\125\035\016\004\026\004\024\306\027\320\274  
\250\352\002\103\362\033\006\231\135\053\220\040\271\327\234\344  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003  
\202\002\001\000\064\141\331\126\265\022\207\125\115\335\243\065  
\061\106\273\244\007\162\274\137\141\142\350\245\373\013\067\261  
\074\266\263\372\051\235\177\002\365\244\311\250\223\267\172\161  
\050\151\217\163\341\122\220\332\325\276\072\345\267\166\152\126  
\200\041\337\135\346\351\072\236\345\076\366\242\151\307\052\012  
\260\030\107\334\040\160\175\122\243\076\131\174\301\272\311\310  
\025\100\141\312\162\326\160\254\322\267\360\034\344\206\051\360  
\316\357\150\143\320\265\040\212\025\141\232\176\206\230\264\311  
\302\166\373\314\272\060\026\314\243\141\306\164\023\345\153\357  
\243\025\352\003\376\023\213\144\344\323\301\322\350\204\373\111  
\321\020\115\171\146\353\252\375\364\215\061\036\160\024\255\334  
\336\147\023\114\201\025\141\274\267\331\221\167\161\031\201\140  
\273\360\130\245\265\234\013\367\217\042\125\047\300\113\001\155  
\073\231\015\324\035\233\143\147\057\320\356\015\312\146\274\224  
\117\246\255\355\374\356\143\254\127\077\145\045\317\262\206\217  
\320\010\377\270\166\024\156\336\345\047\354\253\170\265\123\271  
\266\077\350\040\371\322\250\276\141\106\312\207\214\204\363\371  
\361\240\150\233\042\036\201\046\233\020\004\221\161\300\006\037  
\334\240\323\271\126\247\343\230\055\177\203\235\337\214\053\234  
\062\216\062\224\360\001\074\042\052\237\103\302\056\303\230\071  
\007\070\173\374\136\000\102\037\363\062\046\171\203\204\366\345  
\360\301\121\022\300\013\036\004\043\014\124\245\114\057\111\305  
\112\321\266\156\140\015\153\374\153\213\205\044\144\267\211\016  
\253\045\107\133\074\317\176\111\275\307\351\012\306\332\367\176  
\016\027\010\323\110\227\320\161\222\360\017\071\076\064\152\034  
\175\330\362\042\256\273\151\364\063\264\246\110\125\321\017\016  
\046\350\354\266\013\055\247\205\065\315\375\131\310\237\321\315  
\076\132\051\064\271\075\204\316\261\145\324\131\221\221\126\165  
\041\301\167\236\371\172\341\140\235\323\255\004\030\364\174\353  
\136\223\217\123\112\042\051\370\110\053\076\115\206\254\133\177  
\313\006\231\131\140\330\130\145\225\215\104\321\367\177\176\047

\177\175\256\200\365\007\114\266\076\234\161\124\231\004\113\375

\130\371\230\364

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "QuoVadis Root CA 3 G3"

# Issuer: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM

# Serial Number:2e:f5:9b:02:28:a7:db:7a:ff:d5:a3:a9:ee:bd:03:a0:cf:12:6a:1d

# Subject: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM

# Not Valid Before: Thu Jan 12 20:26:32 2012

# Not Valid After : Sun Jan 12 20:26:32 2042

# Fingerprint (SHA-256):

88:EF:81:DE:20:2E:B0:18:45:2E:43:F8:64:72:5C:EA:5F:BD:1F:C2:D9:D2:05:73:07:09:C5:D8:B8:69:0F:46

# Fingerprint (SHA1): 48:12:BD:92:3C:A8:C4:39:06:E7:30:6D:27:96:E6:A4:CF:22:2E:7D

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "QuoVadis Root CA 3 G3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\110\022\275\222\074\250\304\071\006\347\060\155\047\226\346\244

\317\042\056\175

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

\337\175\271\255\124\157\150\241\337\211\127\003\227\103\260\327

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061

\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144

\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003

\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157

\157\164\040\103\101\040\063\040\107\063

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\024\056\365\233\002\050\247\333\172\377\325\243\251\356\275

\003\240\317\022\152\035

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "DigiCert Assured ID Root G2"

```

#
Issuer: CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
Serial Number:0b:93:1c:3a:d6:39:67:ea:67:23:bf:c3:af:9a:f4:4b
Subject:
 CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
Not Valid Before: Thu Aug 01 12:00:00 2013
Not Valid After : Fri Jan 15 12:00:00 2038
Fingerprint (SHA-256):
7D:05:EB:B6:82:33:9F:8C:94:51:EE:09:4E:EB:FE:FA:79:53:A1:14:ED:B2:F4:49:49:45:2F:AB:7D:2F:C1:85
Fingerprint (SHA1): A1:4B:48:D9:43:EE:0A:0E:40:90:4F:3C:E0:A4:C0:91:93:51:5D:3F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Assured ID Root G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\062
END
CKA_ID
 UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\013\223\034\072\326\071\147\352\147\043\277\303\257\232
\364\113
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\226\060\202\002\176\240\003\002\001\002\002\020\013
\223\034\072\326\071\147\352\147\043\277\303\257\232\364\113\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\145
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061

```

\044\060\042\006\003\125\004\003\023\033\104\151\147\151\103\145  
\162\164\040\101\163\163\165\162\145\144\040\111\104\040\122\157  
\157\164\040\107\062\060\036\027\015\061\063\060\070\060\061\061  
\062\060\060\060\060\132\027\015\063\070\060\061\061\065\061\062  
\060\060\060\060\132\060\145\061\013\060\011\006\003\125\004\006  
\023\002\125\123\061\025\060\023\006\003\125\004\012\023\014\104  
\151\147\151\103\145\162\164\040\111\156\143\061\031\060\027\006  
\003\125\004\013\023\020\167\167\167\056\144\151\147\151\143\145  
\162\164\056\143\157\155\061\044\060\042\006\003\125\004\003\023  
\033\104\151\147\151\103\145\162\164\040\101\163\163\165\162\145  
\144\040\111\104\040\122\157\157\164\040\107\062\060\202\001\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\001\017\000\060\202\001\012\002\202\001\001\000\331\347\050  
\057\122\077\066\162\111\210\223\064\363\370\152\036\061\124\200  
\237\255\124\101\265\107\337\226\250\324\257\200\055\271\012\317  
\165\375\211\245\175\044\372\343\042\014\053\274\225\027\013\063  
\277\031\115\101\006\220\000\275\014\115\020\376\007\265\347\034  
\156\042\125\061\145\227\275\323\027\322\036\142\363\333\352\154  
\120\214\077\204\014\226\317\267\313\003\340\312\155\241\024\114  
\033\211\335\355\000\260\122\174\257\221\154\261\070\023\321\351  
\022\010\300\000\260\034\053\021\332\167\160\066\233\256\316\171  
\207\334\202\160\346\011\164\160\125\151\257\243\150\237\277\335  
\266\171\263\362\235\160\051\125\364\253\377\225\141\363\311\100  
\157\035\321\276\223\273\323\210\052\273\235\277\162\132\126\161  
\073\077\324\363\321\012\376\050\357\243\356\331\231\257\003\323  
\217\140\267\362\222\241\261\275\211\211\037\060\315\303\246\056  
\142\063\256\026\002\167\104\132\347\201\012\074\247\104\056\171  
\270\077\004\274\134\240\207\341\033\257\121\216\315\354\054\372  
\370\376\155\360\072\174\252\213\344\147\225\061\215\002\003\001  
\000\001\243\102\060\100\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001  
\377\004\004\003\002\001\206\060\035\006\003\125\035\016\004\026  
\004\024\316\303\112\271\231\125\362\270\333\140\277\251\176\275  
\126\265\227\066\247\326\060\015\006\011\052\206\110\206\367\015  
\001\001\013\005\000\003\202\001\001\000\312\245\125\214\343\310  
\101\156\151\047\247\165\021\357\074\206\066\157\322\235\306\170  
\070\035\151\226\242\222\151\056\070\154\233\175\004\324\211\245  
\261\061\067\212\311\041\314\253\154\315\213\034\232\326\277\110  
\322\062\146\301\212\300\363\057\072\357\300\343\324\221\206\321  
\120\343\003\333\163\167\157\112\071\123\355\336\046\307\265\175  
\257\053\102\321\165\142\343\112\053\002\307\120\113\340\151\342  
\226\154\016\104\146\020\104\217\255\005\353\370\171\254\246\033  
\350\067\064\235\123\311\141\252\242\122\257\112\160\026\206\302  
\072\310\261\023\160\066\330\317\356\364\012\064\325\133\114\375  
\007\234\242\272\331\001\162\134\363\115\301\335\016\261\034\015  
\304\143\276\255\364\024\373\211\354\242\101\016\114\314\310\127  
\100\320\156\003\252\315\014\216\211\231\231\154\360\074\060\257  
\070\337\157\274\243\276\051\040\047\253\164\377\023\042\170\336

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\227\122\125\036\203\265\124\040\003\356\256\300\117\126\336\067
\314\303\177\252\004\047\273\323\167\270\142\333\027\174\234\050
\042\023\163\154\317\046\365\212\051\347
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert Assured ID Root G2"

# Issuer: CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:0b:93:1c:3a:d6:39:67:ea:67:23:bf:c3:af:9a:f4:4b

# Subject: CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Thu Aug 01 12:00:00 2013

# Not Valid After : Fri Jan 15 12:00:00 2038

# Fingerprint (SHA-256):

7D:05:EB:B6:82:33:9F:8C:94:51:EE:09:4E:EB:FE:FA:79:53:A1:14:ED:B2:F4:49:49:45:2F:AB:7D:2F:C1:85

#

Fingerprint (SHA1): A1:4B:48:D9:43:EE:0A:0E:40:90:4F:3C:E0:A4:C0:91:93:51:5D:3F

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert Assured ID Root G2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\241\113\110\331\103\356\012\016\100\220\117\074\340\244\300\221
```

```
\223\121\135\077
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\222\070\271\370\143\044\202\145\054\127\063\346\376\201\217\235
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
```

```
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
```

```
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
```

```
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
```

```
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
```

```
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
```

```
\122\157\157\164\040\107\062
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\013\223\034\072\326\071\147\352\147\043\277\303\257\232
```

```
\364\113
```

END

CKA\_TRUST\_SERVER\_AUTH

CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "DigiCert Assured ID Root G3"

#

# Issuer: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:0b:a1:5a:fa:1d:df:a0:b5:49:44:af:cd:24:a0:6c:ec

# Subject: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Thu Aug 01 12:00:00 2013

# Not Valid After : Fri Jan 15 12:00:00 2038

# Fingerprint (SHA-256):

7E:37:CB:8B:4C:47:09:0C:AB:36:55:1B:A6:F4:5D:B8:40:68:0F:BA:16:6A:95:2D:B1:00:71:7F:43:05:3F:C2

# Fingerprint (SHA1): F5:17:A2:4F:9A:48:C6:C9:F8:A2:00:26:9F:DC:0F:48:2C:AB:30:89

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL

UTF8 "DigiCert Assured ID Root G3"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145  
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151  
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040  
\122\157\157\164\040\107\063

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145  
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151  
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040  
\122\157\157\164\040\107\063

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\013\241\132\372\035\337\240\265\111\104\257\315\044\240  
\154\354

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\106\060\202\001\315\240\003\002\001\002\002\020\013  
\241\132\372\035\337\240\265\111\104\257\315\044\240\154\354\060  
\012\006\010\052\206\110\316\075\004\003\003\060\145\061\013\060

\011\006\003\125\004\006\023\002\125\123\061\025\060\023\006\003  
\125\004\012\023\014\104\151\147\151\103\145\162\164\040\111\156  
\143\061\031\060\027\006\003\125\004\013\023\020\167\167\167\056  
\144\151\147\151\143\145\162\164\056\143\157\155\061\044\060\042  
\006\003\125\004\003\023\033\104\151\147\151\103\145\162\164\040  
\101\163\163\165\162\145\144\040\111\104\040\122\157\157\164\040  
\107\063\060\036\027\015\061\063\060\070\060\061\061\062\060\060  
\060\060\132\027\015\063\070\060\061\061\065\061\062\060\060\060  
\060\132\060\145\061\013\060\011\006\003\125\004\006\023\002\125  
\123\061\025\060\023\006\003\125\004\012\023\014\104\151\147\151  
\103\145\162\164\040\111\156\143\061\031\060\027\006\003\125\004  
\013\023\020\167\167\167\056\144\151\147\151\143\145\162\164\056  
\143\157\155\061\044\060\042\006\003\125\004\003\023\033\104\151  
\147\151\103\145\162\164\040\101\163\163\165\162\145\144\040\111  
\104\040\122\157\157\164\040\107\063\060\166\060\020\006\007\052  
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000  
\004\031\347\274\254\104\145\355\315\270\077\130\373\215\261\127  
\251\104\055\005\025\362\357\013\377\020\164\237\265\142\122\137  
\146\176\037\345\334\033\105\171\013\314\306\123\012\235\215\135  
\002\331\251\131\336\002\132\366\225\052\016\215\070\112\212\111  
\306\274\306\003\070\007\137\125\332\176\011\156\342\177\136\320  
\105\040\017\131\166\020\326\240\044\360\055\336\066\362\154\051  
\071\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\206\060\035\006\003\125\035\016\004\026\004  
\024\313\320\275\251\341\230\005\121\241\115\067\242\203\171\316  
\215\035\052\344\204\060\012\006\010\052\206\110\316\075\004\003  
\003\003\147\000\060\144\002\060\045\244\201\105\002\153\022\113  
\165\164\117\310\043\343\160\362\165\162\336\174\211\360\317\221  
\162\141\236\136\020\222\131\126\271\203\307\020\347\070\351\130  
\046\066\175\325\344\064\206\071\002\060\174\066\123\360\060\345  
\142\143\072\231\342\266\243\073\233\064\372\036\332\020\222\161  
\136\221\023\247\335\244\156\222\314\062\326\365\041\146\307\057  
\352\226\143\152\145\105\222\225\001\264

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert Assured ID Root G3"

# Issuer: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:0b:a1:5a:fa:1d:df:a0:b5:49:44:af:cd:24:a0:6c:ec

# Subject: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Thu Aug 01 12:00:00 2013

# Not Valid After : Fri

Jan 15 12:00:00 2038

# Fingerprint (SHA-256):

```

7E:37:CB:8B:4C:47:09:0C:AB:36:55:1B:A6:F4:5D:B8:40:68:0F:BA:16:6A:95:2D:B1:00:71:7F:43:05:3F:C2
Fingerprint (SHA1): F5:17:A2:4F:9A:48:C6:C9:F8:A2:00:26:9F:DC:0F:48:2C:AB:30:89
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Assured ID Root G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\365\027\242\117\232\110\306\311\370\242\000\046\237\334\017\110
\054\253\060\211
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\174\177\145\061\014\201\337\215\272\076\231\342\134\255\156\373
END
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\013\241\132\372\035\337\240\265\111\104\257\315\044\240
\154\354
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DigiCert Global Root G2"
#
Issuer: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
Serial Number:03:3a:f1:e6:a7:11:a9:a0:bb:28:64:b1:1d:09:fa:e5
Subject: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
Not Valid Before: Thu Aug 01 12:00:00 2013
Not Valid After : Fri Jan 15 12:00:00 2038
Fingerprint (SHA-256):
CB:3C:CB:B7:60:31:E5:E0:13:8F:8D:D3:9A:23:F9:DE:47:FF:C3:5E:43:C1:14:4C:EA:27:D4:6A:5A:B1:CB:5F
Fingerprint (SHA1): DF:3C:24:F9:BF:D6:66:76:1B:26:80:73:FE:06:D1:CC:8D:4F:82:A4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN
CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE

```



```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Global Root G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\003\072\361\346\247\021\251\240\273\050\144\261\035\011
\372\345
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\216\060\202\002\166\240\003\002\001\002\002\020\003
\072\361\346\247\021\251\240\273\050\144\261\035\011\372\345\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\141
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061
\040\060\036\006\003\125\004\003\023\027\104\151\147\151\103\145
\162\164\040\107\154\157\142\141\154\040\122\157\157\164\040\107
\062\060\036\027\015\061\063\060\070\060\061\061\062\060\060\060
\060\132\027\015\063\070\060\061\061\065\061\062\060\060\060\060
\132\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103
\145\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013
\023\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143
\157\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147
\151\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157
\164\040\107\062\060\202\001\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012
\002\202\001\001\000\273\067\315\064\334\173\153\311\262\150\220
```

\255\112\165\377\106\272\041\012\010\215\365\031\124\311\373\210  
\333\363\256\362\072\211\221\074\172\346\253\006\032\153\317\254  
\055\350\136\011\044\104\272\142\232\176\326\243\250\176\340\124  
\165\040\005\254\120\267\234\143\032\154\060\334\332\037\031\261  
\327\036\336\375\327\340\313\224\203\067\256\354\037\103\116\335  
\173\054\322\275\056\245\057\344\251\270\255\072\324\231\244\266  
\045\351\233\153\000\140\222\140\377\117\041\111\030\367\147\220  
\253\141\006\234\217\362\272\351\264\351\222\062\153\265\363\127  
\350\135\033\315\214\035\253\225\004\225\111\363\065\055\226\343  
\111\155\335\167\343\373\111\113\264\254\125\007\251\217\225\263  
\264\043\273\114\155\105\360\366\251\262\225\060\264\375\114\125  
\214\047\112\127\024\174\202\235\315\163\222\323\026\112\006\014  
\214\120\321\217\036\011\276\027\241\346\041\312\375\203\345\020  
\274\203\245\012\304\147\050\366\163\024\024\075\106\166\303\207  
\024\211\041\064\115\257\017\105\014\246\111\241\272\273\234\305  
\261\063\203\051\205\002\003\001\000\001\243\102\060\100\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060  
\035\006\003\125\035\016\004\026\004\024\116\042\124\040\030\225  
\346\343\156\346\017\372\372\271\022\355\006\027\217\071\060\015  
\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001  
\001\000\140\147\050\224\157\016\110\143\353\061\335\352\147\030  
\325\211\175\074\305\213\112\177\351\276\333\053\027\337\260\137  
\163\167\052\062\023\071\201\147\102\204\043\362\105\147\065\354  
\210\277\370\217\260\141\014\064\244\256\040\114\204\306\333\370  
\065\341\166\331\337\246\102\273\307\104\010\206\177\066\164\044  
\132\332\154\015\024\131\065\275\362\111\335\266\037\311\263\015  
\107\052\075\231\057\273\134\273\265\324\040\341\231\137\123\106  
\025\333\150\233\360\363\060\325\076\061\342\215\204\236\343\212  
\332\332\226\076\065\023\245\137\360\371\160\120\160\107\101\021  
\127\031\116\300\217\256\006\304\225\023\027\057\033\045\237\165  
\362\261\216\231\241\157\023\261\101\161\376\210\052\310\117\020  
\040\125\327\363\024\105\345\340\104\364\352\207\225\062\223\016  
\376\123\106\372\054\235\377\213\042\271\113\331\011\105\244\336  
\244\270\232\130\335\033\175\122\237\216\131\103\210\201\244\236  
\046\325\157\255\335\015\306\067\175\355\003\222\033\345\167\137  
\166\356\074\215\304\135\126\133\242\331\146\156\263\065\067\345  
\062\266

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER

CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert Global Root G2"

# Issuer: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:03:3a:f1:e6:a7:11:a9:a0:bb:28:64:b1:1d:09:fa:e5

```
Subject: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
Not Valid Before: Thu Aug 01 12:00:00 2013
Not Valid After : Fri Jan 15 12:00:00 2038
Fingerprint (SHA-256):
CB:3C:CB:B7:60:31:E5:E0:13:8F:8D:D3:9A:23:F9:DE:47:FF:C3:5E:43:C1:14:4C:EA:27:D4:6A:5A:B1:CB:5F
Fingerprint (SHA1): DF:3C:24:F9:BF:D6:66:76:1B:26:80:73:FE:06:D1:CC:8D:4F:82:A4
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Global Root G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\337\074\044\371\277\326\146\166\033\046\200\163\376\006\321\314
\215\117\202\244
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\344\246\212\310\124\254\122\102\106\012\375\162\110\033\052\104
END
CKA_ISSUER
MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\003\072\361\346\247\021\251\240\273\050\144\261\035\011
\372\345
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DigiCert Global Root G3"
#
Issuer: CN=DigiCert Global Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
Serial Number:05:55:56:bc:f2:5e:a4:35:35:c3:a4:0f:d5:ab:45:72
Subject: CN=DigiCert Global
Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
Not Valid Before: Thu Aug 01 12:00:00 2013
Not Valid After : Fri Jan 15 12:00:00 2038
Fingerprint (SHA-256):
31:AD:66:48:F8:10:41:38:C7:38:F3:9E:A4:32:01:33:39:3E:3A:18:CC:02:29:6E:F9:7C:2A:C9:EF:67:31:D0
```

# Fingerprint (SHA1): 7E:04:DE:89:6A:3E:66:6D:00:E6:87:D3:3F:FA:D9:3B:E8:3D:34:9E

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "DigiCert Global Root G3"  
CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509  
CKA\_SUBJECT MULTILINE\_OCTAL  
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145  
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151  
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164  
\040\107\063

END

CKA\_ID  
UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL  
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145  
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151  
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164  
\040\107\063

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\020\005\125\126\274\362\136\244\065\065\303\244\017\325\253  
\105\162

END

CKA\_VALUE MULTILINE\_OCTAL  
\060\202\002\077\060\202\001\305\240\003\002\001\002\002\020\005  
\125\126\274\362\136\244\065\065\303\244\017\325\253\105\162\060  
\012\006\010\052\206\110\316\075\004\003\003\060\141\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\025\060\023\006\003  
\125\004\012\023\014\104\151\147\151\103\145\162\164\040\111\156  
\143\061\031\060\027\006\003\125\004\013\023\020\167\167\167\056  
\144\151\147\151\143\145\162\164\056\143\157\155\061\040\060\036  
\006\003\125\004\003\023\027\104\151\147\151\103\145\162\164\040  
\107\154\157\142\141\154\040\122\157\157\164\040\107\063\060\036  
\027\015\061\063\060\070\060\061\061\062\060\060\060\060\132\027  
\015\063\070\060\061\061\065\061\062\060\060\060\060\132\060\141  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060  
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164  
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167  
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061  
\040\060\036\006\003\125\004\003\023\027\104\151\147\151\103\145

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\162\164\040\107\154\157\142\141\154\040\122\157\157\164\040\107
\063\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005
\053\201\004\000\042\003\142\000\004\335\247\331\273\212\270\013
\373\013\177\041\322\360\276\276\163\363\063\135\032\274\064\352
\336\306\233\274\320\225\366\360\314\320\013\272\141\133\121\106
\176\236\055\237\356\216\143\014\027\354\007\160\365\317\204\056
\100\203\234\350\077\101\155\073\255\323\244\024\131\066\170\235
\003\103\356\020\023\154\162\336\256\210\247\241\153\265\103\316
\147\334\043\377\003\034\243\342\076\243\102\060\100\060\017\006
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060\035
\006\003\125\035\016\004\026\004\024\263\333\110\244\371\241\305
\330\256\066\101\314\021\143\151\142\051\274\113\306\060\012\006
\010\052\206\110\316\075\004\003\003\003\150\000\060\145\002\061
\000\255\274\362\154\077\022\112\321\055\071\303\012\011\227\163
\364\210\066\214\210\047\273\346\210\215\120\205\247\143\371\236
\062\336\146\223\017\361\314\261\011\217\335\154\253\372\153\177
\240\002\060\071\146\133\302\144\215\270\236\120\334\250\325\111
\242\355\307\334\321\111\177\027\001\270\310\206\217\116\214\210
\053\250\232\251\212\305\321\000\275\370\124\342\232\345\133\174
\263\047\027
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert Global Root G3"

# Issuer: CN=DigiCert Global Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:05:55:56:bc:f2:5e:a4:35:35:c3:a4:0f:d5:ab:45:72

# Subject: CN=DigiCert Global Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Thu Aug 01 12:00:00 2013

# Not Valid After : Fri Jan 15 12:00:00 2038

# Fingerprint (SHA-256):

31:AD:66:48:F8:10:41:38:C7:38:F3:9E:A4:32:01:33:39:3E:3A:18:CC:02:29:6E:F9:7C:2A:C9:EF:67:31:D0

# Fingerprint (SHA1): 7E:04:DE:89:6A:3E:66:6D:00:E6:87:D3:3F:FA:D9:3B:E8:3D:34:9E

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert Global Root G3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\176\004\336\211\152\076\146\155\000\346\207\323\077\372\331\073
\350\075\064\236
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\365\135\244\120\245\373\050\176\036\017\015\314\226\127\126\312
```

```

END
CKA_ISSUER
MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\005\125\126\274\362\136\244\065\065\303\244\017\325\253
\105\162
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DigiCert Trusted Root G4"
#
Issuer: CN=DigiCert Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US
Serial Number:05:9b:1b:57:9e:8e:21:32:e2:39:07:bd:a7:77:75:5c
Subject: CN=DigiCert
Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US
Not Valid Before: Thu Aug 01 12:00:00 2013
Not Valid After : Fri Jan 15 12:00:00 2038
Fingerprint (SHA-256):
55:2F:7B:DC:F1:A7:AF:9E:6C:E6:72:01:7F:4F:12:AB:F7:72:40:C7:8E:76:1A:C2:03:D1:D9:D2:0A:C8:99:88
Fingerprint (SHA1): DD:FB:16:CD:49:31:C9:73:A2:03:7D:3F:C8:3A:4D:7D:77:5D:05:E4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Trusted Root G4"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\041\060\037\006\003\125\004\003\023\030\104\151\147\151
\103\145\162\164\040\124\162\165\163\164\145\144\040\122\157\157
\164\040\107\064
END
CKA_ID

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UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\142\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145  
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\041\060\037\006\003\125\004\003\023\030\104\151\147\151  
\103\145\162\164\040\124\162\165\163\164\145\144\040\122\157\157  
\164\040\107\064

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\005\233\033\127\236\216\041\062\342\071\007\275\247\167  
\165\134

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\220\060\202\003\170\240\003\002\001\002\002\020\005  
\233\033\127\236\216\041\062\342\071\007\275\247\167\165\134\060  
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\142  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060  
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164  
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167  
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061  
\041\060\037\006\003\125\004\003\023\030\104\151\147\151\103\145  
\162\164\040\124\162\165\163\164\145\144\040\122\157\157\164\040  
\107\064\060\036\027\015\061\063\060\070\060\061\061\062\060\060  
\060\060\132\027\015\063\070\060\061\061\065\061\062\060\060\060  
\060\132\060\142\061\013\060\011\006\003\125\004\006\023\002\125  
\123\061\025\060\023\006\003\125\004\012\023\014\104\151\147\151  
\103\145\162\164\040\111\156\143\061\031\060\027\006\003\125\004  
\013\023\020\167\167\167\056\144\151\147\151\143\145\162\164\056  
\143\157\155\061\041\060\037\006\003\125\004\003\023\030\104\151  
\147\151\103\145\162\164\040\124\162\165\163\164\145\144\040\122  
\157\157\164\040\107\064\060\202\002\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202  
\002\012\002\202\002\001\000\277\346\220\163\150\336\273\344\135  
\112\074\060\042\060\151\063\354\302\247\045\056\311\041\075\362  
\212\330\131\302\341\051\247\075\130\253\166\232\315\256\173\033  
\204\015\304\060\037\363\033\244\070\026\353\126\306\227\155\035  
\253\262\171\362\312\021\322\344\137\326\005\074\122\017\122\037  
\306\236\025\245\176\276\237\251\127\026\131\125\162\257\150\223  
\160\302\262\272\165\231\152\163\062\224\321\020\104\020\056\337  
\202\363\007\204\346\164\073\155\161\342\055\014\033\356\040\325  
\311\040\035\143\051\055\316\354\136\116\310\223\370\041\141\233  
\064\353\005\306\136\354\133\032\274\353\311\317\315\254\064\100  
\137\261\172\146\356\167\310\110\250\146\127\127\237\124\130\216  
\014\053\267\117\247\060\331\126\356\312\173\135\343\255\311\117  
\136\345\065\347\061\313\332\223\136\334\216\217\200\332\266\221  
\230\100\220\171\303\170\307\266\261\304\265\152\030\070\003\020

\215\330\324\067\244\056\005\175\210\365\202\076\020\221\160\253  
\125\202\101\062\327\333\004\163\052\156\221\001\174\041\114\324  
\274\256\033\003\165\135\170\146\331\072\061\104\232\063\100\277  
\010\327\132\111\244\302\346\251\240\147\335\244\047\274\241\117  
\071\265\021\130\027\367\044\134\106\217\144\367\301\151\210\166  
\230\166\075\131\135\102\166\207\211\227\151\172\110\360\340\242  
\022\033\146\232\164\312\336\113\036\347\016\143\256\346\324\357  
\222\222\072\236\075\334\000\344\105\045\211\266\232\104\031\053  
\176\300\224\264\322\141\155\353\063\331\305\337\113\004\000\314  
\175\034\225\303\217\367\041\262\262\021\267\273\177\362\325\214  
\160\054\101\140\252\261\143\030\104\225\032\166\142\176\366\200  
\260\373\350\144\246\063\321\211\007\341\275\267\346\103\244\030  
\270\246\167\001\341\017\224\014\041\035\262\124\051\045\211\154  
\345\016\122\121\107\164\276\046\254\266\101\165\336\172\254\137  
\215\077\311\274\323\101\021\022\133\345\020\120\353\061\305\312  
\162\026\042\011\337\174\114\165\077\143\354\041\137\304\040\121  
\153\157\261\253\206\213\117\302\326\105\137\235\040\374\241\036  
\305\300\217\242\261\176\012\046\231\365\344\151\057\230\035\055  
\365\331\251\262\035\345\033\002\003\001\000\001\243\102\060\100  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\206\060\035\006\003\125\035\016\004\026\004\024\354\327\343\202  
\322\161\135\144\114\337\056\147\077\347\272\230\256\034\017\117  
\060\015\006\011\052\206\110\206\367\015\001\001\014\005\000\003  
\202\002\001\000\273\141\331\175\251\154\276\027\304\221\033\303  
\241\242\000\215\343\144\150\017\126\317\167\256\160\371\375\232  
\112\231\271\311\170\134\014\014\137\344\346\024\051\126\013\066  
\111\135\104\143\340\255\234\226\030\146\033\043\015\075\171\351  
\155\153\326\124\370\322\074\301\103\100\256\035\120\365\122\374  
\220\073\273\230\231\151\153\307\301\247\250\150\244\047\334\235  
\371\047\256\060\205\271\366\147\115\072\076\217\131\071\042\123  
\104\353\310\135\003\312\355\120\172\175\142\041\012\200\310\163  
\146\321\240\005\140\137\350\245\264\247\257\250\367\155\065\234  
\174\132\212\326\242\070\231\363\170\213\364\115\322\040\013\336  
\004\356\214\233\107\201\162\015\300\024\062\357\060\131\056\256  
\340\161\362\126\344\152\227\157\222\120\155\226\215\150\172\232  
\262\066\024\172\006\362\044\271\011\021\120\327\010\261\270\211  
\172\204\043\141\102\051\345\243\315\242\040\101\327\321\234\144  
\331\352\046\241\213\024\327\114\031\262\120\101\161\075\077\115  
\160\043\206\014\112\334\201\322\314\062\224\204\015\010\011\227  
\034\117\300\356\153\040\164\060\322\340\071\064\020\205\041\025  
\001\010\350\125\062\336\161\111\331\050\027\120\115\346\276\115  
\321\165\254\320\312\373\101\270\103\245\252\323\303\005\104\117  
\054\066\233\342\372\342\105\270\043\123\154\006\157\147\125\177  
\106\265\114\077\156\050\132\171\046\322\244\250\142\227\322\036  
\342\355\112\213\274\033\375\107\112\015\337\147\146\176\262\133  
\101\320\073\344\364\073\364\004\143\351\357\302\124\000\121\240  
\212\052\311\316\170\314\325\352\207\004\030\263\316\257\111\210



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\257\363\222\231\266\263\346\141\017\322\205\000\347\120\032\344
\033\225\235\031\241\271\234\261\233\261\000\036\357\320\017\117
\102\154\311\012\274\356\103\372\072\161\245\310\115\046\245\065
\375\211\135\274\205\142\035\062\322\240\053\124\355\232\127\301
\333\372\020\317\031\267\213\112\033\217\001\266\047\225\123\350
\266\211\155\133\274\150\324\043\350\213\121\242\126\371\360\246
\200\240\326\036\263\274\017\017\123\165\051\252\352\023\167\344
\336\214\201\041\255\007\020\107\021\255\207\075\007\321\165\274
\317\363\146\176
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert Trusted Root G4"

# Issuer: CN=DigiCert Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:05:9b:1b:57:9e:8e:21:32:e2:39:07:bd:a7:77:75:5c

# Subject: CN=DigiCert Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Thu Aug 01 12:00:00 2013

# Not Valid After : Fri Jan 15 12:00:00 2038

# Fingerprint (SHA-256):

55:2F:7B:DC:F1:A7:AF:9E:6C:E6:72:01:7F:4F:12:AB:F7:72:40:C7:8E:76:1A:C2:03:D1:D9:D2:0A:C8:99:88

#

Fingerprint (SHA1): DD:FB:16:CD:49:31:C9:73:A2:03:7D:3F:C8:3A:4D:7D:77:5D:05:E4

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert Trusted Root G4"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\335\373\026\315\111\061\311\163\242\003\175\077\310\072\115\175
\167\135\005\344
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\170\362\374\252\140\037\057\264\353\311\067\272\123\056\165\111
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\142\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\041\060\037\006\003\125\004\003\023\030\104\151\147\151
\103\145\162\164\040\124\162\165\163\164\145\144\040\122\157\157
\164\040\107\064
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\005\233\033\127\236\216\041\062\342\071\007\275\247\167
```

```

\165\134
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "COMODO RSA Certification Authority"
#
Issuer: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
Serial Number:4c:aa:f9:ca:db:63:6f:e0:1f:f7:4e:d8:5b:03:86:9d
Subject: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
Not Valid Before: Tue Jan 19 00:00:00 2010
Not Valid After : Mon Jan 18 23:59:59 2038
Fingerprint (SHA-256):
52:F0:E1:C4:E5:8E:C6:29:29:1B:60:31:7F:07:46:71:B8:5D:7E:A8:0D:5B:07:27:34:63:53:4B:32:B4:02:34
Fingerprint (SHA1): AF:E5:D2:44:A8:D1:19:42:30:FF:47:9F:E2:F8:97:BB:CD:7A:8C:B4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE
CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "COMODO RSA Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\122\123\101
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\122\123\101

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\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\114\252\371\312\333\143\157\340\037\367\116\330\133\003
\206\235
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\330\060\202\003\300\240\003\002\001\002\002\020\114
\252\371\312\333\143\157\340\037\367\116\330\133\003\206\235\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\201
\205\061\013\060\011\006\003\125\004\006\023\002\107\102\061\033
\060\031\006\003\125\004\010\023\022\107\162\145\141\164\145\162
\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016\006
\003\125\004\007\023\007\123\141\154\146\157\162\144\061\032\060
\030\006\003\125\004\012\023\021\103\117\115\117\104\117\040\103
\101\040\114\151\155\151\164\145\144\061\053\060\051\006\003\125
\004\003\023\042\103\117\115\117\104\117\040\122\123\101\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\060\036\027\015\061\060\060\061\061\071
\060\060\060\060\060\060\132\027\015\063\070\060\061\061\070\062
\063\065\071\065\071\132\060\201\205\061\013\060\011\006\003\125
\004\006\023\002\107\102\061\033\060\031\006\003\125\004\010\023
\022\107\162\145\141\164\145\162\040\115\141\156\143\150\145\163
\164\145\162\061\020\060\016\006\003\125\004\007\023\007\123\141
\154\146\157\162\144\061\032\060\030\006\003\125\004\012\023\021
\103\117\115\117\104\117\040\103\101\040\114\151\155\151\164\145
\144\061\053\060\051\006\003\125\004\003\023\042\103\117\115\117
\104\117\040\122\123\101\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060\202
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\221
\350\124\222\322\012\126\261\254\015\044\335\305\317\104\147\164
\231\053\067\243\175\043\160\000\161\274\123\337\304\372\052\022
\217\113\177\020\126\275\237\160\162\267\141\177\311\113\017\027
\247\075\343\260\004\141\356\377\021\227\307\364\206\076\012\372
\076\134\371\223\346\064\172\331\024\153\347\234\263\205\240\202
\172\166\257\161\220\327\354\375\015\372\234\154\372\337\260\202
\364\024\176\371\276\304\246\057\117\177\231\177\265\374\147\103
\162\275\014\000\326\211\353\153\054\323\355\217\230\034\024\253
\176\345\343\156\374\330\250\344\222\044\332\103\153\142\270\125
\375\352\301\274\154\266\213\363\016\215\232\344\233\154\151\231
\370\170\110\060\105\325\255\341\015\074\105\140\374\062\226\121
\047\274\147\303\312\056\266\153\352\106\307\307\040\240\261\037
\145\336\110\010\272\244\116\251\362\203\106\067\204\353\350\314
\201\110\103\147\116\162\052\233\134\275\114\033\050\212\134\042
\173\264\253\230\331\356\340\121\203\303\011\106\116\155\076\231
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\372\225\027\332\174\063\127\101\074\215\121\355\013\266\134\257  
\054\143\032\337\127\310\077\274\351\135\304\233\257\105\231\342  
\243\132\044\264\272\251\126\075\317\157\252\377\111\130\276\360  
\250\377\364\270\255\351\067\373\272\270\364\013\072\371\350\103  
\102\036\211\330\204\313\023\361\331\273\341\211\140\270\214\050  
\126\254\024\035\234\012\347\161\353\317\016\335\075\251\226\241  
\110\275\074\367\257\265\015\042\114\300\021\201\354\126\073\366  
\323\242\342\133\267\262\004\042\122\225\200\223\151\350\216\114  
\145\361\221\003\055\160\164\002\352\213\147\025\051\151\122\002  
\273\327\337\120\152\125\106\277\240\243\050\141\177\160\320\303  
\242\252\054\041\252\107\316\050\234\006\105\166\277\202\030\047  
\264\325\256\264\313\120\346\153\364\114\206\161\060\351\246\337  
\026\206\340\330\377\100\335\373\320\102\210\177\243\063\072\056  
\134\036\101\021\201\143\316\030\161\153\053\354\246\212\267\061  
\134\072\152\107\340\303\171\131\326\040\032\257\362\152\230\252  
\162\274\127\112\322\113\235\273\020\374\260\114\101\345\355\035  
\075\136\050\235\234\314\277\263\121\332\247\107\345\204\123\002  
\003\001\000\001\243\102\060\100\060\035\006\003\125\035\016\004  
\026\004\024\273\257\176\002\075\372\246\361\074\204\216\255\356  
\070\230\354\331\062\062\324\060\016\006\003\125\035\017\001\001  
\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001  
\377\004\005\060\003\001\001\377\060\015\006\011\052\206\110\206  
\367\015\001\001\014\005\000\003\202\002\001\000\012\361\325\106  
\204\267\256\121\273\154\262\115\101\024\000\223\114\234\313\345  
\300\124\317\240\045\216\002\371\375\260\242\015\365\040\230\074  
\023\055\254\126\242\260\326\176\021\222\351\056\272\236\056\232  
\162\261\275\031\104\154\141\065\242\232\264\026\022\151\132\214  
\341\327\076\244\032\350\057\003\364\256\141\035\020\033\052\244  
\213\172\305\376\005\246\341\300\326\310\376\236\256\217\053\272  
\075\231\370\330\163\011\130\106\156\246\234\364\327\047\323\225  
\332\067\203\162\034\323\163\340\242\107\231\003\070\135\325\111  
\171\000\051\034\307\354\233\040\034\007\044\151\127\170\262\071  
\374\072\204\240\265\234\174\215\277\056\223\142\047\267\071\332  
\027\030\256\275\074\011\150\377\204\233\074\325\326\013\003\343  
\127\236\024\367\321\353\117\310\275\207\043\267\266\111\103\171  
\205\134\272\353\222\013\241\306\350\150\250\114\026\261\032\231  
\012\350\123\054\222\273\241\011\030\165\014\145\250\173\313\043  
\267\032\302\050\205\303\033\377\320\053\142\357\244\173\011\221  
\230\147\214\024\001\315\150\006\152\143\041\165\003\200\210\212  
\156\201\306\205\362\251\244\055\347\364\245\044\020\107\203\312  
\315\364\215\171\130\261\006\233\347\032\052\331\235\001\327\224  
\175\355\003\112\312\360\333\350\251\001\076\365\126\231\311\036  
\216\111\075\273\345\011\271\340\117\111\222\075\026\202\100\314  
\314\131\306\346\072\355\022\056\151\074\154\225\261\375\252\035  
\173\177\206\276\036\016\062\106\373\373\023\217\165\177\114\213  
\113\106\143\376\000\064\100\160\301\303\271\241\335\246\160\342  
\004\263\101\274\351\200\221\352\144\234\172\341\042\003\251\234  
\156\157\016\145\117\154\207\207\136\363\156\240\371\165\245\233

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\100\350\123\262\047\235\112\271\300\167\041\215\377\207\362\336
\274\214\357\027\337\267\111\013\321\362\156\060\013\032\016\116
\166\355\021\374\365\351\126\262\175\277\307\155\012\223\214\245
\320\300\266\035\276\072\116\224\242\327\156\154\013\302\212\174
\372\040\363\304\344\345\315\015\250\313\221\222\261\174\205\354
\265\024\151\146\016\202\347\315\316\310\055\246\121\177\041\301
\065\123\205\006\112\135\237\255\273\033\137\164
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "COMODO RSA Certification Authority"

# Issuer: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater Manchester,C=GB

# Serial Number:4c:aa:f9:ca:db:63:6f:e0:1f:f7:4e:d8:5b:03:86:9d

# Subject: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater Manchester,C=GB

# Not Valid Before: Tue Jan 19 00:00:00 2010

# Not Valid After : Mon Jan 18 23:59:59 2038

# Fingerprint (SHA-256):

52:F0:E1:C4:E5:8E:C6:29:29:1B:60:31:7F:07:46:71:B8:5D:7E:A8:0D:5B:07:27:34:63:53:4B:32:B4:02:34

# Fingerprint (SHA1): AF:E5:D2:44:A8:D1:19:42:30:FF:47:9F:E2:F8:97:BB:CD:7A:8C:B4

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "COMODO RSA Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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\257\345\322\104\250\321\031\102\060\377\107\237\342\370\227\273
\315\172\214\264
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END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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\033\061\260\161\100\066\314\024\066\221\255\304\076\375\354\030
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END

CKA\_ISSUER MULTILINE\_OCTAL

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\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\122\123\101
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
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END

CKA\_SERIAL\_NUMBER

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MULTILINE_OCTAL
\002\020\114\252\371\312\333\143\157\340\037\367\116\330\133\003
\206\235
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "USERTrust RSA Certification Authority"
#
Issuer: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
Serial Number:01:fd:6d:30:fc:a3:ca:51:a8:1b:bc:64:0e:35:03:2d
Subject: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
Not Valid Before: Mon
Feb 01 00:00:00 2010
Not Valid After : Mon Jan 18 23:59:59 2038
Fingerprint (SHA-256):
E7:93:C9:B0:2F:D8:AA:13:E2:1C:31:22:8A:CC:B0:81:19:64:3B:74:9C:89:89:64:B1:74:6D:46:C3:D4:CB:D2
Fingerprint (SHA1): 2B:8F:1B:57:33:0D:BB:A2:D0:7A:6C:51:F7:0E:E9:0D:DA:B9:AD:8E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "USERTrust RSA Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\122\123\101\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122

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\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006  
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040  
\122\123\101\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\001\375\155\060\374\243\312\121\250\033\274\144\016\065  
\003\055

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\336\060\202\003\306\240\003\002\001\002\002\020\001  
\375\155\060\374\243\312\121\250\033\274\144\016\065\003\055\060  
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\201  
\210\061\013\060\011\006\003\125\004\006\023\002\125\123\061\023  
\060\021\006\003\125\004\010\023\012\116\145\167\040\112\145\162  
\163\145\171\061\024\060\022\006\003\125\004\007\023\013\112\145  
\162\163\145\171\040\103\151\164\171\061\036\060\034\006\003\125  
\004\012\023\025\124\150\145\040\125\123\105\122\124\122\125\123  
\124\040\116\145\164\167\157\162\153\061\056\060\054\006\003\125  
\004\003\023\045\125\123\105\122\124\162\165\163\164\040\122\123  
\101\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040  
\101\165\164\150\157\162\151\164\171\060\036\027\015\061\060\060  
\062\060\061\060\060\060\060\060\132\027\015\063\070\060\061  
\061\070\062\063\065\071\065\071\132\060\201\210\061\013\060\011  
\006\003\125\004\006\023\002\125\123\061\023\060\021\006\003\125  
\004\010\023\012\116\145\167\040\112\145\162\163\145\171\061\024  
\060\022\006\003\125\004\007\023\013\112\145\162\163\145\171\040  
\103\151\164\171\061\036\060\034\006\003\125\004\012\023\025\124  
\150\145\040\125\123\105\122\124\122\125\123\124\040\116\145\164  
\167\157\162\153\061\056\060\054\006\003\125\004\003\023\045\125  
\123\105\122\124\162\165\163\164\040\122\123\101\040\103\145\162  
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157  
\162\151\164\171\060\202\002\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012  
\002\202\002\001\000\200\022\145\027\066\016\303\333\010\263\320  
\254\127\015\166\355\315\047\323\114\255\120\203\141\342\252\040  
\115\011\055\144\011\334\316\211\237\314\075\251\354\366\317\301  
\334\361\323\261\326\173\067\050\021\053\107\332\071\306\274\072  
\031\264\137\246\275\175\235\243\143\102\266\166\362\251\073\053  
\221\370\342\157\320\354\026\040\220\011\076\342\350\164\311\030  
\264\221\324\142\144\333\177\243\006\361\210\030\152\220\042\074  
\274\376\023\360\207\024\173\366\344\037\216\324\344\121\306\021  
\147\106\010\121\313\206\024\124\077\274\063\376\176\154\234\377  
\026\235\030\275\121\216\065\246\247\146\310\162\147\333\041\146  
\261\324\233\170\003\300\120\072\350\314\360\334\274\236\114\376  
\257\005\226\065\037\127\132\267\377\316\371\075\267\054\266\366  
\124\335\310\347\022\072\115\256\114\212\267\134\232\264\267\040  
\075\312\177\042\064\256\176\073\150\146\001\104\347\001\116\106

\123\233\063\140\367\224\276\123\067\220\163\103\363\062\303\123  
\357\333\252\376\164\116\151\307\153\214\140\223\336\304\307\014  
\337\341\062\256\314\223\073\121\170\225\147\213\356\075\126\376  
\014\320\151\017\033\017\363\045\046\153\063\155\367\156\107\372  
\163\103\345\176\016\245\146\261\051\174\062\204\143\125\211\304  
\015\301\223\124\060\031\023\254\323\175\067\247\353\135\072\154  
\065\134\333\101\327\022\332\251\111\013\337\330\200\212\011\223  
\142\216\265\146\317\045\210\315\204\270\261\077\244\071\017\331  
\002\236\353\022\114\225\174\363\153\005\251\136\026\203\314\270  
\147\342\350\023\235\314\133\202\323\114\263\355\133\377\336\345  
\163\254\043\073\055\000\277\065\125\164\011\111\330\111\130\032  
\177\222\066\346\121\222\016\363\046\175\034\115\027\274\311\354  
\103\046\320\277\101\137\100\251\104\104\364\231\347\127\207\236  
\120\037\127\124\250\076\375\164\143\057\261\120\145\011\346\130  
\102\056\103\032\114\264\360\045\107\131\372\004\036\223\324\046  
\106\112\120\201\262\336\276\170\267\374\147\025\341\311\127\204  
\036\017\143\326\351\142\272\326\137\125\056\352\134\306\050\010  
\004\045\071\270\016\053\251\362\114\227\034\007\077\015\122\365  
\355\357\057\202\017\002\003\001\000\001\243\102\060\100\060\035  
\006\003\125\035\016\004\026\004\024\123\171\277\132\252\053\112  
\317\124\200\341\330\233\300\235\362\262\003\146\313\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006  
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\015  
\006\011\052\206\110\206\367\015\001\001\014\005\000\003\202\002  
\001\000\134\324\174\015\317\367\001\175\101\231\145\014\163\305  
\122\237\313\370\317\231\006\177\033\332\103\025\237\236\002\125  
\127\226\024\361\122\074\047\207\224\050\355\037\072\001\067\242  
\166\374\123\120\300\204\233\306\153\116\272\214\041\117\242\216  
\125\142\221\363\151\025\330\274\210\343\304\252\013\375\357\250  
\351\113\125\052\006\040\155\125\170\051\031\356\137\060\134\113  
\044\021\125\377\044\232\156\136\052\053\356\013\115\237\177\367  
\001\070\224\024\225\103\007\011\373\140\251\356\034\253\022\214  
\240\232\136\247\230\152\131\155\213\077\010\373\310\321\105\257  
\030\025\144\220\022\017\163\050\056\305\342\044\116\374\130\354  
\360\364\105\376\042\263\353\057\216\322\331\105\141\005\301\227  
\157\250\166\162\217\213\214\066\257\277\015\005\316\161\215\346  
\246\157\037\154\246\161\142\305\330\320\203\162\014\361\147\021  
\211\014\234\023\114\162\064\337\274\325\161\337\252\161\335\341  
\271\154\214\074\022\135\145\332\275\127\022\266\103\153\377\345  
\336\115\146\021\121\317\231\256\354\027\266\350\161\221\214\336  
\111\376\335\065\161\242\025\047\224\034\317\141\343\046\273\157  
\243\147\045\041\135\346\335\035\013\056\150\033\073\202\257\354  
\203\147\205\324\230\121\164\261\271\231\200\211\377\177\170\031  
\134\171\112\140\056\222\100\256\114\067\052\054\311\307\142\310  
\016\135\367\066\133\312\340\045\045\001\264\335\032\007\234\167  
\000\077\320\334\325\354\075\324\372\273\077\314\205\326\157\177  
\251\055\337\271\002\367\365\227\232\265\065\332\303\147\260\207  
\112\251\050\236\043\216\377\134\047\153\341\260\117\363\007\356



```
\000\056\324\131\207\313\122\101\225\352\364\107\327\356\144\101
\125\174\215\131\002\225\335\142\235\302\271\356\132\050\164\204
\245\233\267\220\307\014\007\337\365\211\066\164\062\326\050\301
\260\260\013\340\234\114\303\034\326\374\343\151\265\107\106\201
\057\242\202\253\323\143\104\160\304\215\377\055\063\272\255\217
\173\265\160\210\256\076\031\317\100\050\330\374\310\220\273\135
\231\042\365\122\346\130\305\037\210\061\103\356\210\035\327\306
\216\074\103\152\035\247\030\336\175\075\026\361\142\371\312\220
\250\375
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "USERTrust RSA Certification Authority"

# Issuer: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New Jersey,C=US

# Serial Number:01:fd:6d:30:fc:a3:ca:51:a8:1b:bc:64:0e:35:03:2d

# Subject: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New Jersey,C=US

# Not Valid Before: Mon Feb 01 00:00:00 2010

# Not Valid After : Mon Jan 18 23:59:59 2038

# Fingerprint (SHA-256):

E7:93:C9:B0:2F:D8:AA:13:E2:1C:31:22:8A:CC:B0:81:19:64:3B:74:9C:89:89:64:B1:74:6D:46:C3:D4:CB:D2

# Fingerprint (SHA1): 2B:8F:1B:57:33:0D:BB:A2:D0:7A:6C:51:F7:0E:E9:0D:DA:B9:AD:8E

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "USERTrust RSA Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\053\217\033\127\063\015\273\242\320\172\154\121\367\016\351\015
\332\271\255\216
```

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

```
\033\376\151\321\221\267\031\063\243\162\250\017\341\125\345\265
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\122\123\101\040\103\145\162\164\151\146\151\143\141\164\151\157
```

```

\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\001\375\155\060\374\243\312\121\250\033\274\144\016\065
\003\055
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING
CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "USERTrust ECC Certification Authority"
#
Issuer: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
Serial Number:5c:8b:99:c5:5a:94:c5:d2:71:56:de:cd:89:80:cc:26
Subject: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
Not Valid Before: Mon Feb 01 00:00:00 2010
Not Valid After : Mon Jan 18 23:59:59 2038
Fingerprint (SHA-256):
4F:F4:60:D5:4B:9C:86:DA:BF:BC:FC:57:12:E0:40:0D:2B:ED:3F:BC:4D:4F:BD:AA:86:E0:6A:DC:D2:A9:AD:7A
Fingerprint (SHA1): D1:CB:CA:5D:B2:D5:2A:7F:69:3B:67:4D:E5:F0:5A:1D:0C:95:7D:F0
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "USERTrust ECC Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013

```

\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006  
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122  
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006  
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040  
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\134\213\231\305\132\224\305\322\161\126\336\315\211\200  
\314\046

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\217\060\202\002\025\240\003\002\001\002\002\020\134  
\213\231\305\132\224\305\322\161\126\336\315\211\200\314\046\060  
\012\006\010\052\206\110\316\075\004\003\003\060\201\210\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\023\060\021\006  
\003\125\004\010\023\012\116\145\167\040\112\145\162\163\145\171  
\061\024\060\022\006\003\125\004\007\023\013\112\145\162\163\145  
\171\040\103\151\164\171\061\036\060\034\006\003\125\004\012\023  
\025\124\150\145\040\125\123\105\122\124\122\125\123\124\040\116  
\145\164\167\157\162\153\061\056\060\054\006\003\125\004\003\023  
\045\125\123\105\122\124\162\165\163\164\040\105\103\103\040\103  
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164  
\150\157\162\151\164\171\060\036\027\015\061\060\060\062\060\061  
\060\060\060\060\060\060\132\027\015\063\070\060\061\061\070\062  
\063\065\071\065\071\132\060\201\210\061\013\060\011\006\003\125  
\004\006\023\002\125\123\061\023\060\021\006\003\125\004\010\023  
\012\116\145\167\040\112\145\162\163\145\171\061\024\060\022\006  
\003\125\004\007\023\013\112\145\162\163\145\171\040\103\151\164  
\171\061\036\060\034\006\003\125\004\012\023\025\124\150\145\040  
\125\123\105\122\124\122\125\123\124\040\116\145\164\167\157\162  
\153\061\056\060\054\006\003\125\004\003\023\045\125\123\105\122  
\124\162\165\163\164\040\105\103\103\040\103\145\162\164\151\146  
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164  
\171\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005  
\053\201\004\000\042\003\142\000\004\032\254\124\132\251\371\150  
\043\347\172\325\044\157\123\306\132\330\113\253\306\325\266\321  
\346\163\161\256\335\234\326\014\141\375\333\240\211\003\270\005  
\024\354\127\316\356\135\077\342\041\263\316\367\324\212\171\340  
\243\203\176\055\227\320\141\304\361\231\334\045\221\143\253\177  
\060\243\264\160\342\307\241\063\234\363\277\056\134\123\261\137  
\263\175\062\177\212\064\343\171\171\243\102\060\100\060\035\006  
\003\125\035\016\004\026\004\024\072\341\011\206\324\317\031\302  
\226\166\164\111\166\334\340\065\306\143\143\232\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\012\006  
\010\052\206\110\316\075\004\003\003\003\150\000\060\145\002\060

```
\066\147\241\026\010\334\344\227\000\101\035\116\276\341\143\001
\317\073\252\102\021\144\240\235\224\071\002\021\171\134\173\035
\372\144\271\356\026\102\263\277\212\302\011\304\354\344\261\115
\002\061\000\351\052\141\107\214\122\112\113\116\030\160\366\326
\104\326\156\365\203\272\155\130\275\044\331\126\110\352\357\304
\242\106\201\210\152\072\106\321\251\233\115\311\141\332\321\135
\127\152\030
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "USERTrust ECC Certification Authority"

# Issuer: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New Jersey,C=US

# Serial Number:5c:8b:99:c5:5a:94:c5:d2:71:56:de:cd:89:80:cc:26

# Subject: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New Jersey,C=US

# Not Valid Before: Mon Feb 01 00:00:00 2010

# Not Valid After : Mon Jan 18 23:59:59 2038

# Fingerprint (SHA-256):

4F:F4:60:D5:4B:9C:86:DA:BF:BC:FC:57:12:E0:40:0D:2B:ED:3F:BC:4D:4F:BD:AA:86:E0:6A:DC:D2:A9:AD:7A

# Fingerprint (SHA1): D1:CB:CA:5D:B2:D5:2A:7F:69:3B:67:4D:E5:F0:5A:1D:0C:95:7D:F0

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "USERTrust ECC Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\321\313\312\135\262\325\052\177\151\073\147\115\345\360\132\035
\014\225\175\360
```

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

```
\372\150\274\331\265\177\255\375\311\035\006\203\050\314\044\301
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
```

END

```

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\134\213\231\305\132\224\305\322\161\126\336\315\211\200
\314\046
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING
CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GlobalSign ECC Root CA - R5"
#
Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5
Serial Number:60:59:49:e0:26:2e:bb:55:f9:0a:77:8a:71:f9:4a:d8:6c
Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5
Not Valid Before: Tue Nov 13 00:00:00 2012
Not Valid After : Tue Jan 19 03:14:07 2038
Fingerprint (SHA-256):
17:9F:BC:14:8A:3D:D0:0F:D2:4E:A1:34:58:CC:43:BF:A7:F5:9C:81:82:D7:83:A5:13:F6:EB:EC:10:0C:89:24
Fingerprint (SHA1): 1F:24:C6:30:CD:A4:18:EF:20:69:FF:AD:4F:DD:5F:46:3A:1B:69:AA
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign ECC Root CA - R5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\065\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\065\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\140\131\111\340\046\056\273\125\371\012\167\212\161\371
\112\330\154

```

END

CKA\_VALUE MULTILINE\_OCTAL

```
\060\202\002\036\060\202\001\244\240\003\002\001\002\002\021\140
\131\111\340\046\056\273\125\371\012\167\212\161\371\112\330\154
\060\012\006\010\052\206\110\316\075\004\003\003\060\120\061\044
\060\042\006\003\125\004\013\023\033\107\154\157\142\141\154\123
\151\147\156\040\105\103\103\040\122\157\157\164\040\103\101\040
\055\040\122\065\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156\060\036
\027\015\061\062\061\061\061\063\060\060\060\060\060\132\027
\015\063\070\060\061\061\071\060\063\061\064\060\067\132\060\120
\061\044\060\042\006\003\125\004\013\023\033\107\154\157\142\141
\154\123\151\147\156\040\105\103\103\040\122\157\157\164\040\103
\101\040\055\040\122\065\061\023\060\021\006\003\125\004\012\023
\012\107\154\157\142\141\154\123\151\147\156\061\023\060\021\006
\003\125\004\003\023\012\107\154\157\142\141\154\123\151\147\156
\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053
\201\004\000\042\003\142\000\004\107\105\016\226\373\175\135\277
\351\071\321\041\370\237\013\266\325\173\036\222\072\110\131\034
\360\142\061\055\300\172\050\376\032\247\134\263\266\314\227\347
\105\324\130\372\321\167\155\103\242\300\207\145\064\012\037\172
\335\353\074\063\241\305\235\115\244\157\101\225\070\177\311\036
\204\353\321\236\111\222\207\224\207\014\072\205\112\146\237\235
\131\223\115\227\141\006\206\112\243\102\060\100\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006
\003\125\035\016\004\026\004\024\075\346\051\110\233\352\007\312
\041\104\112\046\336\156\336\322\203\320\237\131\060\012\006\010
\052\206\110\316\075\004\003\003\003\150\000\060\145\002\061\000
\345\151\022\311\156\333\306\061\272\011\101\341\227\370\373\375
\232\342\175\022\311\355\174\144\323\313\005\045\213\126\331\240
\347\136\135\116\013\203\234\133\166\051\240\011\046\041\152\142
\002\060\161\322\265\217\134\352\073\341\170\011\205\250\165\222
\073\310\134\375\110\357\015\164\042\250\010\342\156\305\111\316
\307\014\274\247\141\151\361\367\073\341\052\313\371\053\363\146
\220\067
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign ECC Root CA - R5"

# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5

# Serial Number:60:59:49:e0:26:2e:bb:55:f9:0a:77:8a:71:f9:4a:d8:6c

# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5

# Not Valid Before: Tue Nov 13 00:00:00 2012

```
Not Valid After : Tue Jan 19 03:14:07 2038
Fingerprint (SHA-256):
17:9F:BC:14:8A:3D:D0:0F:D2:4E:A1:34:58:CC:43:BF:A7:F5:9C:81:82:D7:83:A5:13:F6:EB:EC:10:0C:89:24
Fingerprint (SHA1): 1F:24:C6:30:CD:A4:18:EF:20:69:FF:AD:4F:DD:5F:46:3A:1B:69:AA
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign ECC Root CA - R5"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\037\044\306\060\315\244\030\357\040\151\377\255\117\335\137\106
\072\033\151\252
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\237\255\073\034\002\036\212\272\027\164\070\201\014\242\274\010
END
CKA_ISSUER
MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\065\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\140\131\111\340\046\056\273\125\371\012\167\212\161\371
\112\330\154
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Staat der Nederlanden Root CA - G3"
#
Issuer: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL
Serial Number: 10003001 (0x98a239)
Subject: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL
#
Not Valid Before: Thu Nov 14 11:28:42 2013
Not Valid After : Mon Nov 13 23:00:00 2028
Fingerprint (SHA-256):
3C:4F:B0:B9:5A:B8:B3:00:32:F4:32:B8:6F:53:5F:E1:72:C1:85:D0:FD:39:86:58:37:CF:36:18:7F:A6:F4:28
Fingerprint (SHA1): D8:EB:6B:41:51:92:59:E0:F3:E7:85:00:C0:3D:B6:88:97:C9:EE:FC
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Staat der Nederlanden Root CA - G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\053\060\051\006\003\125\004\003\014\042\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\122\157\157\164\040\103\101\040\055\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\053\060\051\006\003\125\004\003\014\042\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\122\157\157\164\040\103\101\040\055\040\107\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\004\000\230\242\071
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\164\060\202\003\134\240\003\002\001\002\002\004\000
\230\242\071\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\132\061\013\060\011\006\003\125\004\006\023\002\116
\114\061\036\060\034\006\003\125\004\012\014\025\123\164\141\141
\164\040\144\145\162\040\116\145\144\145\162\154\141\156\144\145
\156\061\053\060\051\006\003\125\004\003\014\042\123\164\141\141
\164\040\144\145\162\040\116\145\144\145\162\154\141\156\144\145
\156\040\122\157\157\164\040\103\101\040\055\040\107\063\060\036
\027\015\061\063\061\061\061\064\061\061\062\070\064\062\132\027
\015\062\070\061\061\061\063\062\063\060\060\060\060\132\060\132
\061\013\060\011\006\003\125\004\006\023\002\116\114\061\036\060
\034\006\003\125\004\012\014\025\123\164\141\141\164\040\144\145
\162\040\116\145\144\145\162\154\141\156\144\145\156\061\053\060
\051\006\003\125\004\003\014\042\123\164\141\141\164\040\144\145
\162\040\116\145\144\145\162\154\141\156\144\145\156\040\122\157
\157\164\040\103\101\040\055\040\107\063\060\202\002\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002
\017\000\060\202\002\012\002\202\002\001\000\276\062\242\124\017
\160\373\054\134\131\353\154\304\244\121\350\205\052\263\314\112
\064\362\260\137\363\016\307\034\075\123\036\210\010\150\330\157
\075\255\302\236\314\202\147\007\047\207\150\161\072\237\165\226
\042\106\005\260\355\255\307\133\236\052\336\234\374\072\306\225
```



\247\365\027\147\030\347\057\111\010\014\134\317\346\314\064\355  
\170\373\120\261\334\153\062\360\242\376\266\074\344\354\132\227  
\307\077\036\160\010\060\240\334\305\263\155\157\320\202\162\021  
\253\322\201\150\131\202\027\267\170\222\140\372\314\336\077\204  
\353\215\070\063\220\012\162\043\372\065\314\046\161\061\321\162  
\050\222\331\133\043\155\146\265\155\007\102\353\246\063\316\222  
\333\300\366\154\143\170\315\312\116\075\265\345\122\233\361\276  
\073\346\124\140\260\146\036\011\253\007\376\124\211\021\102\321  
\367\044\272\140\170\032\230\367\311\021\375\026\301\065\032\124  
\165\357\103\323\345\256\116\316\347\173\303\306\116\141\121\113  
\253\232\105\113\241\037\101\275\110\123\025\161\144\013\206\263  
\345\056\276\316\244\033\301\051\204\242\265\313\010\043\166\103  
\042\044\037\027\004\324\156\234\306\374\177\053\146\032\354\212  
\345\326\317\115\365\143\011\267\025\071\326\173\254\353\343\174  
\351\116\374\165\102\310\355\130\225\014\006\102\242\234\367\344  
\160\263\337\162\157\132\067\100\211\330\205\244\327\361\013\336  
\103\031\324\112\130\054\214\212\071\236\277\204\207\361\026\073  
\066\014\351\323\264\312\154\031\101\122\011\241\035\260\152\277  
\202\357\160\121\041\062\334\005\166\214\313\367\144\344\003\120  
\257\214\221\147\253\305\362\356\130\330\336\276\367\347\061\317  
\154\311\073\161\301\325\210\265\145\274\300\350\027\027\007\022  
\265\134\322\253\040\223\264\346\202\203\160\066\305\315\243\215  
\255\213\354\243\301\103\207\346\103\342\064\276\225\213\065\355  
\007\071\332\250\035\172\237\066\236\022\260\014\145\022\220\025  
\140\331\046\100\104\343\126\140\245\020\324\152\074\375\101\334  
\016\132\107\266\357\227\141\165\117\331\376\307\262\035\324\355  
\135\111\263\251\152\313\146\204\023\325\134\240\334\337\156\167  
\006\321\161\165\310\127\157\257\017\167\133\002\003\001\000\001  
\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024  
\124\255\372\307\222\127\256\312\065\234\056\022\373\344\272\135  
\040\334\224\127\060\015\006\011\052\206\110\206\367\015\001\001  
\013\005\000\003\202\002\001\000\060\231\235\005\062\310\136\016  
\073\230\001\072\212\244\347\007\367\172\370\347\232\337\120\103  
\123\227\052\075\312\074\107\230\056\341\025\173\361\222\363\141  
\332\220\045\026\145\300\237\124\135\016\003\073\133\167\002\234  
\204\266\015\230\137\064\335\073\143\302\303\050\201\302\234\051  
\056\051\342\310\303\001\362\063\352\052\252\314\011\010\367\145  
\147\306\315\337\323\266\053\247\275\314\321\016\160\137\270\043  
\321\313\221\116\012\364\310\172\345\331\143\066\301\324\337\374  
\042\227\367\140\135\352\051\057\130\262\275\130\275\215\226\117  
\020\165\277\110\173\075\121\207\241\074\164\042\302\374\007\177  
\200\334\304\254\376\152\301\160\060\260\351\216\151\342\054\151  
\201\224\011\272\335\376\115\300\203\214\224\130\300\106\040\257  
\234\037\002\370\065\125\111\057\106\324\300\360\240\226\002\017  
\063\305\161\363\236\043\175\224\267\375\072\323\011\203\006\041  
\375\140\075\256\062\300\322\356\215\246\360\347\264\202\174\012

```
\314\160\311\171\200\370\376\114\367\065\204\031\212\061\373\012
\331\327\177\233\360\242\232\153\303\005\112\355\101\140\024\060
\321\252\021\102\156\323\043\002\004\013\306\145\335\335\122\167
\332\201\153\262\250\372\001\070\271\226\352\052\154\147\227\211
\224\236\274\341\124\325\344\152\170\357\112\275\053\232\075\100
\176\306\300\165\322\156\373\150\060\354\354\213\235\371\111\065
\232\032\054\331\263\225\071\325\036\222\367\246\271\145\057\345
\075\155\072\110\114\010\334\344\050\022\050\276\175\065\134\352
\340\026\176\023\033\152\327\076\327\236\374\055\165\262\301\024
\325\043\003\333\133\157\013\076\170\057\015\336\063\215\026\267
\110\347\203\232\201\017\173\301\103\115\125\004\027\070\112\121
\325\131\242\211\164\323\237\276\036\113\327\306\155\267\210\044
\157\140\221\244\202\205\133\126\101\274\320\104\253\152\023\276
\321\054\130\267\022\063\130\262\067\143\334\023\365\224\035\077
\100\121\365\117\365\072\355\310\305\353\302\036\035\026\225\172
\307\176\102\161\223\156\113\025\267\060\337\252\355\127\205\110
\254\035\152\335\071\151\344\341\171\170\276\316\005\277\241\014
\367\200\173\041\147\047\060\131
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Staat der Nederlanden Root CA - G3"

# Issuer: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL

# Serial Number: 10003001 (0x98a239)

# Subject: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL

# Not Valid Before: Thu Nov 14 11:28:42 2013

# Not Valid After : Mon Nov 13 23:00:00 2028

# Fingerprint (SHA-256):

3C:4F:B0:B9:5A:B8:B3:00:32:F4:32:B8:6F:53:5F:E1:72:C1:85:D0:FD:39:86:58:37:CF:36:18:7F:A6:F4:28

# Fingerprint (SHA1): D8:EB:6B:41:51:92:59:E0:F3:E7:85:00:C0:3D:B6:88:97:C9:EE:FC

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Staat der Nederlanden Root CA - G3"

CKA\_CERT\_SHA1\_HASH

MULTILINE\_OCTAL

```
\330\353\153\101\121\222\131\340\363\347\205\000\300\075\266\210
\227\311\356\374
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\013\106\147\007\333\020\057\031\214\065\120\140\321\013\364\067
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\132\061\013\060\011\006\003\125\004\006\023\002\116\114\061
```

```
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\053\060\051\006\003\125\004\003\014\042\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\122\157\157\164\040\103\101\040\055\040\107\063
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\004\000\230\242\071
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "IdenTrust Commercial Root CA 1"

#

# Issuer: CN=IdenTrust Commercial Root CA

1,O=IdenTrust,C=US

# Serial Number:0a:01:42:80:00:00:01:45:23:c8:44:b5:00:00:00:02

# Subject: CN=IdenTrust Commercial Root CA 1,O=IdenTrust,C=US

# Not Valid Before: Thu Jan 16 18:12:23 2014

# Not Valid After : Mon Jan 16 18:12:23 2034

# Fingerprint (SHA-256):

5D:56:49:9B:E4:D2:E0:8B:CF:CA:D0:8A:3E:38:72:3D:50:50:3B:DE:70:69:48:E4:2F:55:60:30:19:E5:28:AE

# Fingerprint (SHA1): DF:71:7E:AA:4A:D9:4E:C9:55:84:99:60:2D:48:DE:5F:BC:F0:3A:25

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "IdenTrust Commercial Root CA 1"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\047\060\045\006\003\125\004\003\023\036\111\144
\145\156\124\162\165\163\164\040\103\157\155\155\145\162\143\151
\141\154\040\122\157\157\164\040\103\101\040\061
```

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\047\060\045\006\003\125\004\003\023\036\111\144
\145\156\124\162\165\163\164\040\103\157\155\155\145\162\143\151
\141\154\040\122\157\157\164\040\103\101\040\061
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\012\001\102\200\000\000\001\105\043\310\104\265\000\000
\000\002
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\140\060\202\003\110\240\003\002\001\002\002\020\012
\001\102\200\000\000\001\105\043\310\104\265\000\000\000\002\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\112
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060
\020\006\003\125\004\012\023\011\111\144\145\156\124\162\165\163
\164\061\047\060\045\006\003\125\004\003\023\036\111\144\145\156
\124\162\165\163\164\040\103\157\155\155\145\162\143\151\141\154
\040\122\157\157\164\040\103\101\040\061\060\036\027\015\061\064
\060\061\061\066\061\070\061\062\062\063\132\027\015\063\064\060
\061\061\066\061\070\061\062\062\063\132\060\112\061\013\060\011
\006\003\125\004\006\023\002\125\123\061\022\060\020\006\003\125
\004\012\023\011\111\144\145\156\124\162\165\163\164\061\047\060
\045\006\003\125\004\003\023\036\111\144\145\156\124\162\165\163
\164\040\103\157\155\155\145\162\143\151\141\154\040\122\157\157
\164\040\103\101\040\061\060\202\002\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\247\120\031\336\077\231\075\324\063
\106\361\157\121\141\202\262\251\117\217\147\211\135\204\331\123
\335\014\050\331\327\360\377\256\225\103\162\231\371\265\135\174
\212\301\102\341\061\120\164\321\201\015\174\315\233\041\253\103
\342\254\255\136\206\156\363\011\212\037\132\062\275\242\353\224
\371\350\134\012\354\377\230\322\257\161\263\264\123\237\116\207
\357\222\274\275\354\117\062\060\210\113\027\136\127\304\123\302
\366\002\227\215\331\142\053\277\044\037\142\215\337\303\270\051
\113\111\170\074\223\140\210\042\374\231\332\066\310\302\242\324
\054\124\000\147\065\156\163\277\002\130\360\244\335\345\260\242
\046\172\312\340\066\245\031\026\365\375\267\357\256\077\100\365
\155\132\004\375\316\064\312\044\334\164\043\033\135\063\023\022
\135\304\001\045\366\060\335\002\135\237\340\325\107\275\264\353
\033\241\273\111\111\330\237\133\002\363\212\344\044\220\344\142
\117\117\301\257\213\016\164\027\250\321\162\210\152\172\001\111
\314\264\106\171\306\027\261\332\230\036\007\131\372\165\041\205
\145\335\220\126\316\373\253\245\140\235\304\235\371\122\260\213
\275\207\371\217\053\043\012\043\166\073\367\063\341\311\000\363
\151\371\113\242\340\116\274\176\223\071\204\007\367\104\160\176
\376\007\132\345\261\254\321\030\314\362\065\345\111\111\010\312
\126\311\075\373\017\030\175\213\073\301\023\302\115\217\311\117
\016\067\351\037\241\016\152\337\142\056\313\065\006\121\171\054
\310\045\070\364\372\113\247\211\134\234\322\343\015\071\206\112
\164\174\325\131\207\302\077\116\014\134\122\364\075\367\122\202
\361\352\243\254\375\111\064\032\050\363\101\210\072\023\356\350
\336\377\231\035\137\272\313\350\036\362\271\120\140\300\061\323
\163\345\357\276\240\355\063\013\164\276\040\040\304\147\154\360
```

\010\003\172\125\200\177\106\116\226\247\364\036\076\341\366\330  
\011\341\063\144\053\143\327\062\136\237\371\300\173\017\170\157  
\227\274\223\232\371\234\022\220\170\172\200\207\025\327\162\164  
\234\125\164\170\261\272\341\156\160\004\272\117\240\272\150\303  
\173\377\061\360\163\075\075\224\052\261\013\101\016\240\376\115  
\210\145\153\171\063\264\327\002\003\001\000\001\243\102\060\100  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\035\006\003\125\035\016\004\026\004\024\355\104\031\300  
\323\360\006\213\356\244\173\276\102\347\046\124\310\216\066\166  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003  
\202\002\001\000\015\256\220\062\366\246\113\174\104\166\031\141  
\036\047\050\315\136\124\357\045\274\343\010\220\371\051\327\256  
\150\010\341\224\000\130\357\056\056\176\123\122\214\266\134\007  
\352\210\272\231\213\120\224\327\202\200\337\141\011\000\223\255  
\015\024\346\316\301\362\067\224\170\260\137\234\263\242\163\270  
\217\005\223\070\315\215\076\260\270\373\300\317\261\362\354\055  
\055\033\314\354\252\232\263\252\140\202\033\055\073\303\204\075  
\127\212\226\036\234\165\270\323\060\315\140\010\203\220\323\216  
\124\361\115\146\300\135\164\003\100\243\356\205\176\302\037\167  
\234\006\350\301\247\030\135\122\225\355\311\335\045\236\155\372  
\251\355\243\072\064\320\131\173\332\355\120\363\065\277\355\353  
\024\115\061\307\140\364\332\361\207\234\342\110\342\306\305\067  
\373\006\020\372\165\131\146\061\107\051\332\166\232\034\351\202  
\256\357\232\271\121\367\210\043\232\151\225\142\074\345\125\200  
\066\327\124\002\377\361\271\135\316\324\043\157\330\105\204\112  
\133\145\357\211\014\335\024\247\040\313\030\245\045\264\015\371  
\001\360\242\322\364\000\310\164\216\241\052\110\216\145\333\023  
\304\342\045\027\175\353\276\207\133\027\040\124\121\223\112\123  
\003\013\354\135\312\063\355\142\375\105\307\057\133\334\130\240  
\200\071\346\372\327\376\023\024\246\355\075\224\112\102\164\324  
\303\167\131\163\315\217\106\276\125\070\357\372\350\221\062\352  
\227\130\004\042\336\070\303\314\274\155\311\063\072\152\012\151  
\077\240\310\352\162\217\214\143\206\043\275\155\074\226\236\225  
\340\111\114\252\242\271\052\033\234\066\201\170\355\303\350\106  
\342\046\131\104\165\036\331\165\211\121\315\020\204\235\141\140  
\313\135\371\227\042\115\216\230\346\343\177\366\133\273\256\315  
\312\112\201\153\136\013\363\121\341\164\053\351\176\047\247\331  
\231\111\116\370\245\200\333\045\017\034\143\142\212\311\063\147  
\153\074\020\203\306\255\336\250\315\026\216\215\360\007\067\161  
\237\362\253\374\101\365\301\213\354\000\067\135\011\345\116\200  
\357\372\261\134\070\006\245\033\112\341\334\070\055\074\334\253  
\037\220\032\325\112\234\356\321\160\154\314\356\364\127\370\030  
\272\204\156\207

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "IdenTrust Commercial Root CA 1"

# Issuer: CN=IdenTrust Commercial Root CA 1,O=IdenTrust,C=US

# Serial Number:0a:01:42:80:00:00:01:45:23:c8:44:b5:00:00:00:02

# Subject: CN=IdenTrust Commercial Root CA 1,O=IdenTrust,C=US

# Not Valid Before: Thu Jan 16 18:12:23 2014

# Not Valid After : Mon Jan 16 18:12:23 2034

# Fingerprint (SHA-256):

5D:56:49:9B:E4:D2:E0:8B:CF:CA:D0:8A:3E:38:72:3D:50:50:3B:DE:70:69:48:E4:2F:55:60:30:19:E5:28:AE

# Fingerprint (SHA1): DF:71:7E:AA:4A:D9:4E:C9:55:84:99:60:2D:48:DE:5F:BC:F0:3A:25

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "IdenTrust Commercial Root CA 1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\337\161\176\252\112\331\116\311\125\204\231\140\055\110\336\137  
\274\360\072\045

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

\263\076\167\163\165\356\240\323\343\176\111\143\111\131\273\307  
END

CKA\_ISSUER MULTILINE\_OCTAL

\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162  
\165\163\164\061\047\060\045\006\003\125\004\003\023\036\111\144  
\145\156\124\162\165\163\164\040\103\157\155\155\145\162\143\151  
\141\154\040\122\157\157\164\040\103\101\040\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\012\001\102\200\000\000\001\105\043\310\104\265\000\000  
\000\002

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "IdenTrust Public Sector Root CA 1"

#

# Issuer: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US

# Serial Number:0a:01:42:80:00:00:01:45:23:cf:46:7c:00:00:00:02

#

Subject: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US

# Not Valid Before: Thu Jan 16 17:53:32 2014

```
Not Valid After : Mon Jan 16 17:53:32 2034
Fingerprint (SHA-256):
30:D0:89:5A:9A:44:8A:26:20:91:63:55:22:D1:F5:20:10:B5:86:7A:CA:E1:2C:78:EF:95:8F:D4:F4:38:9F:2F
Fingerprint (SHA1): BA:29:41:60:77:98:3F:F4:F3:EF:F2:31:05:3B:2E:EA:6D:4D:45:FD
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "IdenTrust Public Sector Root CA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\052\060\050\006\003\125\004\003\023\041\111\144
\145\156\124\162\165\163\164\040\120\165\142\154\151\143\040\123
\145\143\164\157\162\040\122\157\157\164\040\103\101\040\061
END
CKA_ID UTF8 "0"
CKA_ISSUER
MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\052\060\050\006\003\125\004\003\023\041\111\144
\145\156\124\162\165\163\164\040\120\165\142\154\151\143\040\123
\145\143\164\157\162\040\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\012\001\102\200\000\000\001\105\043\317\106\174\000\000
\000\002
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\146\060\202\003\116\240\003\002\001\002\002\020\012
\001\102\200\000\000\001\105\043\317\106\174\000\000\000\002\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\115
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060
\020\006\003\125\004\012\023\011\111\144\145\156\124\162\165\163
\164\061\052\060\050\006\003\125\004\003\023\041\111\144\145\156
\124\162\165\163\164\040\120\165\142\154\151\143\040\123\145\143
\164\157\162\040\122\157\157\164\040\103\101\040\061\060\036\027
\015\061\064\060\061\061\066\061\067\065\063\063\062\132\027\015
\063\064\060\061\061\066\061\067\065\063\063\062\132\060\115\061
\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060\020
\006\003\125\004\012\023\011\111\144\145\156\124\162\165\163\164
\061\052\060\050\006\003\125\004\003\023\041\111\144\145\156\124
\162\165\163\164\040\120\165\142\154\151\143\040\123\145\143\164
\157\162\040\122\157\157\164\040\103\101\040\061\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\266\042\224
```

\374\244\110\257\350\107\153\012\373\047\166\344\362\077\212\073  
\172\112\054\061\052\214\215\260\251\303\061\153\250\167\166\204  
\046\266\254\201\102\015\010\353\125\130\273\172\370\274\145\175  
\362\240\155\213\250\107\351\142\166\036\021\356\010\024\321\262  
\104\026\364\352\320\372\036\057\136\333\313\163\101\256\274\000  
\260\112\053\100\262\254\341\073\113\302\055\235\344\241\233\354  
\032\072\036\360\010\263\320\344\044\065\007\237\234\264\311\122  
\155\333\007\312\217\265\133\360\203\363\117\307\055\245\310\255  
\313\225\040\244\061\050\127\130\132\344\215\033\232\253\236\015  
\014\362\012\063\071\042\071\012\227\056\363\123\167\271\104\105  
\375\204\313\066\040\201\131\055\232\157\155\110\110\141\312\114  
\337\123\321\257\122\274\104\237\253\057\153\203\162\357\165\200  
\332\006\063\033\135\310\332\143\306\115\315\254\146\061\315\321  
\336\076\207\020\066\341\271\244\172\357\140\120\262\313\312\246  
\126\340\067\257\253\064\023\071\045\350\071\146\344\230\172\252  
\022\230\234\131\146\206\076\255\361\260\312\076\006\017\173\360  
\021\113\067\240\104\155\173\313\250\214\161\364\325\265\221\066  
\314\360\025\306\053\336\121\027\261\227\114\120\075\261\225\131  
\174\005\175\055\041\325\000\277\001\147\242\136\173\246\134\362  
\367\042\361\220\015\223\333\252\104\121\146\314\175\166\003\353  
\152\250\052\070\031\227\166\015\153\212\141\371\274\366\356\166  
\375\160\053\335\051\074\370\012\036\133\102\034\213\126\057\125  
\033\034\241\056\265\307\026\346\370\252\074\222\216\151\266\001  
\301\265\206\235\211\017\013\070\224\124\350\352\334\236\075\045  
\274\123\046\355\325\253\071\252\305\100\114\124\253\262\264\331  
\331\370\327\162\333\034\274\155\275\145\137\357\210\065\052\146  
\057\356\366\263\145\360\063\215\174\230\101\151\106\017\103\034  
\151\372\233\265\320\141\152\315\312\113\331\114\220\106\253\025  
\131\241\107\124\051\056\203\050\137\034\302\242\253\162\027\000  
\006\216\105\354\213\342\063\075\177\332\031\104\344\142\162\303  
\337\042\306\362\126\324\335\137\225\162\355\155\137\367\110\003  
\133\375\305\052\240\366\163\043\204\020\033\001\347\002\003\001  
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\343\161\340\236\330\247\102\331\333\161\221\153\224\223  
\353\303\243\321\024\243\060\015\006\011\052\206\110\206\367\015  
\001\001\013\005\000\003\202\002\001\000\107\372\335\012\260\021  
\221\070\255\115\135\367\345\016\227\124\031\202\110\207\124\214  
\252\144\231\330\132\376\210\001\305\130\245\231\261\043\124\043  
\267\152\035\040\127\345\001\142\101\027\323\011\333\165\313\156  
\124\220\165\376\032\237\201\012\302\335\327\367\011\320\133\162  
\025\344\036\011\152\075\063\363\041\232\346\025\176\255\121\325  
\015\020\355\175\102\300\217\356\300\232\010\325\101\326\134\016  
\041\151\156\200\141\016\025\300\270\317\305\111\022\122\314\276  
\072\314\324\056\070\005\336\065\375\037\157\270\200\150\230\075  
\115\240\312\100\145\322\163\174\365\213\331\012\225\077\330\077  
\043\155\032\321\052\044\031\331\205\263\027\357\170\156\251\130



\321\043\323\307\023\355\162\045\177\135\261\163\160\320\177\006  
\227\011\204\051\200\141\035\372\136\377\163\254\240\343\211\270  
\034\161\025\306\336\061\177\022\334\341\155\233\257\347\350\237  
\165\170\114\253\106\073\232\316\277\005\030\135\115\025\074\026  
\232\031\120\004\232\262\232\157\145\213\122\137\074\130\004\050  
\045\300\146\141\061\176\271\340\165\271\032\250\201\326\162\027  
\263\305\003\061\065\021\170\170\242\340\351\060\214\177\200\337  
\130\337\074\272\047\226\342\200\064\155\343\230\323\144\047\254  
\110\176\050\167\134\306\045\141\045\370\205\014\145\372\304\062  
\057\245\230\005\344\370\013\147\026\026\306\202\270\062\031\371  
\371\271\171\334\037\315\353\257\253\016\335\033\333\105\344\172  
\347\002\342\225\135\374\151\360\123\151\141\225\165\171\013\136  
\125\346\070\034\224\251\131\063\236\310\161\164\171\177\121\211  
\266\310\152\270\060\310\152\070\303\156\236\341\067\026\352\005  
\142\114\133\022\107\355\247\264\263\130\126\307\111\363\177\022  
\150\011\061\161\360\155\370\116\107\373\326\205\356\305\130\100  
\031\244\035\247\371\113\103\067\334\150\132\117\317\353\302\144  
\164\336\264\025\331\364\124\124\032\057\034\327\227\161\124\220  
\216\331\040\235\123\053\177\253\217\342\352\060\274\120\067\357  
\361\107\265\175\174\054\004\354\150\235\264\111\104\020\364\162  
\113\034\144\347\374\346\153\220\335\151\175\151\375\000\126\245  
\267\254\266\255\267\312\076\001\357\234

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "IdenTrust Public Sector Root CA 1"

# Issuer: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US

# Serial Number:0a:01:42:80:00:00:01:45:23:cf:46:7c:00:00:00:02

# Subject: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US

# Not Valid Before: Thu Jan 16 17:53:32 2014

# Not Valid After : Mon Jan 16 17:53:32 2034

# Fingerprint (SHA-256):

30:D0:89:5A:9A:44:8A:26:20:91:63:55:22:D1:F5:20:10:B5:86:7A:CA:E1:2C:78:EF:95:8F:D4:F4:38:9F:2F

# Fingerprint (SHA1): BA:29:41:60:77:98:3F:F4:F3:EF:F2:31:05:3B:2E:EA:6D:4D:45:FD

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "IdenTrust Public Sector Root CA 1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\272\051\101\140\167\230\077\364\363\357\362\061\005\073\056\352  
\155\115\105\375

END

CKA\_CERT\_MD5\_HASH

```

MULTILINE_OCTAL
\067\006\245\260\374\211\235\272\364\153\214\032\144\315\325\272
END
CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\052\060\050\006\003\125\004\003\023\041\111\144
\145\156\124\162\165\163\164\040\120\165\142\154\151\143\040\123
\145\143\164\157\162\040\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\012\001\102\200\000\000\001\105\043\317\106\174\000\000
\000\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Entrust Root Certification Authority - G2"
#
Issuer: CN=Entrust Root Certification Authority
- G2,OU="(c) 2009 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust,
Inc.",C=US
Serial Number: 1246989352 (0x4a538c28)
Subject: CN=Entrust Root Certification Authority - G2,OU="(c) 2009 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
Not Valid Before: Tue Jul 07 17:25:54 2009
Not Valid After : Sat Dec 07 17:55:54 2030
Fingerprint (SHA-256):
43:DF:57:74:B0:3E:7F:EF:5F:E4:0D:93:1A:7B:ED:F1:BB:2E:6B:42:73:8C:4E:6D:38:41:10:3D:3A:A7:F3:39
Fingerprint (SHA1): 8C:F4:27:FD:79:0C:3A:D1:66:06:8D:E8:1E:57:EF:BB:93:22:72:D4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust Root Certification Authority - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\060\071\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162

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\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060  
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040  
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107  
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END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165  
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004  
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165  
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162  
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051  
\040\062\060\060\071\040\105\156\164\162\165\163\164\054\040\111  
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162  
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060  
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040  
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107  
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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\004\112\123\214\050

END

CKA\_VALUE MULTILINE\_OCTAL

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\005\000\060\201\276\061\013\060\011\006\003\125\004\006\023\002  
\125\123\061\026\060\024\006\003\125\004\012\023\015\105\156\164  
\162\165\163\164\054\040\111\156\143\056\061\050\060\046\006\003  
\125\004\013\023\037\123\145\145\040\167\167\167\056\145\156\164  
\162\165\163\164\056\156\145\164\057\154\145\147\141\154\055\164  
\145\162\155\163\061\071\060\067\006\003\125\004\013\023\060\050  
\143\051\040\062\060\060\071\040\105\156\164\162\165\163\164\054  
\040\111\156\143\056\040\055\040\146\157\162\040\141\165\164\150  
\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171\061  
\062\060\060\006\003\125\004\003\023\051\105\156\164\162\165\163  
\164\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\055  
\040\107\062\060\036\027\015\060\071\060\067\060\067\061\067\062  
\065\065\064\132\027\015\063\060\061\062\060\067\061\067\065\065  
\065\064\132\060\201\276\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\026\060\024\006\003\125\004\012\023\015\105\156  
\164\162\165\163\164\054\040\111\156\143\056\061\050\060\046\006  
\003\125\004\013\023\037\123\145\145\040\167\167\167\056\145\156

\164\162\165\163\164\056\156\145\164\057\154\145\147\141\154\055  
\164\145\162\155\163\061\071\060\067\006\003\125\004\013\023\060  
\050\143\051\040\062\060\060\071\040\105\156\164\162\165\163\164  
\054\040\111\156\143\056\040\055\040\146\157\162\040\141\165\164  
\150\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171  
\061\062\060\060\006\003\125\004\003\023\051\105\156\164\162\165  
\163\164\040\122\157\157\164\040\103\145\162\164\151\146\151\143  
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040  
\055\040\107\062\060\202\001\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012  
\002\202\001\001\000\272\204\266\162\333\236\014\153\342\231\351  
\060\001\247\166\352\062\270\225\101\032\311\332\141\116\130\162  
\317\376\366\202\171\277\163\141\006\012\245\047\330\263\137\323  
\105\116\034\162\326\116\062\362\162\212\017\367\203\031\320\152  
\200\200\000\105\036\260\307\347\232\277\022\127\047\034\243\150  
\057\012\207\275\152\153\016\136\145\363\034\167\325\324\205\215  
\160\041\264\263\062\347\213\242\325\206\071\002\261\270\322\107  
\316\344\311\111\304\073\247\336\373\124\175\127\276\360\350\156  
\302\171\262\072\013\125\342\120\230\026\062\023\134\057\170\126  
\301\302\224\263\362\132\344\047\232\237\044\327\306\354\320\233  
\045\202\343\314\302\304\105\305\214\227\172\006\153\052\021\237  
\251\012\156\110\073\157\333\324\021\031\102\367\217\007\277\365  
\123\137\234\076\364\027\054\346\151\254\116\062\114\142\167\352  
\267\350\345\273\064\274\031\213\256\234\121\347\267\176\265\123  
\261\063\042\345\155\317\160\074\032\372\342\233\147\266\203\364  
\215\245\257\142\114\115\340\130\254\144\064\022\003\370\266\215  
\224\143\044\244\161\002\003\001\000\001\243\102\060\100\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\035\006\003\125\035\016\004\026\004\024\152\162\046\172\320\036  
\357\175\347\073\151\121\324\154\215\237\220\022\146\253\060\015  
\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001  
\001\000\171\237\035\226\306\266\171\077\042\215\207\323\207\003  
\004\140\152\153\232\056\131\211\163\021\254\103\321\365\023\377  
\215\071\053\300\362\275\117\160\214\251\057\352\027\304\013\124  
\236\324\033\226\230\063\074\250\255\142\242\000\166\253\131\151  
\156\006\035\176\304\271\104\215\230\257\022\324\141\333\012\031  
\106\107\363\353\367\143\301\100\005\100\245\322\267\364\265\232  
\066\277\251\210\166\210\004\125\004\053\234\207\177\032\067\074  
\176\055\245\032\330\324\211\136\312\275\254\075\154\330\155\257  
\325\363\166\017\315\073\210\070\042\235\154\223\232\304\075\277  
\202\033\145\077\246\017\135\252\374\345\262\025\312\265\255\306  
\274\075\320\204\350\352\006\162\260\115\071\062\170\277\076\021  
\234\013\244\235\232\041\363\360\233\013\060\170\333\301\334\207  
\103\376\274\143\232\312\305\302\034\311\307\215\377\073\022\130  
\010\346\266\075\354\172\054\116\373\203\226\316\014\074\151\207  
\124\163\244\163\302\223\377\121\020\254\025\124\001\330\374\005  
\261\211\241\177\164\203\232\111\327\334\116\173\212\110\157\213

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\105\366
END
CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Entrust Root Certification Authority - G2"
Issuer: CN=Entrust Root Certification Authority - G2,OU="(c) 2009 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
Serial Number: 1246989352 (0x4a538c28)
Subject: CN=Entrust Root Certification Authority - G2,OU="(c) 2009 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
Not Valid Before: Tue Jul 07 17:25:54 2009
Not Valid After : Sat Dec 07 17:55:54 2030
Fingerprint (SHA-256):
43:DF:57:74:B0:3E:7F:EF:5F:E4:0D:93:1A:7B:ED:F1:BB:2E:6B:42:73:8C:4E:6D:38:41:10:3D:3A:A7:F3:39
Fingerprint (SHA1): 8C:F4:27:FD:79:0C:3A:D1:66:06:8D:E8:1E:57:EF:BB:93:22:72:D4
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE
CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust Root Certification Authority - G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\214\364\047\375\171\014\072\321\146\006\215\350\036\127\357\273
\223\042\162\324
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\113\342\311\221\226\145\014\364\016\132\223\222\240\012\376\262
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\060\071\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
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END
CKA_SERIAL_NUMBER

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MULTILINE_OCTAL
\002\004\112\123\214\050
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Entrust Root Certification Authority - EC1"
#
Issuer: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
Serial Number:00:a6:8b:79:29:00:00:00:50:d0:91:f9
Subject: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
Not Valid Before: Tue Dec 18 15:25:36 2012
Not Valid After : Fri Dec 18 15:55:36 2037
Fingerprint (SHA-256):
02:ED:0E:B2:8C:14:DA:45:16:5C:56:67:91:70:0D:64:51:D7:FB:56:F0:B2:AB:1D:3B:8E:B0:70:E5:6E:DF:F5
#
Fingerprint (SHA1): 20:D8:06:40:DF:9B:25:F5:12:25:3A:11:EA:F7:59:8A:EB:14:B5:47
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust Root Certification Authority - EC1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\277\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\062\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\063\060
\061\006\003\125\004\003\023\052\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\105
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CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
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\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004  
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\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162  
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051  
\040\062\060\061\062\040\105\156\164\162\165\163\164\054\040\111  
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162  
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\063\060  
\061\006\003\125\004\003\023\052\105\156\164\162\165\163\164\040  
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\105  
\103\061

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\015\000\246\213\171\051\000\000\000\000\120\320\221\371

END

CKA\_VALUE MULTILINE\_OCTAL

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\012\023\015\105\156\164\162\165\163\164\054\040\111\156\143\056  
\061\050\060\046\006\003\125\004\013\023\037\123\145\145\040\167  
\167\167\056\145\156\164\162\165\163\164\056\156\145\164\057\154  
\145\147\141\154\055\164\145\162\155\163\061\071\060\067\006\003  
\125\004\013\023\060\050\143\051\040\062\060\061\062\040\105\156  
\164\162\165\163\164\054\040\111\156\143\056\040\055\040\146\157  
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\040\157\156\154\171\061\063\060\061\006\003\125\004\003\023\052  
\105\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162  
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157  
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\061\062\061\070\061\065\062\065\063\066\132\027\015\063\067\061  
\062\061\070\061\065\065\065\063\066\132\060\201\277\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\026\060\024\006\003  
\125\004\012\023\015\105\156\164\162\165\163\164\054\040\111\156  
\143\056\061\050\060\046\006\003\125\004\013\023\037\123\145\145  
\040\167\167\167\056\145\156\164\162\165\163\164\056\156\145\164  
\057\154\145\147\141\154\055\164\145\162\155\163\061\071\060\067  
\006\003\125\004\013\023\060\050\143\051\040\062\060\061\062\040  
\105\156\164\162\165\163\164\054\040\111\156\143\056\040\055\040  
\146\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165  
\163\145\040\157\156\154\171\061\063\060\061\006\003\125\004\003  
\023\052\105\156\164\162\165\163\164\040\122\157\157\164\040\103  
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164  
\150\157\162\151\164\171\040\055\040\105\103\061\060\166\060\020  
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\362\002\305\237\240\366\133\325\213\006\031\206\117\123\020\155
\007\044\047\241\240\370\325\107\031\141\114\175\312\223\047\352
\164\014\357\157\226\011\376\143\354\160\135\066\255\147\167\256
\311\235\174\125\104\072\242\143\121\037\365\343\142\324\251\107
\007\076\314\040\243\102\060\100\060\016\006\003\125\035\017\001
\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001
\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016
\004\026\004\024\267\143\347\032\335\215\351\010\246\125\203\244
\340\152\120\101\145\021\102\111\060\012\006\010\052\206\110\316
\075\004\003\003\003\147\000\060\144\002\060\141\171\330\345\102
\107\337\034\256\123\231\027\266\157\034\175\341\277\021\224\321
\003\210\165\344\215\211\244\212\167\106\336\155\141\357\002\365
\373\265\337\314\376\116\377\376\251\346\247\002\060\133\231\327
\205\067\006\265\173\010\375\353\047\213\112\224\371\341\372\247
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END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Entrust Root Certification Authority - EC1"

# Issuer: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

# Serial Number:00:a6:8b:79:29:00:00:00:00:50:d0:91:f9

# Subject: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

# Not Valid Before: Tue Dec 18 15:25:36 2012

# Not Valid After : Fri Dec 18 15:55:36 2037

# Fingerprint (SHA-256):

02:ED:0E:B2:8C:14:DA:45:16:5C:56:67:91:70:0D:64:51:D7:FB:56:F0:B2:AB:1D:3B:8E:B0:70:E5:6E:DF:F5

# Fingerprint (SHA1): 20:D8:06:40:DF:9B:25:F5:12:25:3A:11:EA:F7:59:8A:EB:14:B5:47

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Entrust Root Certification Authority - EC1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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\040\330\006\100\337\233\045\365\022\045\072\021\352\367\131\212
\353\024\265\107
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END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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\266\176\035\360\130\305\111\154\044\073\075\355\230\030\355\274
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END

CKA\_ISSUER MULTILINE\_OCTAL

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\060\201\277\061\013\060\011\006\003\125\004\006\023\002\125\123
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\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\062\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\063\060
\061\006\003\125\004\003\023\052\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\105
\103\061
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\015\000\246\213\171\051\000\000\000\000\120\320\221\371
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "CFCA EV ROOT"

#

# Issuer: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN

# Serial Number: 407555286 (0x184accd6)

# Subject: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN

# Not Valid Before: Wed Aug 08 03:07:01 2012

#

Not Valid After : Mon Dec 31 03:07:01 2029

# Fingerprint (SHA-256):

5C:C3:D7:8E:4E:1D:5E:45:54:7A:04:E6:87:3E:64:F9:0C:F9:53:6D:1C:CC:2E:F8:00:F3:55:C4:C5:FD:70:FD

# Fingerprint (SHA1): E2:B8:29:4B:55:84:AB:6B:58:C2:90:46:6C:AC:3F:B8:39:8F:84:83

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "CFCA EV ROOT"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\126\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\060\060\056\006\003\125\004\012\014\047\103\150\151\156\141\040
\106\151\156\141\156\143\151\141\154\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\061\025\060\023\006\003\125\004\003\014\014\103\106\103\101
\040\105\126\040\122\117\117\124
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\126\061\013\060\011\006\003\125\004\006\023\002\103\116\061  
\060\060\056\006\003\125\004\012\014\047\103\150\151\156\141\040  
\106\151\156\141\156\143\151\141\154\040\103\145\162\164\151\146  
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164  
\171\061\025\060\023\006\003\125\004\003\014\014\103\106\103\101  
\040\105\126\040\122\117\117\124

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\004\030\112\314\326

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\215\060\202\003\165\240\003\002\001\002\002\004\030  
\112\314\326\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\126\061\013\060\011\006\003\125\004\006\023\002\103  
\116\061\060\060\056\006\003\125\004\012\014\047\103\150\151\156  
\141\040\106\151\156\141\156\143\151\141\154\040\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162  
\151\164\171\061\025\060\023\006\003\125\004\003\014\014\103\106  
\103\101\040\105\126\040\122\117\117\124\060\036\027\015\061\062  
\060\070\060\070\060\063\060\067\060\061\132\027\015\062\071\061  
\062\063\061\060\063\060\067\060\061\132\060\126\061\013\060\011  
\006\003\125\004\006\023\002\103\116\061\060\060\056\006\003\125  
\004\012\014\047\103\150\151\156\141\040\106\151\156\141\156\143  
\151\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\061\025\060\023\006  
\003\125\004\003\014\014\103\106\103\101\040\105\126\040\122\117  
\117\124\060\202\002\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202  
\002\001\000\327\135\153\315\020\077\037\005\131\325\005\115\067  
\261\016\354\230\053\216\025\035\372\223\113\027\202\041\161\020  
\122\327\121\144\160\026\302\125\151\115\216\025\155\237\277\014  
\033\302\340\243\147\326\014\254\317\042\256\257\167\124\052\113  
\114\212\123\122\172\303\356\056\336\263\161\045\301\351\135\075  
\356\241\057\243\367\052\074\311\043\035\152\253\035\241\247\361  
\363\354\240\325\104\317\025\317\162\057\035\143\227\350\231\371  
\375\223\244\124\200\114\122\324\122\253\056\111\337\220\315\270  
\137\276\077\336\241\312\115\040\324\045\350\204\051\123\267\261  
\210\037\377\372\332\220\237\012\251\055\101\077\261\361\030\051  
\356\026\131\054\064\111\032\250\006\327\250\210\322\003\162\172  
\062\342\352\150\115\156\054\226\145\173\312\131\372\362\342\335  
\356\060\054\373\314\106\254\304\143\353\157\177\066\053\064\163  
\022\224\177\337\314\046\236\361\162\135\120\145\131\217\151\263  
\207\136\062\157\303\030\212\265\225\217\260\172\067\336\132\105  
\073\307\066\341\357\147\321\071\323\227\133\163\142\031\110\055  
\207\034\006\373\164\230\040\111\163\360\005\322\033\261\240\243

\267\033\160\323\210\151\271\132\326\070\364\142\334\045\213\170  
\277\370\350\176\270\134\311\225\117\137\247\055\271\040\153\317  
\153\335\365\015\364\202\267\364\262\146\056\020\050\366\227\132  
\173\226\026\217\001\031\055\154\156\177\071\130\006\144\203\001  
\203\203\303\115\222\335\062\306\207\244\067\351\026\316\252\055  
\150\257\012\201\145\072\160\301\233\255\115\155\124\312\052\055  
\113\205\033\263\200\346\160\105\015\153\136\065\360\177\073\270  
\234\344\004\160\211\022\045\223\332\012\231\042\140\152\143\140  
\116\166\006\230\116\275\203\255\035\130\212\045\205\322\307\145  
\036\055\216\306\337\266\306\341\177\212\004\041\025\051\164\360  
\076\234\220\235\014\056\361\212\076\132\252\014\011\036\307\325  
\074\243\355\227\303\036\064\372\070\371\010\016\343\300\135\053  
\203\321\126\152\311\266\250\124\123\056\170\062\147\075\202\177  
\164\320\373\341\266\005\140\271\160\333\216\013\371\023\130\157  
\161\140\020\122\020\271\301\101\011\357\162\037\147\061\170\377  
\226\005\215\002\003\001\000\001\243\143\060\141\060\037\006\003  
\125\035\043\004\030\060\026\200\024\343\376\055\375\050\320\013  
\265\272\266\242\304\277\006\252\005\214\223\373\057\060\017\006  
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035  
\006\003\125\035\016\004\026\004\024\343\376\055\375\050\320\013  
\265\272\266\242\304\277\006\252\005\214\223\373\057\060\015\006  
\011\052\206\110\206\367\015\001\001\013\005\000\003\202\002\001  
\000\045\306\272\153\353\207\313\336\202\071\226\075\360\104\247  
\153\204\163\003\336\235\053\117\272\040\177\274\170\262\317\227  
\260\033\234\363\327\171\056\365\110\266\322\373\027\210\346\323  
\172\077\355\123\023\320\342\057\152\171\313\000\043\050\346\036  
\067\127\065\211\204\302\166\117\064\066\255\147\303\316\101\006  
\210\305\367\356\330\032\270\326\013\177\120\377\223\252\027\113  
\214\354\355\122\140\262\244\006\352\116\353\364\153\031\375\353  
\365\032\340\045\052\232\334\307\101\066\367\310\164\005\204\071  
\225\071\326\013\073\244\047\372\010\330\134\036\370\004\140\122  
\021\050\050\003\377\357\123\146\000\245\112\064\026\146\174\375  
\011\244\256\236\147\032\157\101\013\153\006\023\233\217\206\161  
\005\264\057\215\211\146\063\051\166\124\232\021\370\047\372\262  
\077\221\340\316\015\033\363\060\032\255\277\042\135\033\323\277  
\045\005\115\341\222\032\177\231\237\074\104\223\312\324\100\111  
\154\200\207\327\004\072\303\062\122\065\016\126\370\245\335\175  
\304\213\015\021\037\123\313\036\262\027\266\150\167\132\340\324  
\313\310\007\256\365\072\056\216\067\267\320\001\113\103\051\167  
\214\071\227\217\202\132\370\121\345\211\240\030\347\150\177\135  
\012\056\373\243\107\016\075\246\043\172\306\001\307\217\310\136  
\277\155\200\126\276\212\044\272\063\352\237\341\062\021\236\361  
\322\117\200\366\033\100\257\070\236\021\120\171\163\022\022\315  
\346\154\235\054\210\162\074\060\201\006\221\042\352\131\255\332  
\031\056\042\302\215\271\214\207\340\146\274\163\043\137\041\144  
\143\200\110\365\240\074\030\075\224\310\110\101\035\100\272\136  
\376\376\126\071\241\310\317\136\236\031\144\106\020\332\027\221

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\267\005\200\254\213\231\222\175\347\242\330\007\013\066\047\347
\110\171\140\212\303\327\023\134\370\162\100\337\112\313\317\231
\000\012\000\013\021\225\332\126\105\003\210\012\237\147\320\325
\171\261\250\215\100\155\015\302\172\100\372\363\137\144\107\222
\313\123\271\273\131\316\117\375\320\025\123\001\330\337\353\331
\346\166\357\320\043\273\073\251\171\263\325\002\051\315\211\243
\226\017\112\065\347\116\102\300\165\315\007\317\346\054\353\173
\056
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "CFCA EV ROOT"

# Issuer: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN

# Serial Number: 407555286 (0x184accd6)

# Subject: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN

# Not Valid Before: Wed Aug 08 03:07:01 2012

# Not Valid After : Mon Dec 31 03:07:01 2029

# Fingerprint (SHA-256):

5C:C3:D7:8E:4E:1D:5E:45:54:7A:04:E6:87:3E:64:F9:0C:F9:53:6D:1C:CC:2E:F8:00:F3:55:C4:C5:FD:70:FD

# Fingerprint (SHA1): E2:B8:29:4B:55:84:AB:6B:58:C2:90:46:6C:AC:3F:B8:39:8F:84:83

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "CFCA EV ROOT"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\342\270\051\113\125\204\253\153\130\302\220\106\154\254\077\270
\071\217\204\203
```

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

```
\164\341\266\355\046\172\172\104\060\063\224\253\173\047\201\060
END
```

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\126\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\060\060\056\006\003\125\004\012\014\047\103\150\151\156\141\040
\106\151\156\141\156\143\151\141\154\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\061\025\060\023\006\003\125\004\003\014\014\103\106\103\101
\040\105\126\040\122\117\117\124
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\004\030\112\314\326
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "OISTE WISeKey Global Root GB CA"

#

# Issuer: CN=OISTE WISeKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH

# Serial Number:76:b1:20:52:74:f0:85:87:46:b3:f8:23:1a:f6:c2:c0

#

Subject: CN=OISTE WISeKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH

# Not Valid Before: Mon Dec 01 15:00:32 2014

# Not Valid After : Thu Dec 01 15:10:31 2039

# Fingerprint (SHA-256):

6B:9C:08:E8:6E:B0:F7:67:CF:AD:65:CD:98:B6:21:49:E5:49:4A:67:F5:84:5E:7B:D1:ED:01:9F:27:B8:6B:D6

# Fingerprint (SHA1): 0F:F9:40:76:18:D3:D7:6A:4B:98:F0:A8:35:9E:0C:FD:27:AC:CC:ED

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "OISTE WISeKey Global Root GB CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061  
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145  
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124  
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144  
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037  
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154  
\157\142\141\154\040\122\157\157\164\040\107\102\040\103\101

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061  
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145  
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124  
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144  
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037  
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154  
\157\142\141\154\040\122\157\157\164\040\107\102\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\166\261\040\122\164\360\205\207\106\263\370\043\032\366  
\302\300

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\265\060\202\002\235\240\003\002\001\002\002\020\166

\261\040\122\164\360\205\207\106\263\370\043\032\366\302\300\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\155  
\061\013\060\011\006\003\125\004\006\023\002\103\110\061\020\060  
\016\006\003\125\004\012\023\007\127\111\123\145\113\145\171\061  
\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040  
\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162  
\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111  
\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142  
\141\154\040\122\157\157\164\040\107\102\040\103\101\060\036\027  
\015\061\064\061\062\060\061\061\065\060\060\063\062\132\027\015  
\063\071\061\062\060\061\061\065\061\060\063\061\132\060\155\061  
\013\060\011\006\003\125\004\006\023\002\103\110\061\020\060\016  
\006\003\125\004\012\023\007\127\111\123\145\113\145\171\061\042  
\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040\106  
\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162\163  
\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111\123  
\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142\141  
\154\040\122\157\157\164\040\107\102\040\103\101\060\202\001\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\001\017\000\060\202\001\012\002\202\001\001\000\330\027\267  
\034\112\044\052\326\227\261\312\342\036\373\175\070\357\230\365  
\262\071\230\116\047\270\021\135\173\322\045\224\210\202\025\046  
\152\033\061\273\250\133\041\041\053\330\017\116\237\132\361\261  
\132\344\171\326\062\043\053\341\123\314\231\105\134\173\117\255  
\274\277\207\112\013\113\227\132\250\366\110\354\175\173\015\315  
\041\006\337\236\025\375\101\212\110\267\040\364\241\172\033\127  
\324\135\120\377\272\147\330\043\231\037\310\077\343\336\377\157  
\133\167\261\153\156\270\311\144\367\341\312\101\106\016\051\161  
\320\271\043\374\311\201\137\116\367\157\337\277\204\255\163\144  
\273\267\102\216\151\366\324\166\035\176\235\247\270\127\212\121  
\147\162\327\324\250\270\225\124\100\163\003\366\352\364\353\376  
\050\102\167\077\235\043\033\262\266\075\200\024\007\114\056\117  
\367\325\012\026\015\275\146\103\067\176\043\103\171\303\100\206  
\365\114\051\332\216\232\255\015\245\004\207\210\036\205\343\351  
\123\325\233\310\213\003\143\170\353\340\031\112\156\273\057\153  
\063\144\130\223\255\151\277\217\033\357\202\110\307\002\003\001  
\000\001\243\121\060\117\060\013\006\003\125\035\017\004\004\003  
\002\001\206\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\065  
\017\310\066\143\136\342\243\354\371\073\146\025\316\121\122\343  
\221\232\075\060\020\006\011\053\006\001\004\001\202\067\025\001  
\004\003\002\001\000\060\015\006\011\052\206\110\206\367\015\001  
\001\013\005\000\003\202\001\001\000\100\114\373\207\262\231\201  
\220\176\235\305\260\260\046\315\210\173\053\062\215\156\270\041  
\161\130\227\175\256\067\024\257\076\347\367\232\342\175\366\161  
\230\231\004\252\103\164\170\243\343\111\141\076\163\214\115\224  
\340\371\161\304\266\026\016\123\170\037\326\242\207\057\002\071  
\201\051\074\257\025\230\041\060\376\050\220\000\214\321\341\313

```
\372\136\310\375\370\020\106\073\242\170\102\221\027\164\125\012
\336\120\147\115\146\321\247\377\375\331\300\265\250\243\212\316
\146\365\017\103\315\247\053\127\173\143\106\152\252\056\122\330
\364\355\341\155\255\051\220\170\110\272\341\043\252\243\211\354
\265\253\226\300\264\113\242\035\227\236\172\362\156\100\161\337
\150\361\145\115\316\174\005\337\123\145\251\245\360\261\227\004
\160\025\106\003\230\324\322\277\124\264\240\130\175\122\157\332
\126\046\142\324\330\333\211\061\157\034\360\042\302\323\142\034
\065\315\114\151\025\124\032\220\230\336\353\036\137\312\167\307
\313\216\075\103\151\234\232\130\320\044\073\337\033\100\226\176
\065\255\201\307\116\161\272\210\023
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "OISTE WISEKey Global Root GB CA"

# Issuer: CN=OISTE WISEKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISEKey,C=CH

# Serial Number:76:b1:20:52:74:f0:85:87:46:b3:f8:23:1a:f6:c2:c0

# Subject:

CN=OISTE WISEKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISEKey,C=CH

# Not Valid Before: Mon Dec 01 15:00:32 2014

# Not Valid After : Thu Dec 01 15:10:31 2039

# Fingerprint (SHA-256):

6B:9C:08:E8:6E:B0:F7:67:CF:AD:65:CD:98:B6:21:49:E5:49:4A:67:F5:84:5E:7B:D1:ED:01:9F:27:B8:6B:D6

# Fingerprint (SHA1): 0F:F9:40:76:18:D3:D7:6A:4B:98:F0:A8:35:9E:0C:FD:27:AC:CC:ED

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "OISTE WISEKey Global Root GB CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\017\371\100\166\030\323\327\152\113\230\360\250\065\236\014\375
\047\254\314\355
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\244\353\271\141\050\056\267\057\230\260\065\046\220\231\121\035
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\102\040\103\101
```

END

```

CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\166\261\040\122\164\360\205\207\106\263\370\043\032\366
\302\300
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "SZAFIR ROOT CA2"
#
Issuer: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL
Serial Number:3e:8a:5d:07:ec:55:d2:32:d5:b7:e3:b6:5f:01:eb:2d:dc:e4:d6:e4
Subject: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL
Not Valid Before: Mon Oct 19 07:43:30 2015
Not Valid After : Fri Oct 19 07:43:30 2035
Fingerprint (SHA-256):
A1:33:9D:33:28:1A:0B:56:E5:57:D3:D3:2B:1C:E7:F9:36:7E:B0:94:BD:5F:A7:2A:7E:50:04:C8:DE:D7:CA:FE
#
Fingerprint (SHA1): E2:52:FA:95:3F:ED:DB:24:60:BD:6E:28:F3:9C:CC:CF:5E:B3:3F:DE
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SZAFIR ROOT CA2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\050\060\046\006\003\125\004\012\014\037\113\162\141\152\157\167
\141\040\111\172\142\141\040\122\157\172\154\151\143\172\145\156
\151\157\167\141\040\123\056\101\056\061\030\060\026\006\003\125
\004\003\014\017\123\132\101\106\111\122\040\122\117\117\124\040
\103\101\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\050\060\046\006\003\125\004\012\014\037\113\162\141\152\157\167
\141\040\111\172\142\141\040\122\157\172\154\151\143\172\145\156
\151\157\167\141\040\123\056\101\056\061\030\060\026\006\003\125
\004\003\014\017\123\132\101\106\111\122\040\122\117\117\124\040
\103\101\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\024\076\212\135\007\354\125\322\062\325\267\343\266\137\001

```



\353\055\334\344\326\344

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\162\060\202\002\132\240\003\002\001\002\002\024\076  
\212\135\007\354\125\322\062\325\267\343\266\137\001\353\055\334  
\344\326\344\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\121\061\013\060\011\006\003\125\004\006\023\002\120  
\114\061\050\060\046\006\003\125\004\012\014\037\113\162\141\152  
\157\167\141\040\111\172\142\141\040\122\157\172\154\151\143\172  
\145\156\151\157\167\141\040\123\056\101\056\061\030\060\026\006  
\003\125\004\003\014\017\123\132\101\106\111\122\040\122\117\117  
\124\040\103\101\062\060\036\027\015\061\065\061\060\061\071\060  
\067\064\063\063\060\132\027\015\063\065\061\060\061\071\060\067  
\064\063\063\060\132\060\121\061\013\060\011\006\003\125\004\006  
\023\002\120\114\061\050\060\046\006\003\125\004\012\014\037\113  
\162\141\152\157\167\141\040\111\172\142\141\040\122\157\172\154  
\151\143\172\145\156\151\157\167\141\040\123\056\101\056\061\030  
\060\026\006\003\125\004\003\014\017\123\132\101\106\111\122\040  
\122\117\117\124\040\103\101\062\060\202\001\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000  
\060\202\001\012\002\202\001\001\000\267\274\076\120\250\113\315  
\100\265\316\141\347\226\312\264\241\332\014\042\260\372\265\173  
\166\000\167\214\013\317\175\250\206\314\046\121\344\040\075\205  
\014\326\130\343\347\364\052\030\235\332\321\256\046\356\353\123  
\334\364\220\326\023\112\014\220\074\303\364\332\322\216\015\222  
\072\334\261\261\377\070\336\303\272\055\137\200\271\002\275\112  
\235\033\017\264\303\302\301\147\003\335\334\033\234\075\263\260  
\336\000\036\250\064\107\273\232\353\376\013\024\275\066\204\332  
\015\040\277\372\133\313\251\026\040\255\071\140\356\057\165\266  
\347\227\234\371\076\375\176\115\157\115\057\357\210\015\152\372  
\335\361\075\156\040\245\240\022\264\115\160\271\316\327\162\073  
\211\223\247\200\204\034\047\111\162\111\265\377\073\225\236\301  
\314\310\001\354\350\016\212\012\226\347\263\246\207\345\326\371  
\005\053\015\227\100\160\074\272\254\165\132\234\325\115\235\002  
\012\322\113\233\146\113\106\007\027\145\255\237\154\210\000\334  
\042\211\340\341\144\324\147\274\061\171\141\074\273\312\101\315  
\134\152\000\310\074\070\216\130\257\002\003\001\000\001\243\102  
\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003  
\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\035\006\003\125\035\016\004\026\004\024\056\026  
\251\112\030\265\313\314\365\157\120\363\043\137\370\135\347\254  
\360\310\060\015\006\011\052\206\110\206\367\015\001\001\013\005  
\000\003\202\001\001\000\265\163\370\003\334\131\133\035\166\351  
\243\052\173\220\050\262\115\300\063\117\252\232\261\324\270\344  
\047\377\251\226\231\316\106\340\155\174\114\242\070\244\006\160  
\360\364\101\021\354\077\107\215\077\162\207\371\073\375\244\157  
\053\123\000\340\377\071\271\152\007\016\353\035\034\366\242\162  
\220\313\202\075\021\202\213\322\273\237\052\257\041\346\143\206

```
\235\171\031\357\367\273\014\065\220\303\212\355\117\017\365\314
\022\331\244\076\273\240\374\040\225\137\117\046\057\021\043\203
\116\165\007\017\277\233\321\264\035\351\020\004\376\312\140\217
\242\114\270\255\317\341\220\017\315\256\012\307\135\173\267\120
\322\324\141\372\325\025\333\327\237\207\121\124\353\245\343\353
\311\205\240\045\040\067\373\216\316\014\064\204\341\074\201\262
\167\116\103\245\210\137\206\147\241\075\346\264\134\141\266\076
\333\376\267\050\305\242\007\256\265\312\312\215\052\022\357\227
\355\302\060\244\311\052\172\373\363\115\043\033\231\063\064\240
\056\365\251\013\077\324\135\341\317\204\237\342\031\302\137\212
\326\040\036\343\163\267
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL

CK\_FALSE

# Trust for "SZAFIR ROOT CA2"

# Issuer: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL

# Serial Number:3e:8a:5d:07:ec:55:d2:32:d5:b7:e3:b6:5f:01:eb:2d:dc:e4:d6:e4

# Subject: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL

# Not Valid Before: Mon Oct 19 07:43:30 2015

# Not Valid After : Fri Oct 19 07:43:30 2035

# Fingerprint (SHA-256):

A1:33:9D:33:28:1A:0B:56:E5:57:D3:D3:2B:1C:E7:F9:36:7E:B0:94:BD:5F:A7:2A:7E:50:04:C8:DE:D7:CA:FE

# Fingerprint (SHA1): E2:52:FA:95:3F:ED:DB:24:60:BD:6E:28:F3:9C:CC:CF:5E:B3:3F:DE

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SZAFIR ROOT CA2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\342\122\372\225\077\355\333\044\140\275\156\050\363\234\314\317
\136\263\077\336
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\021\144\301\211\260\044\261\214\261\007\176\211\236\121\236\231
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\121\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\050\060\046\006\003\125\004\012\014\037\113\162\141\152\157\167
\141\040\111\172\142\141\040\122\157\172\154\151\143\172\145\156
\151\157\167\141\040\123\056\101\056\061\030\060\026\006\003\125
\004\003\014\017\123\132\101\106\111\122\040\122\117\117\124\040
\103\101\062
```

END

CKA\_SERIAL\_NUMBER

```

MULTILINE_OCTAL
\002\024\076\212\135\007\354\125\322\062\325\267\343\266\137\001
\353\055\334\344\326\344
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Certum Trusted Network CA 2"
#
Issuer: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
Serial Number:21:d6:d0:4a:4f:25:0f:c9:32:37:fc:aa:5e:12:8d:e9
Subject: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
Not Valid Before:
Thu Oct 06 08:39:56 2011
Not Valid After : Sat Oct 06 08:39:56 2046
Fingerprint (SHA-256):
B6:76:F2:ED:DA:E8:77:5C:D3:6C:B0:F6:3C:D1:D4:60:39:61:F4:9E:62:65:BA:01:3A:2F:03:07:B6:D0:B8:04
Fingerprint (SHA1): D3:DD:48:3E:2B:BF:4C:05:E8:AF:10:F5:FA:76:26:CF:D3:DC:30:92
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Trusted Network CA 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\044\060
\042\006\003\125\004\003\023\033\103\145\162\164\165\155\040\124
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103
\101\040\062
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164

```

\151\157\156\040\101\165\164\150\157\162\151\164\171\061\044\060  
\042\006\003\125\004\003\023\033\103\145\162\164\165\155\040\124  
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103  
\101\040\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\041\326\320\112\117\045\017\311\062\067\374\252\136\022  
\215\351

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\322\060\202\003\272\240\003\002\001\002\002\020\041  
\326\320\112\117\045\017\311\062\067\374\252\136\022\215\351\060  
\015\006\011\052\206\110\206\367\015\001\001\015\005\000\060\201  
\200\061\013\060\011\006\003\125\004\006\023\002\120\114\061\042  
\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164\157  
\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123\056  
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162  
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\061\044\060\042\006  
\003\125\004\003\023\033\103\145\162\164\165\155\040\124\162\165  
\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101\040  
\062\060\042\030\017\062\060\061\061\061\060\060\066\060\070\063  
\071\065\066\132\030\017\062\060\064\066\061\060\060\066\060\070  
\063\071\065\066\132\060\201\200\061\013\060\011\006\003\125\004  
\006\023\002\120\114\061\042\060\040\006\003\125\004\012\023\031  
\125\156\151\172\145\164\157\040\124\145\143\150\156\157\154\157  
\147\151\145\163\040\123\056\101\056\061\047\060\045\006\003\125  
\004\013\023\036\103\145\162\164\165\155\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\061\044\060\042\006\003\125\004\003\023\033\103\145\162  
\164\165\155\040\124\162\165\163\164\145\144\040\116\145\164\167  
\157\162\153\040\103\101\040\062\060\202\002\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000  
\060\202\002\012\002\202\002\001\000\275\371\170\370\346\325\200  
\014\144\235\206\033\226\144\147\077\042\072\036\165\001\175\357  
\373\134\147\214\311\314\134\153\251\221\346\271\102\345\040\113  
\233\332\233\173\271\231\135\331\233\200\113\327\204\100\053\047  
\323\350\272\060\273\076\011\032\247\111\225\357\053\100\044\302  
\227\307\247\356\233\045\357\250\012\000\227\205\132\252\235\334  
\051\311\342\065\007\353\160\115\112\326\301\263\126\270\241\101  
\070\233\321\373\061\177\217\340\137\341\261\077\017\216\026\111  
\140\327\006\215\030\371\252\046\020\253\052\323\320\321\147\215  
\033\106\276\107\060\325\056\162\321\305\143\332\347\143\171\104  
\176\113\143\044\211\206\056\064\077\051\114\122\213\052\247\300  
\342\221\050\211\271\300\133\371\035\331\347\047\255\377\232\002  
\227\301\306\120\222\233\002\054\275\251\271\064\131\012\277\204  
\112\377\337\376\263\237\353\331\236\340\230\043\354\246\153\167  
\026\052\333\314\255\073\034\244\207\334\106\163\136\031\142\150

\105\127\344\220\202\102\273\102\326\360\141\340\301\243\075\146  
\243\135\364\030\356\210\311\215\027\105\051\231\062\165\002\061  
\356\051\046\310\153\002\346\265\142\105\177\067\025\132\043\150  
\211\324\076\336\116\047\260\360\100\014\274\115\027\313\115\242  
\263\036\320\006\132\335\366\223\317\127\165\231\365\372\206\032  
\147\170\263\277\226\376\064\334\275\347\122\126\345\263\345\165  
\173\327\101\221\005\334\135\151\343\225\015\103\271\374\203\226  
\071\225\173\154\200\132\117\023\162\306\327\175\051\172\104\272  
\122\244\052\325\101\106\011\040\376\042\240\266\133\060\215\274  
\211\014\325\327\160\370\207\122\375\332\357\254\121\056\007\263  
\116\376\320\011\332\160\357\230\372\126\346\155\333\265\127\113  
\334\345\054\045\025\310\236\056\170\116\370\332\234\236\206\054  
\312\127\363\032\345\310\222\213\032\202\226\172\303\274\120\022  
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\336\107\354\231\110\361\244\241\025\376\255\214\142\216\071\125  
\117\071\026\271\261\143\235\377\267\002\003\001\000\001\243\102  
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\160\326\002\136\071\240\367\217\253\226\265\245\023\134\201\024  
\155\016\201\202\021\033\212\116\306\117\245\335\142\036\104\337  
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\170\075\041\144\326\373\101\037\030\017\347\311\165\161\275\275  
\134\336\064\207\076\101\260\016\366\271\326\077\011\023\226\024  
\057\336\232\035\132\271\126\316\065\072\260\137\160\115\136\343  
\051\361\043\050\162\131\266\253\302\214\146\046\034\167\054\046  
\166\065\213\050\247\151\240\371\073\365\043\335\205\020\164\311  
\220\003\126\221\347\257\272\107\324\022\227\021\042\343\242\111  
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\132\074\306\035\144\330\265\061\344\246\074\172\250\127\013\333  
\355\141\032\313\361\316\163\167\143\244\207\157\114\121\070\326  
\344\137\307\237\266\201\052\344\205\110\171\130\136\073\370\333  
\002\202\147\301\071\333\303\164\113\075\066\036\371\051\223\210  
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\077\373\243\232\376\163\062\161\302\236\306\162\341\212\150\047  
\361\344\017\264\304\114\245\141\223\370\227\020\007\052\060\045  
\251\271\310\161\270\357\150\314\055\176\365\340\176\017\202\250  
\157\266\272\154\203\103\167\315\212\222\027\241\236\133\170\026  
\075\105\342\063\162\335\341\146\312\231\323\311\305\046\375\015

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\150\004\106\256\266\331\233\214\276\031\276\261\306\362\031\343
\134\002\312\054\330\157\112\007\331\311\065\332\100\165\362\304
\247\031\157\236\102\020\230\165\346\225\213\140\274\355\305\022
\327\212\316\325\230\134\126\226\003\305\356\167\006\065\377\317
\344\356\077\023\141\356\333\332\055\205\360\315\256\235\262\030
\011\105\303\222\241\162\027\374\107\266\240\013\054\361\304\336
\103\150\010\152\137\073\360\166\143\373\314\006\054\246\306\342
\016\265\271\276\044\217
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END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

#

Trust for "Certum Trusted Network CA 2"

# Issuer: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies S.A.,C=PL

# Serial Number:21:d6:d0:4a:4f:25:0f:c9:32:37:fc:aa:5e:12:8d:e9

# Subject: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies S.A.,C=PL

# Not Valid Before: Thu Oct 06 08:39:56 2011

# Not Valid After : Sat Oct 06 08:39:56 2046

# Fingerprint (SHA-256):

B6:76:F2:ED:DA:E8:77:5C:D3:6C:B0:F6:3C:D1:D4:60:39:61:F4:9E:62:65:BA:01:3A:2F:03:07:B6:D0:B8:04

# Fingerprint (SHA1): D3:DD:48:3E:2B:BF:4C:05:E8:AF:10:F5:FA:76:26:CF:D3:DC:30:92

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certum Trusted Network CA 2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\323\335\110\076\053\277\114\005\350\257\020\365\372\166\046\317
\323\334\060\222
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\155\106\236\331\045\155\010\043\133\136\164\175\036\047\333\362
```

END

CKA\_ISSUER

MULTILINE\_OCTAL

```
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\044\060
\042\006\003\125\004\003\023\033\103\145\162\164\165\155\040\124
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103
```

```

\101\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\041\326\320\112\117\045\017\311\062\067\374\252\136\022
\215\351
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Hellenic Academic and Research Institutions RootCA 2015"
#
Issuer: CN=Hellenic
Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research Institutions Cert.
Authority,L=Athens,C=GR
Serial Number: 0 (0x0)
Subject: CN=Hellenic Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research
Institutions Cert. Authority,L=Athens,C=GR
Not Valid Before: Tue Jul 07 10:11:21 2015
Not Valid After : Sat Jun 30 10:11:21 2040
Fingerprint (SHA-256):
A0:40:92:9A:02:CE:53:B4:AC:F4:F2:FF:C6:98:1C:E4:49:6F:75:5E:6D:45:FE:0B:2A:69:2B:CD:52:52:3F:36
Fingerprint (SHA1): 01:0C:06:95:A6:98:19:14:FF:BF:5F:C6:B0:B6:95:EA:29:E9:12:A6
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Hellenic Academic and Research Institutions RootCA 2015"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\246\061\013\060\011\006\003\125\004\006\023\002\107\122
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165
\164\150\157\162\151\164\171\061\100\060\076\006\003\125\004\003
\023\067\110\145\154\154\145\156\151\143\040\101\143\141\144\145
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\122\157
\157\164\103\101\040\062\060\061\065
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\246\061\013\060\011\006\003\125\004\006\023\002\107\122

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\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156  
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\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156  
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151  
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165  
\164\150\157\162\151\164\171\061\100\060\076\006\003\125\004\003  
\023\067\110\145\154\154\145\156\151\143\040\101\143\141\144\145  
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150  
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\122\157  
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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\000

END

CKA\_VALUE MULTILINE\_OCTAL

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\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156\163  
\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154\145  
\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144  
\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164  
\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165\164  
\150\157\162\151\164\171\061\100\060\076\006\003\125\004\003\023  
\067\110\145\154\154\145\156\151\143\040\101\143\141\144\145\155  
\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150\040  
\111\156\163\164\151\164\165\164\151\157\156\163\040\122\157\157  
\164\103\101\040\062\060\061\065\060\036\027\015\061\065\060\067  
\060\067\061\060\061\061\062\061\132\027\015\064\060\060\066\063  
\060\061\060\061\061\062\061\132\060\201\246\061\013\060\011\006  
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\007\023\006\101\164\150\145\156\163\061\104\060\102\006\003\125  
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\201\370\027\313\222\066\135\321\243\330\165\033\341\213\047\352  
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\237\201\123\022\345\261\214\110\135\061\103\027\343\214\306\172  
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\055\362\015\150\121\252\343\245\167\306\244\220\016\241\067\213  
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\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003  
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\273\155\124\113\252\020\130\106\064\362\142\327\026\066\135\010  
\136\325\154\310\207\275\264\056\106\362\061\370\174\352\102\265  
\223\026\125\334\241\014\022\240\332\141\176\017\130\130\163\144  
\162\307\350\105\216\334\251\362\046\077\306\171\214\261\123\010  
\063\201\260\126\023\276\346\121\134\330\233\012\117\113\234\126  
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\364\277\311\365\105\033\316\070\020\052\067\212\171\243\264\343  
\011\154\205\206\223\377\211\226\047\170\201\217\147\343\106\164  
\124\216\331\015\151\342\112\364\115\164\003\377\262\167\355\225  
\147\227\344\261\305\253\277\152\043\350\324\224\342\104\050\142  
\304\113\342\360\330\342\051\153\032\160\176\044\141\223\173\117  
\003\062\045\015\105\044\053\226\264\106\152\277\112\013\367\232  
\217\301\254\032\305\147\363\157\064\322\372\163\143\214\357\026  
\260\250\244\106\052\370\353\022\354\162\264\357\370\053\176\214

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\122\300\213\204\124\371\057\076\343\125\250\334\146\261\331\341
\137\330\263\214\131\064\131\244\253\117\154\273\037\030\333\165
\253\330\313\222\315\224\070\141\016\007\006\037\113\106\020\361
\025\276\215\205\134\073\112\053\201\171\017\264\151\237\111\120
\227\115\367\016\126\135\300\225\152\302\066\303\033\150\311\365
\052\334\107\232\276\262\316\305\045\350\372\003\271\332\371\026
\156\221\204\365\034\050\310\374\046\314\327\034\220\126\247\137
\157\072\004\274\315\170\211\013\216\017\057\243\252\117\242\033
\022\075\026\010\100\017\361\106\114\327\252\173\010\301\012\365
\155\047\336\002\217\312\303\265\053\312\351\353\310\041\123\070
\245\314\073\330\167\067\060\242\117\331\157\321\362\100\255\101
\172\027\305\326\112\065\211\267\101\325\174\206\177\125\115\203
\112\245\163\040\300\072\257\220\361\232\044\216\331\216\161\312
\173\270\206\332\262\217\231\076\035\023\015\022\021\356\324\253
\360\351\025\166\002\344\340\337\252\040\036\133\141\205\144\100
\251\220\227\015\255\123\322\132\035\207\152\000\227\145\142\264
\276\157\152\247\365\054\102\355\062\255\266\041\236\276\274
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Hellenic Academic and Research Institutions RootCA 2015"

# Issuer: CN=Hellenic Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research  
Institutions Cert. Authority,L=Athens,C=GR

# Serial Number: 0 (0x0)

# Subject: CN=Hellenic Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research  
Institutions Cert. Authority,L=Athens,C=GR

# Not Valid Before: Tue Jul 07 10:11:21 2015

# Not Valid After : Sat Jun 30 10:11:21 2040

# Fingerprint (SHA-256):

A0:40:92:9A:02:CE:53:B4:AC:F4:F2:FF:C6:98:1C:E4:49:6F:75:5E:6D:45:FE:0B:2A:69:2B:CD:52:52:3F:36

# Fingerprint (SHA1): 01:0C:06:95:A6:98:19:14:FF:BF:5F:C6:B0:B6:95:EA:29:E9:12:A6

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Hellenic Academic and Research Institutions RootCA 2015"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\001\014\006\225\246\230\031\024\377\277\137\306\260\266\225\352
\051\351\022\246
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\312\377\342\333\003\331\313\113\351\017\255\204\375\173\030\316
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\246\061\013\060\011\006\003\125\004\006\023\002\107\122
```

```
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165
\164\150\157\162\151\164\171\061\100\060\076\006\003\125\004\003
\023\067\110\145\154\154\145\156\151\143\040\101\143\141\144\145
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\122\157
\157\164\103\101\040\062\060\061\065
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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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\002\001\000
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END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Hellenic Academic and Research Institutions ECC RootCA 2015"

#

#

Issuer: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and Research Institutions Cert. Authority,L=Athens,C=GR

# Serial Number: 0 (0x0)

# Subject: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and Research Institutions Cert. Authority,L=Athens,C=GR

# Not Valid Before: Tue Jul 07 10:37:12 2015

# Not Valid After : Sat Jun 30 10:37:12 2040

# Fingerprint (SHA-256):

44:B5:45:AA:8A:25:E6:5A:73:CA:15:DC:27:FC:36:D2:4C:1C:B9:95:3A:06:65:39:B1:15:82:DC:48:7B:48:33

# Fingerprint (SHA1): 9F:F1:71:8D:92:D5:9A:F3:7D:74:97:B4:BC:6F:84:68:0B:BA:B6:66

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Hellenic Academic and Research Institutions ECC RootCA 2015"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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\060\201\252\061\013\060\011\006\003\125\004\006\023\002\107\122
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165
\164\150\157\162\151\164\171\061\104\060\102\006\003\125\004\003
```

\023\073\110\145\154\154\145\156\151\143\040\101\143\141\144\145  
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150  
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\105\103  
\103\040\122\157\157\164\103\101\040\062\060\061\065

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\252\061\013\060\011\006\003\125\004\006\023\002\107\122  
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156  
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154  
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156  
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151  
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165  
\164\150\157\162\151\164\171\061\104\060\102\006\003\125\004\003  
\023\073\110\145\154\154\145\156\151\143\040\101\143\141\144\145  
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150  
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\105\103  
\103\040\122\157\157\164\103\101\040\062\060\061\065

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\000

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\303\060\202\002\112\240\003\002\001\002\002\001\000  
\060\012\006\010\052\206\110\316\075\004\003\002\060\201\252\061  
\013\060\011\006\003\125\004\006\023\002\107\122\061\017\060\015  
\006\003\125\004\007\023\006\101\164\150\145\156\163\061\104\060  
\102\006\003\125\004\012\023\073\110\145\154\154\145\156\151\143  
\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122\145  
\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164\151  
\157\156\163\040\103\145\162\164\056\040\101\165\164\150\157\162  
\151\164\171\061\104\060\102\006\003\125\004\003\023\073\110\145  
\154\154\145\156\151\143\040\101\143\141\144\145\155\151\143\040  
\141\156\144\040\122\145\163\145\141\162\143\150\040\111\156\163  
\164\151\164\165\164\151\157\156\163\040\105\103\103\040\122\157  
\157\164\103\101\040\062\060\061\065\060\036\027\015\064\060\060\066  
\067\060\067\061\060\063\067\061\062\132\027\015\064\060\060\066  
\063\060\061\060\063\067\061\062\132\060\201\252\061\013\060\011  
\006\003\125\004\006\023\002\107\122\061\017\060\015\006\003\125  
\004\007\023\006\101\164\150\145\156\163\061\104\060\102\006\003  
\125\004\012\023\073\110\145\154\154\145\156\151\143\040\101\143  
\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145\141  
\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156\163  
\040\103\145\162\164\056\040\101\165\164\150\157\162\151\164\171  
\061\104\060\102\006\003\125\004\003\023\073\110\145\154\154\145  
\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144

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\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164
\165\164\151\157\156\163\040\105\103\103\040\122\157\157\164\103
\101\040\062\060\061\065\060\166\060\020\006\007\052\206\110\316
\075\002\001\006\005\053\201\004\000\042\003\142\000\004\222\240
\101\350\113\202\204\134\342\370\061\021\231\206\144\116\011\045
\057\235\101\057\012\256\065\117\164\225\262\121\144\153\215\153
\346\077\160\225\360\005\104\107\246\162\070\120\166\225\002\132
\216\256\050\236\371\055\116\231\357\054\110\157\114\045\051\350
\321\161\133\337\035\301\165\067\264\327\372\173\172\102\234\152
\012\126\132\174\151\013\252\200\011\044\154\176\301\106\243\102
\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\035\006\003\125\035\016\004\026\004\024\264\042
\013\202\231\044\001\016\234\273\344\016\375\277\373\227\040\223
\231\052\060\012\006\010\052\206\110\316\075\004\003\002\003\147
\000\060\144\002\060\147\316\026\142\070\242\254\142\105\247\251
\225\044\300\032\047\234\062\073\300\300\325\272\251\347\370\004
\103\123\205\356\122\041\336\235\365\045\203\076\236\130\113\057
\327\147\023\016\041\002\060\005\341\165\001\336\150\355\052\037
\115\114\011\010\015\354\113\255\144\027\050\347\165\316\105\145
\162\041\027\313\042\101\016\214\023\230\070\232\124\155\233\312
\342\174\352\002\130\042\221
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END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Hellenic Academic and Research Institutions ECC RootCA 2015"

# Issuer: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and Research Institutions Cert. Authority,L=Athens,C=GR

# Serial Number: 0 (0x0)

# Subject: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and Research Institutions Cert. Authority,L=Athens,C=GR

# Not Valid Before: Tue Jul 07 10:37:12 2015

# Not Valid After : Sat Jun 30 10:37:12 2040

# Fingerprint (SHA-256):

44:B5:45:AA:8A:25:E6:5A:73:CA:15:DC:27:FC:36:D2:4C:1C:B9:95:3A:06:65:39:B1:15:82:DC:48:7B:48:33

#

Fingerprint (SHA1): 9F:F1:71:8D:92:D5:9A:F3:7D:74:97:B4:BC:6F:84:68:0B:BA:B6:66

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Hellenic Academic and Research Institutions ECC RootCA 2015"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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\237\361\161\215\222\325\232\363\175\164\227\264\274\157\204\150
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\013\272\266\146
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END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\201\345\264\027\353\302\365\341\113\015\101\173\111\222\376\357
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\252\061\013\060\011\006\003\125\004\006\023\002\107\122
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165
\164\150\157\162\151\164\171\061\104\060\102\006\003\125\004\003
\023\073\110\145\154\154\145\156\151\143\040\101\143\141\144\145
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\105\103
\103\040\122\157\157\164\103\101\040\062\060\061\065
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "ISRG Root X1"
#
Issuer: CN=ISRG Root X1,O=Internet Security Research Group,C=US
Serial Number:00:82:10:cf:b0:d2:40:e3:59:44:63:e0:bb:63:82:8b:00
Subject: CN=ISRG Root X1,O=Internet Security Research Group,C=US
Not Valid Before: Thu Jun 04 11:04:38 2015
Not Valid After : Mon Jun 04 11:04:38 2035
Fingerprint (SHA-256):
96:BC:EC:06:26:49:76:F3:74:60:77:9A:CF:28:C5:A7:CF:E8:A3:C0:AA:E1:1A:8F:FC:EE:05:C0:BD:DF:08:C6
#
Fingerprint (SHA1): CA:BD:2A:79:A1:07:6A:31:F2:1D:25:36:35:CB:03:9D:43:29:A5:E8
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ISRG Root X1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145

```

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\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\021\000\202\020\317\260\322\100\343\131\104\143\340\273\143
\202\213\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\153\060\202\003\123\240\003\002\001\002\002\021\000
\202\020\317\260\322\100\343\131\104\143\340\273\143\202\213\000
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061\051
\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156\145
\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145\141
\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003\125
\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130\061
\060\036\027\015\061\065\060\066\060\064\061\061\060\064\063\070
\132\027\015\063\065\060\066\060\064\061\061\060\064\063\070\132
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\061\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002
\001\000\255\350\044\163\364\024\067\363\233\236\053\127\050\034
\207\276\334\267\337\070\220\214\156\074\346\127\240\170\367\165
\302\242\376\365\152\156\366\000\117\050\333\336\150\206\154\104
\223\266\261\143\375\024\022\153\277\037\322\352\061\233\041\176
\321\063\074\272\110\365\335\171\337\263\270\377\022\361\041\232
\113\301\212\206\161\151\112\146\146\154\217\176\074\160\277\255
\051\042\006\363\344\300\346\200\256\342\113\217\267\231\176\224
\003\237\323\107\227\174\231\110\043\123\350\070\256\117\012\157
\203\056\321\111\127\214\200\164\266\332\057\320\070\215\173\003
\160\041\033\165\362\060\074\372\217\256\335\332\143\253\353\026
\117\302\216\021\113\176\317\013\350\377\265\167\056\364\262\173
\112\340\114\022\045\014\160\215\003\051\240\341\123\044\354\023
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\331\356\031\277\020\263\112\214\077\211\243\141\121\336\254\207  
\007\224\364\143\161\354\056\342\157\133\230\201\341\211\134\064  
\171\154\166\357\073\220\142\171\346\333\244\232\057\046\305\320  
\020\341\016\336\331\020\216\026\373\267\367\250\367\307\345\002  
\007\230\217\066\010\225\347\342\067\226\015\066\165\236\373\016  
\162\261\035\233\274\003\371\111\005\330\201\335\005\264\052\326  
\101\351\254\001\166\225\012\017\330\337\325\275\022\037\065\057  
\050\027\154\322\230\301\250\011\144\167\156\107\067\272\316\254  
\131\136\150\235\177\162\326\211\305\006\101\051\076\131\076\335  
\046\365\044\311\021\247\132\243\114\100\037\106\241\231\265\247  
\072\121\156\206\073\236\175\162\247\022\005\170\131\355\076\121  
\170\025\013\003\217\215\320\057\005\262\076\173\112\034\113\163  
\005\022\374\306\352\340\120\023\174\103\223\164\263\312\164\347  
\216\037\001\010\320\060\324\133\161\066\264\007\272\301\060\060  
\134\110\267\202\073\230\246\175\140\212\242\243\051\202\314\272  
\275\203\004\033\242\203\003\101\241\326\005\361\033\302\266\360  
\250\174\206\073\106\250\110\052\210\334\166\232\166\277\037\152  
\245\075\031\217\353\070\363\144\336\310\053\015\012\050\377\367  
\333\342\025\102\324\042\320\047\135\341\171\376\030\347\160\210  
\255\116\346\331\213\072\306\335\047\121\156\377\274\144\365\063  
\103\117\002\003\001\000\001\243\102\060\100\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003  
\125\035\016\004\026\004\024\171\264\131\346\173\266\345\344\001  
\163\200\010\210\310\032\130\366\351\233\156\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\125  
\037\130\251\274\262\250\120\320\014\261\330\032\151\040\047\051  
\010\254\141\165\134\212\156\370\202\345\151\057\325\366\126\113  
\271\270\163\020\131\323\041\227\176\347\114\161\373\262\322\140  
\255\071\250\013\352\027\041\126\205\361\120\016\131\353\316\340  
\131\351\272\311\025\357\206\235\217\204\200\366\344\351\221\220  
\334\027\233\142\033\105\360\146\225\322\174\157\302\352\073\357  
\037\317\313\326\256\047\361\251\260\310\256\375\175\176\232\372  
\042\004\353\377\331\177\352\221\053\042\261\027\016\217\362\212  
\064\133\130\330\374\001\311\124\271\270\046\314\212\210\063\211  
\114\055\204\074\202\337\356\226\127\005\272\054\273\367\304\267  
\307\116\073\202\276\061\310\042\163\163\222\321\302\200\244\071  
\071\020\063\043\202\114\074\237\206\262\125\230\035\276\051\206  
\214\042\233\236\342\153\073\127\072\202\160\115\334\011\307\211  
\313\012\007\115\154\350\135\216\311\357\316\253\307\273\265\053  
\116\105\326\112\320\046\314\345\162\312\010\152\245\225\343\025  
\241\367\244\355\311\054\137\245\373\377\254\050\002\056\276\327  
\173\273\343\161\173\220\026\323\007\136\106\123\174\067\007\102  
\214\323\304\226\234\325\231\265\052\340\225\032\200\110\256\114  
\071\007\316\314\107\244\122\225\053\272\270\373\255\322\063\123  
\175\345\035\115\155\325\241\261\307\102\157\346\100\047\065\134  
\243\050\267\007\215\347\215\063\220\347\043\237\373\120\234\171  
\154\106\325\264\025\263\226\156\176\233\014\226\072\270\122\055



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\077\326\133\341\373\010\302\204\376\044\250\243\211\332\254\152
\341\030\052\261\250\103\141\133\323\037\334\073\215\166\362\055
\350\215\165\337\027\063\154\075\123\373\173\313\101\137\377\334
\242\320\141\070\341\226\270\254\135\213\067\327\165\325\063\300
\231\021\256\235\101\301\162\165\204\276\002\101\102\137\147\044
\110\224\321\233\047\276\007\077\271\270\117\201\164\121\341\172
\267\355\235\043\342\276\340\325\050\004\023\074\061\003\236\335
\172\154\217\306\007\030\306\177\336\107\216\077\050\236\004\006
\317\245\124\064\167\275\354\211\233\351\027\103\337\133\333\137
\376\216\036\127\242\315\100\235\176\142\042\332\336\030\047
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

# Trust for "ISRG Root X1"

# Issuer: CN=ISRG Root X1,O=Internet Security Research Group,C=US

# Serial Number:00:82:10:cf:b0:d2:40:e3:59:44:63:e0:bb:63:82:8b:00

# Subject: CN=ISRG Root X1,O=Internet Security Research Group,C=US

# Not Valid Before: Thu Jun 04 11:04:38 2015

# Not Valid After : Mon Jun 04 11:04:38 2035

# Fingerprint (SHA-256):

96:BC:EC:06:26:49:76:F3:74:60:77:9A:CF:28:C5:A7:CF:E8:A3:C0:AA:E1:1A:8F:FC:EE:05:C0:BD:DF:08:C6

# Fingerprint (SHA1): CA:BD:2A:79:A1:07:6A:31:F2:1D:25:36:35:CB:03:9D:43:29:A5:E8

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "ISRG Root X1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\312\275\052\171\241\007\152\061\362\035\045\066\065\313\003\235
\103\051\245\350
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\014\322\371\340\332\027\163\351\355\206\115\245\343\160\347\116
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\061
```

END

CKA\_SERIAL\_NUMBER

```

MULTILINE_OCTAL
\002\021\000\202\020\317\260\322\100\343\131\104\143\340\273\143
\202\213\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "AC RAIZ FNMT-RCM"
#
Issuer: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES
Serial Number:5d:93:8d:30:67:36:c8:06:1d:1a:c7:54:84:69:07
Subject: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES
Not Valid Before: Wed Oct 29 15:59:56 2008
Not Valid After : Tue Jan 01 00:00:00 2030
Fingerprint (SHA-256):
EB:C5:57:0C:29:01:8C:4D:67:B1:AA:12:7B:AF:12:F7:03:B4:61:1E:BC:17:B7:DA:B5:57:38:94:17:9B:93:FA
#
Fingerprint (SHA1): EC:50:35:07:B2:15:C4:95:62:19:E2:A8:9A:5B:42:99:2C:4C:2C:20
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AC RAIZ FNMT-RCM"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\031\060\027\006\003\125\004\013\014\020\101\103\040
\122\101\111\132\040\106\116\115\124\055\122\103\115
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\031\060\027\006\003\125\004\013\014\020\101\103\040
\122\101\111\132\040\106\116\115\124\055\122\103\115
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\017\135\223\215\060\147\066\310\006\035\032\307\124\204\151
\007
END
CKA_VALUE
MULTILINE_OCTAL
\060\202\005\203\060\202\003\153\240\003\002\001\002\002\017\135
\223\215\060\147\066\310\006\035\032\307\124\204\151\007\060\015

```

\006\011\052\206\110\206\367\015\001\001\013\005\000\060\073\061  
\013\060\011\006\003\125\004\006\023\002\105\123\061\021\060\017  
\006\003\125\004\012\014\010\106\116\115\124\055\122\103\115\061  
\031\060\027\006\003\125\004\013\014\020\101\103\040\122\101\111  
\132\040\106\116\115\124\055\122\103\115\060\036\027\015\060\070  
\061\060\062\071\061\065\065\071\065\066\132\027\015\063\060\060  
\061\060\061\060\060\060\060\060\060\132\060\073\061\013\060\011  
\006\003\125\004\006\023\002\105\123\061\021\060\017\006\003\125  
\004\012\014\010\106\116\115\124\055\122\103\115\061\031\060\027  
\006\003\125\004\013\014\020\101\103\040\122\101\111\132\040\106  
\116\115\124\055\122\103\115\060\202\002\042\060\015\006\011\052  
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060  
\202\002\012\002\202\002\001\000\272\161\200\172\114\206\156\177  
\310\023\155\300\306\175\034\000\227\217\054\014\043\273\020\232  
\100\251\032\267\207\210\370\233\126\152\373\346\173\216\213\222  
\216\247\045\135\131\021\333\066\056\267\121\027\037\251\010\037  
\004\027\044\130\252\067\112\030\337\345\071\324\127\375\327\301  
\054\221\001\221\342\042\324\003\300\130\374\167\107\354\217\076  
\164\103\272\254\064\215\115\070\166\147\216\260\310\157\060\063  
\130\161\134\264\365\153\156\324\001\120\270\023\176\154\112\243  
\111\321\040\031\356\274\300\051\030\145\247\336\376\357\335\012  
\220\041\347\032\147\222\102\020\230\137\117\060\274\076\034\105  
\264\020\327\150\100\024\300\100\372\347\167\027\172\346\013\217  
\145\133\074\331\232\122\333\265\275\236\106\317\075\353\221\005  
\002\300\226\262\166\114\115\020\226\073\222\372\234\177\017\231  
\337\276\043\065\105\036\002\134\376\265\250\233\231\045\332\136  
\363\042\303\071\365\344\052\056\323\306\037\304\154\252\305\034  
\152\001\005\112\057\322\305\301\250\064\046\135\146\245\322\002  
\041\371\030\267\006\365\116\231\157\250\253\114\121\350\317\120  
\030\305\167\310\071\011\054\111\222\062\231\250\273\027\027\171  
\260\132\305\346\243\304\131\145\107\065\203\136\251\350\065\013  
\231\273\344\315\040\306\233\112\006\071\265\150\374\042\272\356  
\125\214\053\116\352\363\261\343\374\266\231\232\325\102\372\161  
\115\010\317\207\036\152\161\175\371\323\264\351\245\161\201\173  
\302\116\107\226\245\366\166\205\243\050\217\351\200\156\201\123  
\245\155\137\270\110\371\302\371\066\246\056\111\377\270\226\302  
\214\007\263\233\210\130\374\353\033\034\336\055\160\342\227\222  
\060\241\211\343\274\125\250\047\326\113\355\220\255\213\372\143  
\045\131\055\250\065\335\312\227\063\274\345\315\307\235\321\354  
\357\136\016\112\220\006\046\143\255\271\331\065\055\007\272\166  
\145\054\254\127\217\175\364\007\224\327\201\002\226\135\243\007  
\111\325\172\320\127\371\033\347\123\106\165\252\260\171\102\313  
\150\161\010\351\140\275\071\151\316\364\257\303\126\100\307\255  
\122\242\011\344\157\206\107\212\037\353\050\047\135\203\040\257  
\004\311\154\126\232\213\106\365\002\003\001\000\001\243\201\203  
\060\201\200\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024\367

\175\305\375\304\350\232\033\167\144\247\365\035\240\314\277\207  
\140\232\155\060\076\006\003\125\035\040\004\067\060\065\060\063  
\006\004\125\035\040\000\060\053\060\051\006\010\053\006\001\005  
\005\007\002\001\026\035\150\164\164\160\072\057\057\167\167\167  
\056\143\145\162\164\056\146\156\155\164\056\145\163\057\144\160  
\143\163\057\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\002\001\000\007\220\112\337\363\043\116\360\303  
\234\121\145\233\234\042\242\212\014\205\363\163\051\153\115\376  
\001\342\251\014\143\001\277\004\147\245\235\230\137\375\001\023  
\372\354\232\142\351\206\376\266\142\322\156\114\224\373\300\165  
\105\174\145\014\370\262\067\317\254\017\317\215\157\371\031\367  
\217\354\036\362\160\236\360\312\270\357\267\377\166\067\166\133  
\366\156\210\363\257\142\062\042\223\015\072\152\216\024\146\014  
\055\123\164\127\145\036\325\262\335\043\201\073\245\146\043\047  
\147\011\217\341\167\252\103\315\145\121\010\355\121\130\376\346  
\071\371\313\107\204\244\025\361\166\273\244\356\244\073\304\137  
\357\262\063\226\021\030\267\311\145\276\030\341\243\244\334\372  
\030\371\323\274\023\233\071\172\064\272\323\101\373\372\062\212  
\052\267\053\206\013\151\203\070\276\315\212\056\013\160\255\215  
\046\222\356\036\365\001\053\012\331\326\227\233\156\340\250\031  
\034\072\041\213\014\036\100\255\003\347\335\146\176\365\271\040  
\015\003\350\226\371\202\105\324\071\340\240\000\135\327\230\346  
\175\236\147\163\303\232\052\367\253\213\241\072\024\357\064\274  
\122\016\211\230\232\004\100\204\035\176\105\151\223\127\316\353  
\316\370\120\174\117\034\156\004\103\233\371\326\073\043\030\351  
\352\216\321\115\106\215\361\073\344\152\312\272\373\043\267\233  
\372\231\001\051\132\130\132\055\343\371\324\155\016\046\255\301  
\156\064\274\062\370\014\005\372\145\243\333\073\067\203\042\351  
\326\334\162\063\375\135\362\040\275\166\074\043\332\050\367\371  
\033\353\131\144\325\334\137\162\176\040\374\315\211\265\220\147  
\115\142\172\077\116\255\035\303\071\376\172\364\050\026\337\101  
\366\110\200\005\327\017\121\171\254\020\253\324\354\003\146\346  
\152\260\272\061\222\102\100\152\276\072\323\162\341\152\067\125  
\274\254\035\225\267\151\141\362\103\221\164\346\240\323\012\044  
\106\241\010\257\326\332\105\031\226\324\123\035\133\204\171\360  
\300\367\107\357\213\217\305\006\256\235\114\142\235\377\106\004  
\370\323\311\266\020\045\100\165\376\026\252\311\112\140\206\057  
\272\357\060\167\344\124\342\270\204\231\130\200\252\023\213\121  
\072\117\110\366\213\266\263

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "AC RAIZ FNMT-RCM"

# Issuer: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES

#

```
Serial Number:5d:93:8d:30:67:36:c8:06:1d:1a:c7:54:84:69:07
Subject: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES
Not Valid Before: Wed Oct 29 15:59:56 2008
Not Valid After : Tue Jan 01 00:00:00 2030
Fingerprint (SHA-256):
EB:C5:57:0C:29:01:8C:4D:67:B1:AA:12:7B:AF:12:F7:03:B4:61:1E:BC:17:B7:DA:B5:57:38:94:17:9B:93:FA
Fingerprint (SHA1): EC:50:35:07:B2:15:C4:95:62:19:E2:A8:9A:5B:42:99:2C:4C:2C:20
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AC RAIZ FNMT-RCM"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\354\120\065\007\262\025\304\225\142\031\342\250\232\133\102\231
\054\114\054\040
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\342\011\004\264\323\275\321\240\024\375\032\322\107\304\127\035
END
CKA_ISSUER MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\031\060\027\006\003\125\004\013\014\020\101\103\040
\122\101\111\132\040\106\116\115\124\055\122\103\115
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\017\135\223\215\060\147\066\310\006\035\032\307\124\204\151
\007
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Amazon Root CA 1"
#
Issuer: CN=Amazon Root CA 1,O=Amazon,C=US
Serial Number:06:6c:9f:cf:99:bf:8c:0a:39:e2:f0:78:8a:43:e6:96:36:5b:ca
Subject: CN=Amazon Root CA 1,O=Amazon,C=US
Not Valid Before: Tue May 26 00:00:00 2015
Not Valid After : Sun Jan 17 00:00:00 2038
Fingerprint (SHA-256):
8E:CD:E6:88:4F:3D:87:B1:12:5B:A3:1A:C3:FC:B1:3D:70:16:DE:7F:57:CC:90:4F:E1:CB:97:C6:AE:98:19:6E
Fingerprint (SHA1): 8D:A7:F9:65:EC:5E:FC:37:91:0F:1C:6E:59:FD:C1:CC:6A:6E:DE:16
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE
CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\023\006\154\237\317\231\277\214\012\071\342\360\170\212\103
\346\226\066\133\312
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\101\060\202\002\051\240\003\002\001\002\002\023\006
\154\237\317\231\277\214\012\071\342\360\170\212\103\346\226\066
\133\312\060\015\006\011\052\206\110\206\367\015\001\001\013\005
\000\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157
\156\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172
\157\156\040\122\157\157\164\040\103\101\040\061\060\036\027\015
\061\065\060\065\062\066\060\060\060\060\060\060\132\027\015\063
\070\060\061\061\067\060\060\060\060\060\060\132\060\071\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\017\060\015\006
\003\125\004\012\023\006\101\155\141\172\157\156\061\031\060\027
\006\003\125\004\003\023\020\101\155\141\172\157\156\040\122\157
\157\164\040\103\101\040\061\060\202\001\042\060\015\006\011\052
\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060
\202\001\012\002\202\001\001\000\262\170\200\161\312\170\325\343
\161\257\107\200\120\164\175\156\330\327\210\166\364\231\150\367
\130\041\140\371\164\204\001\057\254\002\055\206\323\240\103\172
\116\262\244\320\066\272\001\276\215\333\110\310\007\027\066\114
\364\356\210\043\307\076\353\067\365\265\031\370\111\150\260\336
\327\271\166\070\035\141\236\244\376\202\066\245\345\112\126\344
\105\341\371\375\264\026\372\164\332\234\233\065\071\057\372\260
\040\120\006\154\172\320\200\262\246\371\257\354\107\031\217\120
\070\007\334\242\207\071\130\370\272\325\251\371\110\147\060\226
\356\224\170\136\157\211\243\121\300\060\206\146\241\105\146\272
\124\353\243\303\221\371\110\334\377\321\350\060\055\175\055\164
```

\160\065\327\210\044\367\236\304\131\156\273\163\207\027\362\062  
\106\050\270\103\372\267\035\252\312\264\362\237\044\016\055\113  
\367\161\134\136\151\377\352\225\002\313\070\212\256\120\070\157  
\333\373\055\142\033\305\307\036\124\341\167\340\147\310\017\234  
\207\043\326\077\100\040\177\040\200\304\200\114\076\073\044\046  
\216\004\256\154\232\310\252\015\002\003\001\000\001\243\102\060  
\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\206\060\035\006\003\125\035\016\004\026\004\024\204\030\314  
\205\064\354\274\014\224\224\056\010\131\234\307\262\020\116\012  
\010\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000  
\003\202\001\001\000\230\362\067\132\101\220\241\032\305\166\121  
\050\040\066\043\016\256\346\050\273\252\370\224\256\110\244\060  
\177\033\374\044\215\113\264\310\241\227\366\266\361\172\160\310  
\123\223\314\010\050\343\230\045\317\043\244\371\336\041\323\174  
\205\011\255\116\232\165\072\302\013\152\211\170\166\104\107\030  
\145\154\215\101\216\073\177\232\313\364\265\247\120\327\005\054  
\067\350\003\113\255\351\141\240\002\156\365\362\360\305\262\355  
\133\267\334\372\224\134\167\236\023\245\177\122\255\225\362\370  
\223\073\336\213\134\133\312\132\122\133\140\257\024\367\113\357  
\243\373\237\100\225\155\061\124\374\102\323\307\106\037\043\255  
\331\017\110\160\232\331\165\170\161\321\162\103\064\165\156\127  
\131\302\002\134\046\140\051\317\043\031\026\216\210\103\245\324  
\344\313\010\373\043\021\103\350\103\051\162\142\241\251\135\136  
\010\324\220\256\270\330\316\024\302\320\125\362\206\366\304\223  
\103\167\146\141\300\271\350\101\327\227\170\140\003\156\112\162  
\256\245\321\175\272\020\236\206\154\033\212\271\131\063\370\353  
\304\220\276\361\271

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Amazon Root CA 1"

# Issuer: CN=Amazon Root CA 1,O=Amazon,C=US

# Serial Number:06:6c:9f:cf:99:bf:8c:0a:39:e2:f0:78:8a:43:e6:96:36:5b:ca

# Subject: CN=Amazon Root CA 1,O=Amazon,C=US

# Not Valid Before: Tue May 26 00:00:00 2015

# Not Valid After : Sun Jan 17 00:00:00 2038

# Fingerprint (SHA-256):

8E:CD:E6:88:4F:3D:87:B1:12:5B:A3:1A:C3:FC:B1:3D:70:16:DE:7F:57:CC:90:4F:E1:CB:97:C6:AE:98:19:6E

# Fingerprint (SHA1): 8D:A7:F9:65:EC:5E:FC:37:91:0F:1C:6E:59:FD:C1:CC:6A:6E:DE:16

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Amazon"

```

Root CA 1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\215\247\371\145\354\136\374\067\221\017\034\156\131\375\301\314
\152\156\336\026
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\103\306\277\256\354\376\255\057\030\306\210\150\060\374\310\346
END
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\023\006\154\237\317\231\277\214\012\071\342\360\170\212\103
\346\226\066\133\312
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Amazon Root CA 2"
#
Issuer: CN=Amazon Root CA 2,O=Amazon,C=US
Serial Number:06:6c:9f:d2:96:35:86:9f:0a:0f:e5:86:78:f8:5b:26:bb:8a:37
#
Subject: CN=Amazon Root CA 2,O=Amazon,C=US
Not Valid Before: Tue May 26 00:00:00 2015
Not Valid After : Sat May 26 00:00:00 2040
Fingerprint (SHA-256):
1B:A5:B2:AA:8C:65:40:1A:82:96:01:18:F8:0B:EC:4F:62:30:4D:83:CE:C4:71:3A:19:C3:9C:01:1E:A4:6D:B4
Fingerprint (SHA1): 5A:8C:EF:45:D7:A6:98:59:76:7A:8C:8B:44:96:B5:78:CF:47:4B:1A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\062
END
CKA_ID UTF8 "0"

```



CKA\_ISSUER MULTILINE\_OCTAL

\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156  
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157  
\156\040\122\157\157\164\040\103\101\040\062

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\023\006\154\237\322\226\065\206\237\012\017\345\206\170\370  
\133\046\273\212\067

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\101\060\202\003\051\240\003\002\001\002\002\023\006  
\154\237\322\226\065\206\237\012\017\345\206\170\370\133\046\273  
\212\067\060\015\006\011\052\206\110\206\367\015\001\001\014\005  
\000\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157  
\156\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172  
\157\156\040\122\157\157\164\040\103\101\040\062\060\036\027\015  
\061\065\060\065\062\066\060\060\060\060\060\060\132\027\015\064  
\060\060\065\062\066\060\060\060\060\060\060\132\060\071\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\017\060\015\006  
\003\125\004\012\023\006\101\155\141\172\157\156\061\031\060\027  
\006\003\125\004\003\023\020\101\155\141\172\157\156\040\122\157  
\157\164\040\103\101\040\062\060\202\002\042\060\015\006\011\052  
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060  
\202\002\012\002\202\002\001\000\255\226\237\055\234\112\114\112  
\201\171\121\231\354\212\313\153\140\121\023\274\115\155\006\374  
\260\010\215\335\031\020\152\307\046\014\065\330\300\157\040\204  
\351\224\261\233\205\003\303\133\333\112\350\310\370\220\166\331  
\133\117\343\114\350\006\066\115\314\232\254\075\014\220\053\222  
\324\006\031\140\254\067\104\171\205\201\202\255\132\067\340\015  
\314\235\246\114\122\166\352\103\235\267\004\321\120\366\125\340  
\325\322\246\111\205\351\067\351\312\176\256\134\225\115\110\232  
\077\256\040\132\155\210\225\331\064\270\122\032\103\220\260\277  
\154\005\271\266\170\267\352\320\344\072\074\022\123\142\377\112  
\362\173\276\065\005\251\022\064\343\363\144\164\142\054\075\000  
\111\132\050\376\062\104\273\207\335\145\047\002\161\073\332\112  
\367\037\332\315\367\041\125\220\117\017\354\256\202\341\237\153  
\331\105\323\273\360\137\207\355\074\054\071\206\332\077\336\354  
\162\125\353\171\243\255\333\335\174\260\272\034\316\374\336\117  
\065\166\317\017\370\170\037\152\066\121\106\047\141\133\351\236  
\317\360\242\125\175\174\045\212\157\057\264\305\317\204\056\053  
\375\015\121\020\154\373\137\033\274\033\176\305\256\073\230\001  
\061\222\377\013\127\364\232\262\271\127\351\253\357\015\166\321  
\360\356\364\316\206\247\340\156\351\264\151\241\337\151\366\063  
\306\151\056\227\023\236\245\207\260\127\020\201\067\311\123\263  
\273\177\366\222\321\234\320\030\364\222\156\332\203\117\246\143

\231\114\245\373\136\357\041\144\172\040\137\154\144\205\025\313  
\067\351\142\014\013\052\026\334\001\056\062\332\076\113\365\236  
\072\366\027\100\224\357\236\221\010\206\372\276\143\250\132\063  
\354\313\164\103\225\371\154\151\122\066\307\051\157\374\125\003  
\134\037\373\237\275\107\353\347\111\107\225\013\116\211\042\011  
\111\340\365\141\036\361\277\056\212\162\156\200\131\377\127\072  
\371\165\062\243\116\137\354\355\050\142\331\115\163\362\314\201  
\027\140\355\315\353\334\333\247\312\305\176\002\275\362\124\010  
\124\375\264\055\011\054\027\124\112\230\321\124\341\121\147\010  
\322\355\156\176\157\077\322\055\201\131\051\146\313\220\071\225  
\021\036\164\047\376\335\353\257\002\003\001\000\001\243\102\060  
\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\206\060\035\006\003\125\035\016\004\026\004\024\260\014\360  
\114\060\364\005\130\002\110\375\063\345\122\257\113\204\343\146  
\122\060\015\006\011\052\206\110\206\367\015\001\001\014\005\000  
\003\202\002\001\000\252\250\200\217\016\170\243\340\242\324\315  
\346\365\230\172\073\352\000\003\260\227\016\223\274\132\250\366  
\054\214\162\207\251\261\374\177\163\375\143\161\170\245\207\131  
\317\060\341\015\020\262\023\132\155\202\365\152\346\200\237\240  
\005\013\150\344\107\153\307\152\337\266\375\167\062\162\345\030  
\372\011\364\240\223\054\135\322\214\165\205\166\145\220\014\003  
\171\267\061\043\143\255\170\203\011\206\150\204\312\377\371\317  
\046\232\222\171\347\315\113\305\347\141\247\027\313\363\251\022  
\223\223\153\247\350\057\123\222\304\140\130\260\314\002\121\030  
\133\205\215\142\131\143\266\255\264\336\232\373\046\367\000\047  
\300\135\125\067\164\231\311\120\177\343\131\056\104\343\054\045  
\356\354\114\062\167\264\237\032\351\113\135\040\305\332\375\034  
\207\026\306\103\350\324\273\046\232\105\160\136\251\013\067\123  
\342\106\173\047\375\340\106\362\211\267\314\102\266\313\050\046  
\156\331\245\311\072\310\101\023\140\367\120\214\025\256\262\155  
\032\025\032\127\170\346\222\052\331\145\220\202\077\154\002\257  
\256\022\072\047\226\066\004\327\035\242\200\143\251\233\361\345  
\272\264\174\024\260\116\311\261\037\164\137\070\366\121\352\233  
\372\054\242\021\324\251\055\047\032\105\261\257\262\116\161\015  
\300\130\106\326\151\006\313\123\313\263\376\153\101\315\101\176  
\175\114\017\174\162\171\172\131\315\136\112\016\254\233\251\230  
\163\171\174\264\364\314\271\270\007\014\262\164\134\270\307\157  
\210\241\220\247\364\252\371\277\147\072\364\032\025\142\036\267  
\237\276\075\261\051\257\147\241\022\362\130\020\031\123\003\060  
\033\270\032\211\366\234\275\227\003\216\243\011\363\035\213\041  
\361\264\337\344\034\321\237\145\002\006\352\134\326\023\263\204  
\357\242\245\134\214\167\051\247\150\300\153\256\100\322\250\264  
\352\315\360\215\113\070\234\031\232\033\050\124\270\211\220\357  
\312\165\201\076\036\362\144\044\307\030\257\116\377\107\236\007  
\366\065\145\244\323\012\126\377\365\027\144\154\357\250\042\045  
\111\223\266\337\000\027\332\130\176\135\356\305\033\260\321\321  
\137\041\020\307\371\363\272\002\012\047\007\305\361\326\307\323

```

\340\373\011\140\154
END
CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Amazon Root CA 2"
Issuer: CN=Amazon Root CA 2,O=Amazon,C=US
Serial Number:06:6c:9f:d2:96:35:86:9f:0a:0f:e5:86:78:f8:5b:26:bb:8a:37
#
Subject: CN=Amazon Root CA 2,O=Amazon,C=US
Not Valid Before: Tue May 26 00:00:00 2015
Not Valid After : Sat May 26 00:00:00 2040
Fingerprint (SHA-256):
1B:A5:B2:AA:8C:65:40:1A:82:96:01:18:F8:0B:EC:4F:62:30:4D:83:CE:C4:71:3A:19:C3:9C:01:1E:A4:6D:B4
Fingerprint (SHA1): 5A:8C:EF:45:D7:A6:98:59:76:7A:8C:8B:44:96:B5:78:CF:47:4B:1A
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\132\214\357\105\327\246\230\131\166\172\214\213\104\226\265\170
\317\107\113\032
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\310\345\215\316\250\102\342\172\300\052\134\174\236\046\277\146
END
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\023\006\154\237\322\226\065\206\237\012\017\345\206\170\370
\133\046\273\212\067
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Amazon Root CA 3"
#

```

```
Issuer: CN=Amazon Root CA 3,O=Amazon,C=US
Serial Number:06:6c:9f:d5:74:97:36:66:3f:3b:0b:9a:d9:e8:9e:76:03:f2:4a
Subject: CN=Amazon Root CA 3,O=Amazon,C=US
Not Valid Before: Tue May 26 00:00:00 2015
Not Valid After : Sat May 26 00:00:00 2040
Fingerprint (SHA-256):
18:CE:6C:FE:7B:F1:4E:60:B2:E3:47:B8:DF:E8:68:CB:31:D0:2E:BB:3A:DA:27:15:69:F5:03:43:B4:6D:B3:A4
Fingerprint (SHA1): 0D:44:DD:8C:3C:8C:1A:1A:58:75:64:81:E9:0F:2E:2A:FF:B3:D2:6E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL
CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\023\006\154\237\325\164\227\066\146\077\073\013\232\331\350
\236\166\003\362\112
END
CKA_VALUE MULTILINE_OCTAL
\060\202\001\266\060\202\001\133\240\003\002\001\002\002\023\006
\154\237\325\164\227\066\146\077\073\013\232\331\350\236\166\003
\362\112\060\012\006\010\052\206\110\316\075\004\003\002\060\071
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\017\060
\015\006\003\125\004\012\023\006\101\155\141\172\157\156\061\031
\060\027\006\003\125\004\003\023\020\101\155\141\172\157\156\040
\122\157\157\164\040\103\101\040\063\060\036\027\015\061\065\060
\065\062\066\060\060\060\060\060\060\132\027\015\064\060\060\065
\062\066\060\060\060\060\060\060\132\060\071\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\017\060\015\006\003\125\004
\012\023\006\101\155\141\172\157\156\061\031\060\027\006\003\125
\004\003\023\020\101\155\141\172\157\156\040\122\157\157\164\040
\103\101\040\063\060\131\060\023\006\007\052\206\110\316\075\002
\001\006\010\052\206\110\316\075\003\001\007\003\102\000\004\051
\227\247\306\101\177\300\015\233\350\001\033\126\306\362\122\245
```

```
\272\055\262\022\350\322\056\327\372\311\305\330\252\155\037\163
\201\073\073\230\153\071\174\063\245\305\116\206\216\200\027\150
\142\105\127\175\104\130\035\263\067\345\147\010\353\146\336\243
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\206\060\035\006\003\125\035\016\004\026\004\024\253
\266\333\327\006\236\067\254\060\206\007\221\160\307\234\304\031
\261\170\300\060\012\006\010\052\206\110\316\075\004\003\002\003
\111\000\060\106\002\041\000\340\205\222\243\027\267\215\371\053
\006\245\223\254\032\230\150\141\162\372\341\241\320\373\034\170
\140\246\103\231\305\270\304\002\041\000\234\002\357\361\224\234
\263\226\371\353\306\052\370\266\054\376\072\220\024\026\327\214
\143\044\110\034\337\060\175\325\150\073
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Amazon Root CA 3"

# Issuer: CN=Amazon Root CA 3,O=Amazon,C=US

# Serial Number:06:6c:9f:d5:74:97:36:66:3f:3b:0b:9a:d9:e8:9e:76:03:f2:4a

# Subject: CN=Amazon Root CA 3,O=Amazon,C=US

# Not Valid Before: Tue May 26 00:00:00 2015

# Not Valid After

: Sat May 26 00:00:00 2040

# Fingerprint (SHA-256):

18:CE:6C:FE:7B:F1:4E:60:B2:E3:47:B8:DF:E8:68:CB:31:D0:2E:BB:3A:DA:27:15:69:F5:03:43:B4:6D:B3:A4

# Fingerprint (SHA1): 0D:44:DD:8C:3C:8C:1A:1A:58:75:64:81:E9:0F:2E:2A:FF:B3:D2:6E

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Amazon Root CA 3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\015\104\335\214\074\214\032\032\130\165\144\201\351\017\056\052
\377\263\322\156
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\240\324\357\013\367\265\330\111\225\052\354\365\304\374\201\207
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\063
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\023\006\154\237\325\164\227\066\146\077\073\013\232\331\350

\236\166\003\362\112

END

CKA\_TRUST\_SERVER\_AUTH

CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Amazon Root CA 4"

#

# Issuer: CN=Amazon Root CA 4,O=Amazon,C=US

# Serial Number:06:6c:9f:d7:c1:bb:10:4c:29:43:e5:71:7b:7b:2c:c8:1a:c1:0e

# Subject: CN=Amazon Root CA 4,O=Amazon,C=US

# Not Valid Before: Tue May 26 00:00:00 2015

# Not Valid After : Sat May 26 00:00:00 2040

# Fingerprint (SHA-256):

E3:5D:28:41:9E:D0:20:25:CF:A6:90:38:CD:62:39:62:45:8D:A5:C6:95:FB:DE:A3:C2:2B:0B:FB:25:89:70:92

# Fingerprint (SHA1): F6:10:84:07:D6:F8:BB:67:98:0C:C2:E2:44:C2:EB:AE:1C:EF:63:BE

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Amazon Root CA 4"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156

\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157

\156\040\122\157\157\164\040\103\101\040\064

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156

\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157

\156\040\122\157\157\164\040\103\101\040\064

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\023\006\154\237\327\301\273\020\114\051\103\345\161\173\173

\054\310\032\301\016

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\001\362\060\202\001\170\240\003\002\001\002\002\023\006

\154\237\327\301\273\020\114\051\103\345\161\173\173\054\310\032

\301\016\060\012\006\010\052\206\110\316\075\004\003\003\060\071

```
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\017\060
\015\006\003\125\004\012\023\006\101\155\141\172\157\156\061\031
\060\027\006\003\125\004\003\023\020\101\155\141\172\157\156\040
\122\157\157\164\040\103\101\040\064\060\036\027\015\061\065\060
\065\062\066\060\060\060\060\060\132\027\015\064\060\060\065
\062\066\060\060\060\060\060\132\060\071\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\017\060\015\006\003\125\004
\012\023\006\101\155\141\172\157\156\061\031\060\027\006\003\125
\004\003\023\020\101\155\141\172\157\156\040\122\157\157\164\040
\103\101\040\064\060\166\060\020\006\007\052\206\110\316\075\002
\001\006\005\053\201\004\000\042\003\142\000\004\322\253\212\067
\117\243\123\015\376\301\212\173\113\250\173\106\113\143\260\142
\366\055\033\333\010\161\041\322\000\350\143\275\232\047\373\360
\071\156\135\352\075\245\311\201\252\243\133\040\230\105\135\026
\333\375\350\020\155\343\234\340\343\275\137\204\142\363\160\144
\063\240\313\044\057\160\272\210\241\052\240\165\370\201\256\142
\006\304\201\333\071\156\051\260\036\372\056\134\243\102\060\100
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\206\060\035\006\003\125\035\016\004\026\004\024\323\354\307\072
\145\156\314\341\332\166\232\126\373\234\363\206\155\127\345\201
\060\012\006\010\052\206\110\316\075\004\003\003\003\150\000\060
\145\002\060\072\213\041\361\275\176\021\255\320\357\130\226\057
\326\353\235\176\220\215\053\317\146\125\303\054\343\050\251\160
\012\107\016\360\067\131\022\377\055\231\224\050\116\052\117\065
\115\063\132\002\061\000\352\165\000\116\073\304\072\224\022\221
\311\130\106\235\041\023\162\247\210\234\212\344\114\112\333\226
\324\254\213\153\153\111\022\123\063\255\327\344\276\044\374\265
\012\166\324\245\274\020
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Amazon Root CA 4"

# Issuer: CN=Amazon Root CA 4,O=Amazon,C=US

# Serial Number:06:6c:9f:d7:c1:bb:10:4c:29:43:e5:71:7b:7b:2c:c8:1a:c1:0e

# Subject:

CN=Amazon Root CA 4,O=Amazon,C=US

# Not Valid Before: Tue May 26 00:00:00 2015

# Not Valid After : Sat May 26 00:00:00 2040

# Fingerprint (SHA-256):

E3:5D:28:41:9E:D0:20:25:CF:A6:90:38:CD:62:39:62:45:8D:A5:C6:95:FB:DE:A3:C2:2B:0B:FB:25:89:70:92

# Fingerprint (SHA1): F6:10:84:07:D6:F8:BB:67:98:0C:C2:E2:44:C2:EB:AE:1C:EF:63:BE

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

```

CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 4"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\366\020\204\007\326\370\273\147\230\014\302\342\104\302\353\256
\034\357\143\276
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\211\274\047\325\353\027\215\006\152\151\325\375\211\107\264\315
END
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\064
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\023\006\154\237\327\301\273\020\114\051\103\345\161\173\173
\054\310\032\301\016
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Symantec Class 1 Public Primary Certification Authority - G6"
#
Issuer: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
Serial Number:24:32:75:f2:1d:2f:d2:09:33:f7:b4:6a:ca:d0:f3:98
Subject: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
Not Valid Before: Tue Oct 18 00:00:00 2011
Not Valid After : Tue Dec 01 23:59:59 2037
Fingerprint (SHA-256):
9D:19:0B:2E:31:45:66:68:5B:E8:A8:89:E2:7A:A8:C7:D7:AE:1D:8A:AD:DB:A3:C1:EC:F9:D2:48:63:CD:34:B9
Fingerprint (SHA1): 51:7F:61:1E:29:91:6B:53:82:FB:72:E7:44:D9:8D:C3:CC:53:6D:64
CKA_CLASS
CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Symantec Class 1 Public Primary Certification Authority - G6"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156

```



\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061  
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164  
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153  
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156  
\164\145\143\040\103\154\141\163\163\040\061\040\120\165\142\154  
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\055\040\107\066

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156  
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061  
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164  
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153  
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156  
\164\145\143\040\103\154\141\163\163\040\061\040\120\165\142\154  
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\055\040\107\066

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\044\062\165\362\035\057\322\011\063\367\264\152\312\320  
\363\230

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\366\060\202\002\336\240\003\002\001\002\002\020\044  
\062\165\362\035\057\322\011\063\367\264\152\312\320\363\230\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\201  
\224\061\013\060\011\006\003\125\004\006\023\002\125\123\061\035  
\060\033\006\003\125\004\012\023\024\123\171\155\141\156\164\145  
\143\040\103\157\162\160\157\162\141\164\151\157\156\061\037\060  
\035\006\003\125\004\013\023\026\123\171\155\141\156\164\145\143  
\040\124\162\165\163\164\040\116\145\164\167\157\162\153\061\105  
\060\103\006\003\125\004\003\023\074\123\171\155\141\156\164\145  
\143\040\103\154\141\163\163\040\061\040\120\165\142\154\151\143  
\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\040\055\040\107\066\060\036\027\015\061\061\061\060\061\070\060  
\060\060\060\060\060\132\027\015\063\067\061\062\060\061\062\063  
\065\071\065\071\132\060\201\224\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\035\060\033\006\003\125\004\012\023\024  
\123\171\155\141\156\164\145\143\040\103\157\162\160\157\162\141  
\164\151\157\156\061\037\060\035\006\003\125\004\013\023\026\123  
\171\155\141\156\164\145\143\040\124\162\165\163\164\040\116\145  
\164\167\157\162\153\061\105\060\103\006\003\125\004\003\023\074

\123\171\155\141\156\164\145\143\040\103\154\141\163\163\040\061  
\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171\040  
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165  
\164\150\157\162\151\164\171\040\055\040\107\066\060\202\001\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\001\017\000\060\202\001\012\002\202\001\001\000\307\071\327  
\111\144\251\231\202\042\114\352\105\331\007\026\343\173\364\203  
\350\231\163\372\153\261\066\340\232\167\240\100\302\201\215\001  
\307\314\214\275\217\175\367\171\343\172\114\003\115\331\373\375  
\207\070\050\054\335\232\213\124\010\333\147\373\033\214\376\050  
\222\057\276\267\262\110\247\201\241\330\136\210\303\314\071\100  
\101\132\321\334\345\332\020\237\057\332\001\115\375\056\106\174  
\371\056\047\012\151\067\356\221\243\033\152\314\104\277\033\307  
\303\324\021\262\120\140\227\011\275\056\042\365\101\204\146\237  
\315\100\246\251\000\200\301\037\225\222\237\336\363\110\357\333  
\035\167\141\374\177\337\356\226\244\162\320\266\076\377\170\047  
\257\313\222\025\151\010\333\143\020\342\346\227\254\156\334\254  
\366\242\316\036\107\231\271\211\267\022\346\241\324\315\131\021  
\147\303\157\205\330\102\116\050\276\131\125\131\004\225\253\217  
\067\200\277\015\360\374\037\072\144\061\130\201\170\327\342\065  
\366\040\077\051\270\217\026\156\076\110\334\265\114\007\341\362  
\032\352\176\012\171\326\250\275\353\135\206\053\115\002\003\001  
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\063\101\350\310\071\022\025\223\110\362\226\062\056\132  
\365\332\224\137\123\140\060\015\006\011\052\206\110\206\367\015  
\001\001\013\005\000\003\202\001\001\000\025\343\163\127\261\027  
\266\137\111\151\104\246\366\136\172\147\254\322\336\165\111\253  
\376\045\125\307\072\311\104\025\020\156\277\061\153\313\331\007  
\223\177\034\205\143\000\343\062\022\340\314\313\373\071\154\217  
\342\123\342\074\100\063\331\244\214\107\346\255\130\373\211\257  
\343\336\206\051\126\064\054\105\270\022\372\104\211\156\055\024  
\045\050\044\001\145\326\352\122\254\005\156\126\022\011\075\320  
\164\364\327\275\006\312\250\072\215\126\102\372\215\162\076\164  
\361\003\162\337\207\033\136\016\172\125\226\054\070\267\230\205  
\315\115\063\104\311\224\217\132\061\060\067\113\243\072\022\263  
\347\066\321\041\150\113\055\070\346\123\256\034\045\126\010\126  
\003\147\204\235\306\303\316\044\142\307\114\066\317\260\006\104  
\267\365\137\002\335\331\124\351\057\220\116\172\310\116\203\100  
\014\232\227\074\067\277\277\354\366\360\264\205\167\050\301\013  
\310\147\202\020\027\070\242\267\006\352\233\277\072\370\351\043  
\007\277\164\340\230\070\025\125\170\356\162\000\134\031\243\364  
\322\063\340\377\275\321\124\071\051\017

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

```

For Email Distrust After: Wed Aug
31 00:00:00 2022
CKA_NSS_EMAIL_DISTRUST_AFTER MULTILINE_OCTAL
\062\062\060\070\063\061\060\060\060\060\060\060\132
END

Trust for "Symantec Class 1 Public Primary Certification Authority - G6"
Issuer: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
Serial Number:24:32:75:f2:1d:2f:d2:09:33:f7:b4:6a:ca:d0:f3:98
Subject: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
Not Valid Before: Tue Oct 18 00:00:00 2011
Not Valid After : Tue Dec 01 23:59:59 2037
Fingerprint (SHA-256):
9D:19:0B:2E:31:45:66:68:5B:E8:A8:89:E2:7A:A8:C7:D7:AE:1D:8A:AD:DB:A3:C1:EC:F9:D2:48:63:CD:34:B9
Fingerprint (SHA1): 51:7F:61:1E:29:91:6B:53:82:FB:72:E7:44:D9:8D:C3:CC:53:6D:64
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Symantec Class 1 Public Primary Certification
Authority - G6"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\121\177\141\036\051\221\153\123\202\373\162\347\104\331\215\303
\314\123\155\144
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\057\250\264\332\366\144\113\036\202\371\106\075\124\032\174\260
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\061\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\044\062\165\362\035\057\322\011\063\367\264\152\312\320
\363\230
END
CKA_TRUST_SERVER_AUTH

```

```

CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Symantec Class 2 Public Primary Certification Authority - G6"
#
Issuer: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
Serial Number:64:82:9e:fc:37:1e:74:5d:fc:97:ff:97:c8:b1:ff:41
Subject: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
Not Valid Before: Tue Oct 18 00:00:00 2011
Not Valid After : Tue Dec 01 23:59:59 2037
Fingerprint (SHA-256):
CB:62:7D:18:B5:8A:D5:6D:DE:33:1A:30:45:6B:C6:5C:60:1A:4E:9B:18:DE:DC:EA:08:E7:DA:AA:07:81:5F:F0
Fingerprint (SHA1): 40:B3:31:A0:E9:BF:E8:55:BC:39:93:CA:70:4F:4E:C2:51:D4:1D:8F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL
CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Symantec Class 2 Public Primary Certification Authority - G6"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\062\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\062\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151

```

\164\171\040\055\040\107\066  
END  
CKA\_SERIAL\_NUMBER  
MULTILINE\_OCTAL  
\002\020\144\202\236\374\067\036\164\135\374\227\377\227\310\261  
\377\101  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\003\366\060\202\002\336\240\003\002\001\002\002\020\144  
\202\236\374\067\036\164\135\374\227\377\227\310\261\377\101\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\201  
\224\061\013\060\011\006\003\125\004\006\023\002\125\123\061\035  
\060\033\006\003\125\004\012\023\024\123\171\155\141\156\164\145  
\143\040\103\157\162\160\157\162\141\164\151\157\156\061\037\060  
\035\006\003\125\004\013\023\026\123\171\155\141\156\164\145\143  
\040\124\162\165\163\164\040\116\145\164\167\157\162\153\061\105  
\060\103\006\003\125\004\003\023\074\123\171\155\141\156\164\145  
\143\040\103\154\141\163\163\040\062\040\120\165\142\154\151\143  
\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\040\055\040\107\066\060\036\027\015\061\061\061\060\061\070\060  
\060\060\060\060\060\132\027\015\063\067\061\062\060\061\062\063  
\065\071\065\071\132\060\201\224\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\035\060\033\006\003\125\004\012\023\024  
\123\171\155\141\156\164\145\143\040\103\157\162\160\157\162\141  
\164\151\157\156\061\037\060\035\006\003\125\004\013\023\026\123  
\171\155\141\156\164\145\143\040\124\162\165\163\164\040\116\145  
\164\167\157\162\153\061\105\060\103\006\003\125\004\003\023\074  
\123\171\155\141\156\164\145\143\040\103\154\141\163\163\040\062  
\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171\040  
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165  
\164\150\157\162\151\164\171\040\055\040\107\066\060\202\001\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\001\017\000\060\202\001\012\002\202\001\001\000\315\314\351  
\005\310\143\205\313\077\100\143\027\275\030\372\065\346\004\147  
\127\145\230\051\244\117\311\134\217\017\064\322\370\332\250\023  
\142\252\270\036\120\147\170\260\026\114\240\071\251\025\172\256  
\355\322\242\300\360\220\067\051\030\046\134\350\015\074\266\154  
\111\077\301\340\334\331\113\266\024\031\013\246\323\226\341\326  
\011\343\031\046\034\371\037\145\113\371\032\103\034\000\203\326  
\320\252\111\242\324\333\346\142\070\272\120\024\103\155\371\061  
\370\126\026\331\070\002\221\317\353\154\335\273\071\116\231\341  
\060\147\105\361\324\360\215\303\337\376\362\070\007\041\175\000  
\136\126\104\263\344\140\275\221\053\234\253\133\004\162\017\262  
\050\331\162\253\005\040\102\045\251\133\003\152\040\020\314\061  
\360\053\332\065\054\320\373\232\227\116\360\202\113\053\330\137  
\066\243\013\055\257\143\015\035\045\177\241\156\134\142\241\215  
\050\076\241\374\034\040\370\001\057\272\125\232\021\260\031\322

```
\310\120\171\153\016\152\005\327\252\004\066\262\243\362\341\137
\167\247\167\234\345\036\334\351\337\152\301\145\135\002\003\001
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\207\214\040\225\310\230\112\321\326\200\006\112\220\064
\104\337\034\115\277\260\060\015\006\011\052\206\110\206\367\015
\001\001\013\005\000\003\202\001\001\000\201\216\262\245\146\226
\267\041\245\266\357\157\043\132\137\333\201\305\102\245\170\301
\151\375\364\074\327\371\134\153\160\162\032\374\132\227\115\000
\200\210\210\202\212\303\161\015\216\305\211\233\054\355\215\013
\322\162\124\365\175\324\134\103\127\351\363\256\245\002\021\366
\166\053\201\127\335\175\332\164\060\375\124\107\366\340\026\156
\246\264\012\110\346\347\165\007\017\051\031\071\316\171\364\266
\154\305\137\231\325\037\113\372\337\155\054\074\015\124\200\160
\360\210\013\200\317\306\150\242\270\035\160\331\166\214\374\356
\245\311\317\255\035\317\231\045\127\132\142\105\313\026\153\275
\111\315\245\243\214\151\171\045\256\270\114\154\213\100\146\113
\026\077\317\002\032\335\341\154\153\007\141\152\166\025\051\231
\177\033\335\210\200\301\277\265\217\163\305\246\226\043\204\246
\050\206\044\063\152\001\056\127\163\045\266\136\277\217\346\035
\141\250\100\051\147\035\207\233\035\177\233\237\231\315\061\326
\124\276\142\273\071\254\150\022\110\221\040\245\313\261\335\376
\157\374\132\344\202\125\131\257\061\251
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# For Email Distrust After: Wed Aug 31 00:00:00 2022

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER MULTILINE\_OCTAL

\062\062\060\070\063\061\060\060\060\060\060\060\132

END

#

Trust for "Symantec Class 2 Public Primary Certification Authority - G6"

# Issuer: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust

Network,O=Symantec Corporation,C=US

# Serial Number:64:82:9e:fc:37:1e:74:5d:fc:97:ff:97:c8:b1:ff:41

# Subject: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust

Network,O=Symantec Corporation,C=US

# Not Valid Before: Tue Oct 18 00:00:00 2011

# Not Valid After : Tue Dec 01 23:59:59 2037

# Fingerprint (SHA-256):

CB:62:7D:18:B5:8A:D5:6D:DE:33:1A:30:45:6B:C6:5C:60:1A:4E:9B:18:DE:DC:EA:08:E7:DA:AA:07:81:5F:F0

# Fingerprint (SHA1): 40:B3:31:A0:E9:BF:E8:55:BC:39:93:CA:70:4F:4E:C2:51:D4:1D:8F

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

```

CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Symantec Class 2 Public Primary Certification Authority - G6"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\100\263\061\240\351\277\350\125\274\071\223\312\160\117\116\302
\121\324\035\217
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\175\013\203\345\373\174\255\007\117\040\251\265\337\143\355\171
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\062\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\144\202\236\374\067\036\164\135\374\227\377\227\310\261
\377\101
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING
CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "D-TRUST Root CA 3 2013"
#
Issuer: CN=D-TRUST Root CA 3 2013,O=D-Trust GmbH,C=DE
Serial Number: 1039788 (0xfddac)
Subject: CN=D-TRUST Root CA 3 2013,O=D-Trust GmbH,C=DE
Not Valid Before: Fri Sep 20 08:25:51 2013
Not Valid After : Wed Sep 20 08:25:51 2028
Fingerprint (SHA-256):
A1:A8:6D:04:12:1E:B8:7F:02:7C:66:F5:33:03:C2:8E:57:39:F9:43:FC:84:B3:8A:D6:AF:00:90:35:DD:94:57
Fingerprint (SHA1): 6C:7C:CC:E7:D4:AE:51:5F:99:08:CD:3F:F6:E8:C3:78:DF:6F:EF:97
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root CA 3 2013"

```

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\105\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163  
\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003\014  
\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103\101  
\040\063\040\062\060\061\063

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\105\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163  
\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003\014  
\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103\101  
\040\063\040\062\060\061\063

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\003\017\335\254

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\016\060\202\002\366\240\003\002\001\002\002\003\017  
\335\254\060\015\006\011\052\206\110\206\367\015\001\001\013\005  
\000\060\105\061\013\060\011\006\003\125\004\006\023\002\104\105  
\061\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165  
\163\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003  
\014\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103  
\101\040\063\040\062\060\061\063\060\036\027\015\061\063\060\071  
\062\060\060\070\062\065\065\061\132\027\015\062\070\060\071\062  
\060\060\070\062\065\065\061\132\060\105\061\013\060\011\006\003  
\125\004\006\023\002\104\105\061\025\060\023\006\003\125\004\012  
\014\014\104\055\124\162\165\163\164\040\107\155\142\110\061\037  
\060\035\006\003\125\004\003\014\026\104\055\124\122\125\123\124  
\040\122\157\157\164\040\103\101\040\063\040\062\060\061\063\060  
\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001  
\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000  
\304\173\102\222\202\037\354\355\124\230\216\022\300\312\011\337  
\223\156\072\223\134\033\344\020\167\236\116\151\210\154\366\341  
\151\362\366\233\242\141\261\275\007\040\164\230\145\361\214\046  
\010\315\250\065\312\200\066\321\143\155\350\104\172\202\303\154  
\136\336\273\350\066\322\304\150\066\214\237\062\275\204\042\340  
\334\302\356\020\106\071\155\257\223\071\256\207\346\303\274\011  
\311\054\153\147\133\331\233\166\165\114\013\340\273\305\327\274  
\076\171\362\137\276\321\220\127\371\256\366\146\137\061\277\323  
\155\217\247\272\112\363\043\145\273\267\357\243\045\327\012\352  
\130\266\357\210\372\372\171\262\122\130\325\360\254\214\241\121  
\164\051\225\252\121\073\220\062\003\237\034\162\164\220\336\075  
\355\141\322\345\343\375\144\107\345\271\267\112\251\367\037\256



\226\206\004\254\057\343\244\201\167\267\132\026\377\330\017\077  
\366\267\170\314\244\257\372\133\074\022\133\250\122\211\162\357  
\210\363\325\104\201\206\225\043\237\173\335\274\331\064\357\174  
\224\074\252\300\101\302\343\235\120\032\300\344\031\042\374\263  
\002\003\001\000\001\243\202\001\005\060\202\001\001\060\017\006  
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\035  
\006\003\125\035\016\004\026\004\024\077\220\310\175\307\025\157  
\363\044\217\251\303\057\113\242\017\041\262\057\347\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\201\276  
\006\003\125\035\037\004\201\266\060\201\263\060\164\240\162\240  
\160\206\156\154\144\141\160\072\057\057\144\151\162\145\143\164  
\157\162\171\056\144\055\164\162\165\163\164\056\156\145\164\057  
\103\116\075\104\055\124\122\125\123\124\045\062\060\122\157\157  
\164\045\062\060\103\101\045\062\060\063\045\062\060\062\060\061  
\063\054\117\075\104\055\124\162\165\163\164\045\062\060\107\155  
\142\110\054\103\075\104\105\077\143\145\162\164\151\146\151\143  
\141\164\145\162\145\166\157\143\141\164\151\157\156\154\151\163  
\164\060\073\240\071\240\067\206\065\150\164\164\160\072\057\057  
\143\162\154\056\144\055\164\162\165\163\164\056\156\145\164\057  
\143\162\154\057\144\055\164\162\165\163\164\137\162\157\157\164  
\137\143\141\137\063\137\062\060\061\063\056\143\162\154\060\015  
\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001  
\001\000\016\131\016\130\344\164\110\043\104\317\064\041\265\234  
\024\032\255\232\113\267\263\210\155\134\251\027\160\360\052\237  
\215\173\371\173\205\372\307\071\350\020\010\260\065\053\137\317  
\002\322\323\234\310\013\036\356\005\124\256\067\223\004\011\175  
\154\217\302\164\274\370\034\224\276\061\001\100\055\363\044\040  
\267\204\125\054\134\310\365\164\112\020\031\213\243\307\355\065  
\326\011\110\323\016\300\272\071\250\260\106\002\260\333\306\210  
\131\302\276\374\173\261\053\317\176\142\207\125\226\314\001\157  
\233\147\041\225\065\213\370\020\374\161\033\267\113\067\151\246  
\073\326\354\213\356\301\260\363\045\311\217\222\175\241\352\303  
\312\104\277\046\245\164\222\234\343\164\353\235\164\331\313\115  
\207\330\374\264\151\154\213\240\103\007\140\170\227\351\331\223  
\174\302\106\274\233\067\122\243\355\212\074\023\251\173\123\113  
\111\232\021\005\054\013\156\126\254\037\056\202\154\340\151\147  
\265\016\155\055\331\344\300\025\361\077\372\030\162\341\025\155  
\047\133\055\060\050\053\237\110\232\144\053\231\357\362\165\111  
\137\134

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "D-TRUST Root CA 3 2013"

# Issuer: CN=D-TRUST Root

```
CA 3 2013,O=D-Trust GmbH,C=DE
Serial Number: 1039788 (0xfddac)
Subject: CN=D-TRUST Root CA 3 2013,O=D-Trust GmbH,C=DE
Not Valid Before: Fri Sep 20 08:25:51 2013
Not Valid After : Wed Sep 20 08:25:51 2028
Fingerprint (SHA-256):
A1:A8:6D:04:12:1E:B8:7F:02:7C:66:F5:33:03:C2:8E:57:39:F9:43:FC:84:B3:8A:D6:AF:00:90:35:DD:94:57
Fingerprint (SHA1): 6C:7C:CC:E7:D4:AE:51:5F:99:08:CD:3F:F6:E8:C3:78:DF:6F:EF:97
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root CA 3 2013"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\154\174\314\347\324\256\121\137\231\010\315\077\366\350\303\170
\337\157\357\227
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\267\042\146\230\176\326\003\340\301\161\346\165\315\126\105\277
END
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003\014
\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103\101
\040\063\040\062\060\061\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\003\017\335\254
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"
#
Issuer: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu
SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR
Serial Number: 1 (0x1)
Subject: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu
SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR
Not Valid Before: Mon Nov 25 08:25:55 2013
Not Valid After : Sun Oct 25 08:25:55 2043
Fingerprint (SHA-256):
46:ED:C3:68:90:46:D5:3A:45:3F:B3:10:4A:B8:0D:CA:EC:65:8B:26:60:EA:16:29:DD:7E:86:79:90:64:87:16
```

```
#
Fingerprint (SHA1): 31:43:64:9B:EC:CE:27:EC:ED:3A:3F:0B:8F:0D:E4:E8:91:DD:EE:CA
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\322\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\030\060\026\006\003\125\004\007\023\017\107\145\142\172\145
\040\055\040\113\157\143\141\145\154\151\061\102\060\100\006\003
\125\004\012\023\071\124\165\162\153\151\171\145\040\102\151\154
\151\155\163\145\154\040\166\145\040\124\145\153\156\157\154\157
\152\151\153\040\101\162\141\163\164\151\162\155\141\040\113\165
\162\165\155\165\040\055\040\124\125\102\111\124\101\113\061\055
\060\053\006\003\125\004\013\023\044\113\141\155\165\040\123\145
\162\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153
\145\172\151\040\055\040\113\141\155\165\040\123\115\061\066\060
\064\006\003\125\004\003\023\055\124\125\102\111\124\101\113\040
\113\141\155\165\040\123\115\040\123\123\114\040\113\157\153\040
\123\145\162\164\151\146\151\153\141\163\151\040\055\040\123\165
\162\165\155\040\061
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\322\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\030\060\026\006\003\125\004\007\023\017\107\145\142\172\145
\040\055\040\113\157\143\141\145\154\151\061\102\060\100\006\003
\125\004\012\023\071\124\165\162\153\151\171\145\040\102\151\154
\151\155\163\145\154\040\166\145\040\124\145\153\156\157\154\157
\152\151\153\040\101\162\141\163\164\151\162\155\141\040\113\165
\162\165\155\165\040\055\040\124\125\102\111\124\101\113\061\055
\060\053\006\003\125\004\013\023\044\113\141\155\165\040\123\145
\162\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153
\145\172\151\040\055\040\113\141\155\165\040\123\115\061\066\060
\064\006\003\125\004\003\023\055\124\125\102\111\124\101\113\040
\113\141\155\165\040\123\115\040\123\123\114\040\113\157\153\040
\123\145\162\164\151\146\151\153\141\163\151\040\055\040\123\165
\162\165\155\040\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\143\060\202\003\113\240\003\002\001\002\002\001\001
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\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\201\322\061\013\060\011\006\003\125\004\006\023\002\124\122\061  
\030\060\026\006\003\125\004\007\023\017\107\145\142\172\145\040  
\055\040\113\157\143\141\145\154\151\061\102\060\100\006\003\125  
\004\012\023\071\124\165\162\153\151\171\145\040\102\151\154\151  
\155\163\145\154\040\166\145\040\124\145\153\156\157\154\157\152  
\151\153\040\101\162\141\163\164\151\162\155\141\040\113\165\162  
\165\155\165\040\055\040\124\125\102\111\124\101\113\061\055\060  
\053\006\003\125\004\013\023\044\113\141\155\165\040\123\145\162  
\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153\145  
\172\151\040\055\040\113\141\155\165\040\123\115\061\066\060\064  
\006\003\125\004\003\023\055\124\125\102\111\124\101\113\040\113  
\141\155\165\040\123\115\040\123\123\114\040\113\157\153\040\123  
\145\162\164\151\146\151\153\141\163\151\040\055\040\123\165\162  
\165\155\040\061\060\036\027\015\061\063\061\061\062\065\060\070  
\062\065\065\065\132\027\015\064\063\061\060\062\065\060\070\062  
\065\065\065\132\060\201\322\061\013\060\011\006\003\125\004\006  
\023\002\124\122\061\030\060\026\006\003\125\004\007\023\017\107  
\145\142\172\145\040\055\040\113\157\143\141\145\154\151\061\102  
\060\100\006\003\125\004\012\023\071\124\165\162\153\151\171\145  
\040\102\151\154\151\155\163\145\154\040\166\145\040\124\145\153  
\156\157\154\157\152\151\153\040\101\162\141\163\164\151\162\155  
\141\040\113\165\162\165\155\165\040\055\040\124\125\102\111\124  
\101\113\061\055\060\053\006\003\125\004\013\023\044\113\141\155  
\165\040\123\145\162\164\151\146\151\153\141\163\171\157\156\040  
\115\145\162\153\145\172\151\040\055\040\113\141\155\165\040\123  
\115\061\066\060\064\006\003\125\004\003\023\055\124\125\102\111  
\124\101\113\040\113\141\155\165\040\123\115\040\123\123\114\040  
\113\157\153\040\123\145\162\164\151\146\151\153\141\163\151\040  
\055\040\123\165\162\165\155\040\061\060\202\001\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017  
\000\060\202\001\012\002\202\001\001\000\257\165\060\063\252\273  
\153\323\231\054\022\067\204\331\215\173\227\200\323\156\347\377  
\233\120\225\076\220\225\126\102\327\031\174\046\204\215\222\372  
\001\035\072\017\342\144\070\267\214\274\350\210\371\213\044\253  
\056\243\365\067\344\100\216\030\045\171\203\165\037\073\377\154  
\250\305\306\126\370\264\355\212\104\243\253\154\114\374\035\320  
\334\357\150\275\317\344\252\316\360\125\367\242\064\324\203\153  
\067\174\034\302\376\265\003\354\127\316\274\264\265\305\355\000  
\017\123\067\052\115\364\117\014\203\373\206\317\313\376\214\116  
\275\207\371\247\213\041\127\234\172\337\003\147\211\054\235\227  
\141\247\020\270\125\220\177\016\055\047\070\164\337\347\375\332  
\116\022\343\115\025\042\002\310\340\340\374\017\255\212\327\311  
\124\120\314\073\017\312\026\200\204\320\121\126\303\216\126\177  
\211\042\063\057\346\205\012\275\245\250\033\066\336\323\334\054  
\155\073\307\023\275\131\043\054\346\345\244\367\330\013\355\352  
\220\100\104\250\225\273\223\325\320\200\064\266\106\170\016\037  
\000\223\106\341\356\351\371\354\117\027\002\003\001\000\001\243

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\102\060\100\060\035\006\003\125\035\016\004\026\004\024\145\077
\307\212\206\306\074\335\074\124\134\065\370\072\355\122\014\107
\127\310\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\001\001\000\052\077\341\361\062\216\256\341\230
\134\113\136\317\153\036\152\011\322\042\251\022\307\136\127\175
\163\126\144\200\204\172\223\344\011\271\020\315\237\052\047\341
\000\167\276\110\310\065\250\201\237\344\270\054\311\177\016\260
\322\113\067\135\352\271\325\013\136\064\275\364\163\051\303\355
\046\025\234\176\010\123\212\130\215\320\113\050\337\301\263\337
\040\363\371\343\343\072\337\314\234\224\330\116\117\303\153\027
\267\367\162\350\255\146\063\265\045\123\253\340\370\114\251\235
\375\362\015\272\256\271\331\252\306\153\371\223\273\256\253\270
\227\074\003\032\272\103\306\226\271\105\162\070\263\247\241\226
\075\221\173\176\300\041\123\114\207\355\362\013\124\225\121\223
\325\042\245\015\212\361\223\016\076\124\016\260\330\311\116\334
\362\061\062\126\352\144\371\352\265\235\026\146\102\162\363\177
\323\261\061\103\374\244\216\027\361\155\043\253\224\146\370\255
\373\017\010\156\046\055\177\027\007\011\262\214\373\120\300\237
\226\215\317\266\375\000\235\132\024\232\277\002\104\365\301\302
\237\042\136\242\017\241\343
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END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL

CK\_FALSE

# Trust for "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"

# Issuer: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR

# Serial Number: 1 (0x1)

# Subject: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR

# Not Valid Before: Mon Nov 25 08:25:55 2013

# Not Valid After : Sun Oct 25 08:25:55 2043

# Fingerprint (SHA-256):

46:ED:C3:68:90:46:D5:3A:45:3F:B3:10:4A:B8:0D:CA:EC:65:8B:26:60:EA:16:29:DD:7E:86:79:90:64:87:16

# Fingerprint (SHA1): 31:43:64:9B:EC:CE:27:EC:ED:3A:3F:0B:8F:0D:E4:E8:91:DD:EE:CA

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"

CKA\_CERT\_SHA1\_HASH MULTILINE OCTAL

```
\061\103\144\233\354\316\047\354\355\072\077\013\217\015\344\350
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\221\335\356\312
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```

END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\334\000\201\334\151\057\076\057\260\073\366\075\132\221\216\111
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\322\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\030\060\026\006\003\125\004\007\023\017\107\145\142\172\145
\040\055\040\113\157\143\141\145\154\151\061\102\060\100\006\003
\125\004\012\023\071\124\165\162\153\151\171\145\040\102\151\154
\151\155\163\145\154\040\166\145\040\124\145\153\156\157\154\157
\152\151\153\040\101\162\141\163\164\151\162\155\141\040\113\165
\162\165\155\165\040\055\040\124\125\102\111\124\101\113\061\055
\060\053\006\003\125\004\013\023\044\113\141\155\165\040\123\145
\162\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153
\145\172\151\040\055\040\113\141\155\165\040\123\115\061\066\060
\064\006\003\125\004\003\023\055\124\125\102\111\124\101\113\040
\113\141\155\165\040\123\115\040\123\123\114\040\113\157\153\040
\123\145\162\164\151\146\151\153\141\163\151\040\055\040\123\165
\162\165\155\040\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GDCA TrustAUTH R5 ROOT"
#
Issuer: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY
CO.,LTD.",C=CN
Serial Number:7d:09:97:fe:f0:47:ea:7a
Subject: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY
CO.,LTD.",C=CN
Not Valid Before: Wed Nov 26 05:13:15 2014
Not Valid After : Mon Dec 31 15:59:59 2040
Fingerprint (SHA-256):
BF:FF:8F:D0:44:33:48:7D:6A:8A:A6:0C:1A:29:76:7A:9F:C2:BB:B0:5E:42:0F:71:3A:13:B9:92:89:1D:38:93
Fingerprint (SHA1): 0F:36:38:5B:81:1A:25:C3:9B:31:4E:83:CA:E9:34:66:70:CC:74:B4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE

```

```
CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GDCA TrustAUTH R5 ROOT"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\062\060\060\006\003\125\004\012\014\051\107\125\101\116\107\040
\104\117\116\107\040\103\105\122\124\111\106\111\103\101\124\105
\040\101\125\124\110\117\122\111\124\131\040\103\117\056\054\114
\124\104\056\061\037\060\035\006\003\125\004\003\014\026\107\104
\103\101\040\124\162\165\163\164\101\125\124\110\040\122\065\040
\122\117\117\124
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\062\060\060\006\003\125\004\012\014\051\107\125\101\116\107\040
\104\117\116\107\040\103\105\122\124\111\106\111\103\101\124\105
\040\101\125\124\110\117\122\111\124\131\040\103\117\056\054\114
\124\104\056\061\037\060\035\006\003\125\004\003\014\026\107\104
\103\101\040\124\162\165\163\164\101\125\124\110\040\122\065\040
\122\117\117\124
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\010\175\011\227\376\360\107\352\172
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\210\060\202\003\160\240\003\002\001\002\002\010\175
\011\227\376\360\107\352\172\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\142\061\013\060\011\006\003\125\004
\006\023\002\103\116\061\062\060\060\006\003\125\004\012\014\051
\107\125\101\116\107\040\104\117\116\107\040\103\105\122\124\111
\106\111\103\101\124\105\040\101\125\124\110\117\122\111\124\131
\040\103\117\056\054\114\124\104\056\061\037\060\035\006\003\125
\004\003\014\026\107\104\103\101\040\124\162\165\163\164\101\125
\124\110\040\122\065\040\122\117\117\124\060\036\027\015\061\064
\061\061\062\066\060\065\061\063\061\065\132\027\015\064\060\061
\062\063\061\061\065\065\071\065\071\132\060\142\061\013\060\011
\006\003\125\004\006\023\002\103\116\061\062\060\060\006\003\125
\004\012\014\051\107\125\101\116\107\040\104\117\116\107\040\103
\105\122\124\111\106\111\103\101\124\105\040\101\125\124\110\117
\122\111\124\131\040\103\117\056\054\114\124\104\056\061\037\060
\035\006\003\125\004\003\014\026\107\104\103\101\040\124\162\165
\163\164\101\125\124\110\040\122\065\040\122\117\117\124\060\202
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\331
\243\026\360\310\164\164\167\233\357\063\015\073\006\176\125\374
\265\140\217\166\206\022\102\175\126\146\076\210\202\355\162\143
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\272\202\025\242\234\217\155\260\231\112\012\362\353\211\160\143  
\116\171\304\267\133\275\242\135\261\362\101\002\053\255\251\072  
\243\354\171\012\354\137\072\343\375\357\200\074\255\064\233\032  
\253\210\046\173\126\242\202\206\037\353\065\211\203\177\137\256  
\051\116\075\266\156\354\256\301\360\047\233\256\343\364\354\357  
\256\177\367\206\075\162\172\353\245\373\131\116\247\353\225\214  
\042\071\171\341\055\010\217\314\274\221\270\101\367\024\301\043  
\251\303\255\232\105\104\263\262\327\054\315\306\051\342\120\020  
\256\134\313\202\216\027\030\066\175\227\346\210\232\260\115\064  
\011\364\054\271\132\146\052\260\027\233\236\036\166\235\112\146  
\061\101\337\077\373\305\006\357\033\266\176\032\106\066\367\144  
\143\073\343\071\030\043\347\147\165\024\325\165\127\222\067\275  
\276\152\033\046\120\362\066\046\006\220\305\160\001\144\155\166  
\146\341\221\333\156\007\300\141\200\056\262\056\057\214\160\247  
\321\073\074\263\221\344\156\266\304\073\160\362\154\222\227\011  
\315\107\175\030\300\363\273\236\017\326\213\256\007\266\132\017  
\316\013\014\107\247\345\076\270\275\175\307\233\065\240\141\227  
\072\101\165\027\314\053\226\167\052\222\041\036\331\225\166\040  
\147\150\317\015\275\337\326\037\011\152\232\342\314\163\161\244  
\057\175\022\200\267\123\060\106\136\113\124\231\017\147\311\245  
\310\362\040\301\202\354\235\021\337\302\002\373\032\073\321\355  
\040\232\357\145\144\222\020\015\052\342\336\160\361\030\147\202  
\214\141\336\270\274\321\057\234\373\017\320\053\355\033\166\271  
\344\071\125\370\370\241\035\270\252\200\000\114\202\347\262\177  
\011\270\274\060\240\057\015\365\122\236\216\367\222\263\012\000  
\035\000\124\227\006\340\261\007\331\307\017\134\145\175\074\155  
\131\127\344\355\245\215\351\100\123\237\025\113\240\161\366\032  
\041\343\332\160\006\041\130\024\207\205\167\171\252\202\171\002  
\003\001\000\001\243\102\060\100\060\035\006\003\125\035\016\004  
\026\004\024\342\311\100\237\115\316\350\232\241\174\317\016\077  
\145\305\051\210\152\031\121\060\017\006\003\125\035\023\001\001  
\377\004\005\060\003\001\001\377\060\016\006\003\125\035\017\001  
\001\377\004\004\003\002\001\206\060\015\006\011\052\206\110\206  
\367\015\001\001\013\005\000\003\202\002\001\000\321\111\127\340  
\247\314\150\130\272\001\017\053\031\315\215\260\141\105\254\021  
\355\143\120\151\370\037\177\276\026\217\375\235\353\013\252\062  
\107\166\322\147\044\355\275\174\063\062\227\052\307\005\206\146  
\015\027\175\024\025\033\324\353\375\037\232\366\136\227\151\267  
\032\045\244\012\263\221\077\137\066\254\213\354\127\250\076\347  
\201\212\030\127\071\205\164\032\102\307\351\133\023\137\217\371  
\010\351\222\164\215\365\107\322\253\073\326\373\170\146\116\066  
\175\371\351\222\351\004\336\375\111\143\374\155\373\024\161\223  
\147\057\107\112\267\271\377\036\052\163\160\106\060\277\132\362  
\057\171\245\341\215\014\331\371\262\143\067\214\067\145\205\160  
\152\134\133\011\162\271\255\143\074\261\335\370\374\062\277\067  
\206\344\273\216\230\047\176\272\037\026\341\160\021\362\003\337



```
\045\142\062\047\046\030\062\204\237\377\000\072\023\272\232\115
\364\117\270\024\160\042\261\312\053\220\316\051\301\160\364\057
\235\177\362\220\036\326\132\337\267\106\374\346\206\372\313\340
\040\166\172\272\246\313\365\174\336\142\245\261\213\356\336\202
\146\212\116\072\060\037\077\200\313\255\047\272\014\136\327\320
\261\126\312\167\161\262\265\165\241\120\251\100\103\027\302\050
\331\317\122\213\133\310\143\324\102\076\240\063\172\106\056\367
\012\040\106\124\176\152\117\061\361\201\176\102\164\070\145\163
\047\356\306\174\270\216\327\245\072\327\230\241\234\214\020\125
\323\333\113\354\100\220\362\315\156\127\322\142\016\174\127\223
\261\247\155\315\235\203\273\052\347\345\266\073\161\130\255\375
\321\105\274\132\221\356\123\025\157\323\105\011\165\156\272\220
\135\036\004\317\067\337\036\250\146\261\214\346\040\152\357\374
\110\116\164\230\102\257\051\157\056\152\307\373\175\321\146\061
\042\314\206\000\176\146\203\014\102\364\275\064\222\303\032\352
\117\312\176\162\115\013\160\214\246\110\273\246\241\024\366\373
\130\104\231\024\256\252\013\223\151\240\051\045\112\245\313\053
\335\212\146\007\026\170\025\127\161\033\354\365\107\204\363\236
\061\067\172\325\177\044\255\344\274\375\375\314\156\203\350\014
\250\267\101\154\007\335\275\074\206\227\057\322
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

# Trust for "GDCA TrustAUTH R5 ROOT"

# Issuer: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY  
CO.,LTD.",C=CN

# Serial Number:7d:09:97:fe:f0:47:ea:7a

# Subject: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY  
CO.,LTD.",C=CN

# Not Valid Before: Wed Nov 26 05:13:15 2014

# Not Valid After : Mon Dec 31 15:59:59 2040

# Fingerprint (SHA-256):

BF:FF:8F:D0:44:33:48:7D:6A:8A:A6:0C:1A:29:76:7A:9F:C2:BB:B0:5E:42:0F:71:3A:13:B9:92:89:1D:38:93

# Fingerprint (SHA1): 0F:36:38:5B:81:1A:25:C3:9B:31:4E:83:CA:E9:34:66:70:CC:74:B4

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GDCA TrustAUTH R5 ROOT"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\017\066\070\133\201\032\045\303\233\061\116\203\312\351\064\146
\160\314\164\264
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\143\314\331\075\064\065\134\157\123\243\342\010\160\110\037\264

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\142\061\013\060\011\006\003\125\004\006\023\002\103\116\061  
\062\060\060\006\003\125\004\012\014\051\107\125\101\116\107\040  
\104\117\116\107\040\103\105\122\124\111\106\111\103\101\124\105  
\040\101\125\124\110\117\122\111\124\131\040\103\117\056\054\114  
\124\104\056\061\037\060\035\006\003\125\004\003\014\026\107\104  
\103\101\040\124\162\165\163\164\101\125\124\110\040\122\065\040  
\122\117\117\124

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\010\175\011\227\376\360\107\352\172

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "TrustCor RootCert CA-1"

#

# Issuer: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de  
R.L.,L=Panama City,ST=Panama,C=PA

# Serial Number:00:da:9b:ec:71:f3:03:b0:19

# Subject: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor  
Systems S. de R.L.,L=Panama City,ST=Panama,C=PA

# Not Valid Before: Thu Feb 04 12:32:16 2016

# Not Valid After : Mon Dec 31 17:23:16 2029

# Fingerprint (SHA-256):

D4:0E:9C:86:CD:8F:E4:68:C1:77:69:59:F4:9E:A7:74:FA:54:86:84:B6:C4:06:F3:90:92:61:F4:DC:E2:57:5C

# Fingerprint (SHA1): FF:BD:CD:E7:82:C8:43:5E:3C:6F:26:86:5C:CA:A8:3A:45:5B:C3:0A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TrustCor RootCert CA-1"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101  
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155  
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141  
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012  
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145  
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060  
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162  
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164

```
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145
\162\164\040\103\101\055\061
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145
\162\164\040\103\101\055\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\011\000\332\233\354\161\363\003\260\031
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\060\060\202\003\030\240\003\002\001\002\002\011\000
\332\233\354\161\363\003\260\031\060\015\006\011\052\206\110\206
\367\015\001\001\013\005\000\060\201\244\061\013\060\011\006\003
\125\004\006\023\002\120\101\061\017\060\015\006\003\125\004\010
\014\006\120\141\156\141\155\141\061\024\060\022\006\003\125\004
\007\014\013\120\141\156\141\155\141\040\103\151\164\171\061\044
\060\042\006\003\125\004\012\014\033\124\162\165\163\164\103\157
\162\040\123\171\163\164\145\155\163\040\123\056\040\144\145\040
\122\056\114\056\061\047\060\045\006\003\125\004\013\014\036\124
\162\165\163\164\103\157\162\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\061\037\060
\035\006\003\125\004\003\014\026\124\162\165\163\164\103\157\162
\040\122\157\157\164\103\145\162\164\040\103\101\055\061\060\036
\027\015\061\066\060\062\060\064\061\062\063\062\061\066\132\027
\015\062\071\061\062\063\061\061\067\062\063\061\066\132\060\201
\244\061\013\060\011\006\003\125\004\006\023\002\120\101\061\017
\060\015\006\003\125\004\010\014\006\120\141\156\141\155\141\061
\024\060\022\006\003\125\004\007\014\013\120\141\156\141\155\141
\040\103\151\164\171\061\044\060\042\006\003\125\004\012\014\033
\124\162\165\163\164\103\157\162\040\123\171\163\164\145\155\163
\040\123\056\040\144\145\040\122\056\114\056\061\047\060\045\006
\003\125\004\013\014\036\124\162\165\163\164\103\157\162\040\103
\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157
\162\151\164\171\061\037\060\035\006\003\125\004\003\014\026\124
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\162\165\163\164\103\157\162\040\122\157\157\164\103\145\162\164  
\040\103\101\055\061\060\202\001\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001  
\012\002\202\001\001\000\277\216\267\225\342\302\046\022\153\063  
\031\307\100\130\012\253\131\252\215\000\243\374\200\307\120\173  
\216\324\040\046\272\062\022\330\043\124\111\045\020\042\230\235  
\106\322\301\311\236\116\033\056\054\016\070\363\032\045\150\034  
\246\132\005\346\036\213\110\277\230\226\164\076\151\312\351\265  
\170\245\006\274\325\000\136\011\012\362\047\172\122\374\055\325  
\261\352\264\211\141\044\363\032\023\333\251\317\122\355\014\044  
\272\271\236\354\176\000\164\372\223\255\154\051\222\256\121\264  
\273\323\127\277\263\363\250\215\234\364\044\113\052\326\231\236  
\364\236\376\300\176\102\072\347\013\225\123\332\267\150\016\220  
\114\373\160\077\217\112\054\224\363\046\335\143\151\251\224\330  
\020\116\305\107\010\220\231\033\027\115\271\154\156\357\140\225  
\021\216\041\200\265\275\240\163\330\320\262\167\304\105\352\132  
\046\373\146\166\166\370\006\037\141\155\017\125\305\203\267\020  
\126\162\006\007\245\363\261\032\003\005\144\016\235\132\212\326  
\206\160\033\044\336\376\050\212\053\320\152\260\374\172\242\334  
\262\171\016\213\145\017\002\003\001\000\001\243\143\060\141\060  
\035\006\003\125\035\016\004\026\004\024\356\153\111\074\172\077  
\015\343\261\011\267\212\310\253\031\237\163\063\120\347\060\037  
\006\003\125\035\043\004\030\060\026\200\024\356\153\111\074\172  
\077\015\343\261\011\267\212\310\253\031\237\163\063\120\347\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003  
\202\001\001\000\045\030\324\221\217\023\356\217\036\035\021\123  
\332\055\104\051\031\240\036\153\061\236\115\016\236\255\075\134  
\101\157\225\053\044\241\171\230\072\070\066\373\273\146\236\110  
\377\220\220\357\075\324\270\233\264\207\165\077\040\233\316\162  
\317\241\125\301\115\144\242\031\006\241\007\063\014\013\051\345  
\361\352\253\243\354\265\012\164\220\307\175\162\362\327\134\237  
\221\357\221\213\267\334\355\146\242\317\216\146\073\274\237\072  
\002\340\047\335\026\230\300\225\324\012\244\344\201\232\165\224  
\065\234\220\137\210\067\006\255\131\225\012\260\321\147\323\031  
\312\211\347\062\132\066\034\076\202\250\132\223\276\306\320\144  
\221\266\317\331\266\030\317\333\176\322\145\243\246\304\216\027  
\061\301\373\176\166\333\323\205\343\130\262\167\172\166\073\154  
\057\120\034\347\333\366\147\171\037\365\202\225\232\007\247\024  
\257\217\334\050\041\147\011\322\326\115\132\034\031\034\216\167  
\134\303\224\044\075\062\153\113\176\324\170\224\203\276\067\115  
\316\137\307\036\116\074\340\211\063\225\013\017\245\062\326\074  
\132\171\054\031

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

# For Server Distrust After: Wed Nov 30 00:00:00 2022

CKA\_NSS\_SERVER\_DISTRICT\_AFTER\_MULTILINE\_OCTAL

\062\062\061\061\063\060\060\060\060\060\060\060\132

END

# For Email Distrust After: Wed Nov 30 00:00:00 2022

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER\_MULTILINE\_OCTAL

\062\062\061\061\063\060\060\060\060\060\060\060\132

END

# Trust for "TrustCor RootCert CA-1"

# Issuer: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama City,ST=Panama,C=PA

#

Serial Number:00:da:9b:ec:71:f3:03:b0:19

# Subject: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama City,ST=Panama,C=PA

# Not Valid Before: Thu Feb 04 12:32:16 2016

# Not Valid After : Mon Dec 31 17:23:16 2029

# Fingerprint (SHA-256):

D4:0E:9C:86:CD:8F:E4:68:C1:77:69:59:F4:9E:A7:74:FA:54:86:84:B6:C4:06:F3:90:92:61:F4:DC:E2:57:5C

# Fingerprint (SHA1): FF:BD:CD:E7:82:C8:43:5E:3C:6F:26:86:5C:CA:A8:3A:45:5B:C3:0A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TrustCor RootCert CA-1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\377\275\315\347\202\310\103\136\074\157\046\206\134\312\250\072  
\105\133\303\012

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\156\205\361\334\032\000\323\042\325\262\262\254\153\067\005\105

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101  
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155  
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141  
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012  
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145  
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060  
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162  
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164  
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014  
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145  
\162\164\040\103\101\055\061

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\011\000\332\233\354\161\363\003\260\031

```

END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "TrustCor RootCert CA-2"
#
Issuer: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor
 Systems S. de R.L.,L=Panama City,ST=Panama,C=PA
Serial Number:25:a1:df:ca:33:cb:59:02
Subject: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de
 R.L.,L=Panama City,ST=Panama,C=PA
Not Valid Before: Thu Feb 04 12:32:23 2016
Not Valid After : Sun Dec 31 17:26:39 2034
Fingerprint (SHA-256):
07:53:E9:40:37:8C:1B:D5:E3:83:6E:39:5D:AE:A5:CB:83:9E:50:46:F1:BD:0E:AE:19:51:CF:10:FE:C7:C9:65
Fingerprint (SHA1): B8:BE:6D:CB:56:F1:55:B9:63:D4:12:CA:4E:06:34:C7:94:B2:1C:C0
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TrustCor RootCert CA-2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145
\162\164\040\103\101\055\062
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162

```

\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164  
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014  
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145  
\162\164\040\103\101\055\062

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\010\045\241\337\312\063\313\131\002

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\006\057\060\202\004\027\240\003\002\001\002\002\010\045  
\241\337\312\063\313\131\002\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\060\201\244\061\013\060\011\006\003\125  
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\040\123\171\163\164\145\155\163\040\123\056\040\144\145\040\122  
\056\114\056\061\047\060\045\006\003\125\004\013\014\036\124\162  
\165\163\164\103\157\162\040\103\145\162\164\151\146\151\143\141  
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\151\164\171\061\037\060\035\006\003\125\004\003\014\026\124\162  
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\101\132\236\165\335\215\312\340\233\354\150\062\244\151\222\150  
\214\013\201\016\126\240\076\032\335\054\045\024\202\057\227\323  
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\330\151\264\267\072\320\164\074\014\165\241\214\116\166\241\351  
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\357\357\275\321\150\250\322\364\011\273\167\065\276\045\202\010  
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\170\346\374\366\355\107\176\173\075\146\357\023\023\210\137\074  
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\041\140\015\205\026\175\327\124\070\361\222\126\375\265\063\114  
\203\334\327\020\237\113\375\306\370\102\275\272\174\163\002\340  
\377\175\315\133\341\324\254\141\173\127\325\112\173\133\324\205  
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\252\344\147\177\156\167\077\364\004\212\057\174\173\343\027\141  
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\236\274\233\075\234\175\230\040\031\345\214\060\142\262\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
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\164\247\054\360\010\330\171\132\327\132\204\212\330\022\232\033  
\331\175\134\115\160\305\245\371\253\345\243\211\211\335\001\372  
\354\335\371\351\222\227\333\260\106\102\363\323\142\252\225\376  
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\375\137\145\024\067\341\070\365\363\141\026\130\344\265\155\015  
\013\004\033\077\120\055\177\263\307\172\032\026\200\140\370\212  
\037\351\033\052\306\371\272\001\032\151\277\322\130\307\124\127  
\010\217\341\071\140\167\113\254\131\204\032\210\361\335\313\117  
\170\327\347\341\063\055\374\356\101\372\040\260\276\313\367\070  
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\144\177\133\015\063\011\007\063\173\006\077\021\244\134\160\074  
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\331\320\205\231\115\224\233\017\113\215\356\000\132\107\035\021  
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\242\011\310\345\375\200\136\310\140\102\001\033\032\123\132\273
\067\246\267\274\272\204\351\036\154\032\324\144\332\324\103\376
\223\213\113\362\054\171\026\020\324\223\013\210\217\241\330\206
\024\106\221\107\233\050\044\357\127\122\116\134\102\234\252\367
\111\354\047\350\100\036\263\246\211\042\162\234\365\015\063\264
\130\243\060\073\335\324\152\124\223\276\032\115\363\223\224\367
\374\204\013\077\204\040\134\064\003\104\305\332\255\274\012\301
\002\317\036\345\224\331\363\216\133\330\114\360\235\354\141\027
\273\024\062\124\014\002\051\223\036\222\206\366\177\357\347\222
\005\016\131\335\231\010\056\056\372\234\000\122\323\305\146\051
\344\247\227\104\244\016\050\201\023\065\305\366\157\144\346\101
\304\325\057\314\064\105\045\317\101\000\226\075\112\056\302\226
\230\117\116\112\234\227\267\333\037\222\062\310\377\017\121\156
\326\354\011
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

# For Server Distrust After: Wed Nov 30 00:00:00 2022

CKA\_NSS\_SERVER\_DISTRICT\_AFTER MULTILINE\_OCTAL

```
\062\062\061\061\063\060\060\060\060\060\060\060\132
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END

# For Email Distrust After: Wed Nov 30 00:00:00 2022

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER

MULTILINE\_OCTAL

```
\062\062\061\061\063\060\060\060\060\060\060\060\132
```

END

# Trust for "TrustCor RootCert CA-2"

# Issuer: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama City,ST=Panama,C=PA

# Serial Number:25:a1:df:ca:33:cb:59:02

# Subject: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama City,ST=Panama,C=PA

# Not Valid Before: Thu Feb 04 12:32:23 2016

# Not Valid After : Sun Dec 31 17:26:39 2034

# Fingerprint (SHA-256):

07:53:E9:40:37:8C:1B:D5:E3:83:6E:39:5D:AE:A5:CB:83:9E:50:46:F1:BD:0E:AE:19:51:CF:10:FE:C7:C9:65

# Fingerprint (SHA1): B8:BE:6D:CB:56:F1:55:B9:63:D4:12:CA:4E:06:34:C7:94:B2:1C:C0

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TrustCor RootCert CA-2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\270\276\155\313\126\361\125\271\143\324\022\312\116\006\064\307
\224\262\034\300
```

END

```
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\242\341\370\030\013\272\105\325\307\101\052\273\067\122\105\144
END
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```
CKA_ISSUER MULTILINE_OCTAL
\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145
\162\164\040\103\101\055\062
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\045\241\337\312\063\313\131\002
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST
CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
Certificate "TrustCor ECA-1"
#
Issuer: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama
City,ST=Panama,C=PA
Serial Number:00:84:82:2c:5f:1c:62:d0:40
Subject: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama
City,ST=Panama,C=PA
Not Valid Before: Thu Feb 04 12:32:33 2016
Not Valid After : Mon Dec 31 17:28:07 2029
Fingerprint (SHA-256):
5A:88:5D:B1:9C:01:D9:12:C5:75:93:88:93:8C:AF:BB:DF:03:1A:B2:D4:8E:91:EE:15:58:9B:42:97:1D:03:9C
Fingerprint (SHA1): 58:D1:DF:95:95:67:6B:63:C0:F0:5B:1C:17:4D:8B:84:0B:C8:78:BD
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TrustCor ECA-1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\234\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
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\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141  
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012  
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\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060  
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\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164  
\150\157\162\151\164\171\061\027\060\025\006\003\125\004\003\014  
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END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\234\061\013\060\011\006\003\125\004\006\023\002\120\101  
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155  
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141  
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012  
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145  
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060  
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162  
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164  
\150\157\162\151\164\171\061\027\060\025\006\003\125\004\003\014  
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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\011\000\204\202\054\137\034\142\320\100

END

CKA\_VALUE MULTILINE\_OCTAL

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\014\006\120\141\156\141\155\141\061\024\060\022\006\003\125\004  
\007\014\013\120\141\156\141\155\141\040\103\151\164\171\061\044  
\060\042\006\003\125\004\012\014\033\124\162\165\163\164\103\157  
\162\040\123\171\163\164\145\155\163\040\123\056\040\144\145\040  
\122\056\114\056\061\047\060\045\006\003\125\004\013\014\036\124  
\162\165\163\164\103\157\162\040\103\145\162\164\151\146\151\143  
\141\164\145\040\101\165\164\150\157\162\151\164\171\061\027\060  
\025\006\003\125\004\003\014\016\124\162\165\163\164\103\157\162  
\040\105\103\101\055\061\060\036\027\015\061\066\060\062\060\064  
\061\062\063\062\063\063\132\027\015\062\071\061\062\063\061\061  
\067\062\070\060\067\132\060\201\234\061\013\060\011\006\003\125  
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\300\150\066\330\306\361\117\200\104\062\371\341\321\321\035\252  
\336\250\253\234\004\257\255\040\016\144\230\115\245\153\300\110  
\130\226\151\115\334\007\214\121\223\242\337\237\017\075\213\140  
\264\202\215\252\010\116\142\105\340\371\013\322\340\340\074\133  
\336\134\161\047\045\302\346\003\201\213\020\123\343\307\125\242  
\264\237\327\346

END

```
CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
For Server Distrust After: Wed Nov 30 00:00:00 2022
CKA_NSS_SERVER_DISTRUSTRUST_AFTER MULTILINE_OCTAL
\062\062\061\061\063\060\060\060\060\060\060\132
END
For Email Distrust After: Wed Nov 30 00:00:00
2022
CKA_NSS_EMAIL_DISTRUSTRUST_AFTER MULTILINE_OCTAL
\062\062\061\061\063\060\060\060\060\060\060\132
END

Trust for "TrustCor ECA-1"
Issuer: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama
City,ST=Panama,C=PA
Serial Number:00:84:82:2c:5f:1c:62:d0:40
Subject: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama
City,ST=Panama,C=PA
Not Valid Before: Thu Feb 04 12:32:33 2016
Not Valid After : Mon Dec 31 17:28:07 2029
Fingerprint (SHA-256):
5A:88:5D:B1:9C:01:D9:12:C5:75:93:88:93:8C:AF:BB:DF:03:1A:B2:D4:8E:91:EE:15:58:9B:42:97:1D:03:9C
Fingerprint (SHA1): 58:D1:DF:95:95:67:6B:63:C0:F0:5B:1C:17:4D:8B:84:0B:C8:78:BD
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TrustCor ECA-1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\130\321\337\225\225\147\153\143\300\360\133\034\027\115\213\204
\013\310\170\275
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\047\222\043\035\012\365\100\174\351\346\153\235\330\365\347\154
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\234\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\027\060\025\006\003\125\004\003\014
\016\124\162\165\163\164\103\157\162\040\105\103\101\055\061
END
```

```

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\204\202\054\137\034\142\320\100
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING
CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "SSL.com Root Certification Authority RSA"
#
Issuer: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US
Serial Number:7b:2c:9b:d3:16:80:32:99
Subject: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US
Not Valid Before: Fri Feb 12 17:39:39 2016
Not Valid After : Tue Feb 12 17:39:39 2041
Fingerprint (SHA-256):
85:66:6A:56:2E:E0:BE:5C:E9:25:C1:D8:89:0A:6F:76:A8:7E:C1:6D:4D:7D:5F:29:EA:74:19:CF:20:12:3B:69
Fingerprint (SHA1): B7:AB:33:08:D1:EA:44:77:BA:14:80:12:5A:6F:BD:A9:36:49:0C:BB
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com Root Certification Authority RSA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\122\123\101
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\122\123\101
END

```

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\010\173\054\233\323\026\200\062\231

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\335\060\202\003\305\240\003\002\001\002\002\010\173  
\054\233\323\026\200\062\231\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\060\174\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\016\060\014\006\003\125\004\010\014\005  
\124\145\170\141\163\061\020\060\016\006\003\125\004\007\014\007  
\110\157\165\163\164\157\156\061\030\060\026\006\003\125\004\012  
\014\017\123\123\114\040\103\157\162\160\157\162\141\164\151\157  
\156\061\061\060\057\006\003\125\004\003\014\050\123\123\114\056  
\143\157\155\040\122\157\157\164\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\040\122\123\101\060\036\027\015\061\066\060\062\061\062\061\067  
\063\071\063\071\132\027\015\064\061\060\062\061\062\061\067\063  
\071\063\071\132\060\174\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145  
\170\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157  
\165\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017  
\123\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061  
\061\060\057\006\003\125\004\003\014\050\123\123\114\056\143\157  
\155\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122  
\123\101\060\202\002\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202  
\002\001\000\371\017\335\243\053\175\313\320\052\376\354\147\205  
\246\347\056\033\272\167\341\343\365\257\244\354\372\112\135\221  
\304\127\107\153\030\167\153\166\362\375\223\344\075\017\302\026  
\236\013\146\303\126\224\236\027\203\205\316\126\357\362\026\375  
\000\142\365\042\011\124\350\145\027\116\101\271\340\117\106\227  
\252\033\310\270\156\142\136\151\261\137\333\052\002\176\374\154  
\312\363\101\330\355\320\350\374\077\141\110\355\260\003\024\035  
\020\016\113\031\340\273\116\354\206\145\377\066\363\136\147\002  
\013\235\206\125\141\375\172\070\355\376\342\031\000\267\157\241  
\120\142\165\164\074\240\372\310\045\222\264\156\172\042\307\370  
\036\241\343\262\335\221\061\253\053\035\004\377\245\112\004\067  
\351\205\244\063\053\375\342\326\125\064\174\031\244\112\150\307  
\262\250\323\267\312\241\223\210\353\301\227\274\214\371\035\331  
\042\204\044\164\307\004\075\152\251\051\223\314\353\270\133\341  
\376\137\045\252\064\130\310\301\043\124\235\033\230\021\303\070  
\234\176\075\206\154\245\017\100\206\174\002\364\134\002\117\050  
\313\256\161\237\017\072\310\063\376\021\045\065\352\374\272\305  
\140\075\331\174\030\325\262\251\323\165\170\003\162\042\312\072  
\303\037\357\054\345\056\251\372\236\054\266\121\106\375\257\003  
\326\352\140\150\352\205\026\066\153\205\351\036\300\263\335\304  
\044\334\200\052\201\101\155\224\076\310\340\311\201\101\000\236

\136\277\177\305\010\230\242\030\054\102\100\263\371\157\070\047  
\113\116\200\364\075\201\107\340\210\174\352\034\316\265\165\134  
\121\056\034\053\177\032\162\050\347\000\265\321\164\306\327\344  
\237\255\007\223\266\123\065\065\374\067\344\303\366\135\026\276  
\041\163\336\222\012\370\240\143\152\274\226\222\152\076\370\274  
\145\125\233\336\365\015\211\046\004\374\045\032\246\045\151\313  
\302\155\312\174\342\131\137\227\254\353\357\056\310\274\327\033  
\131\074\053\314\362\031\310\223\153\047\143\031\317\374\351\046  
\370\312\161\233\177\223\376\064\147\204\116\231\353\374\263\170  
\011\063\160\272\146\246\166\355\033\163\353\032\245\015\304\042  
\023\040\224\126\012\116\054\154\116\261\375\317\234\011\272\242  
\063\355\207\002\003\001\000\001\243\143\060\141\060\035\006\003  
\125\035\016\004\026\004\024\335\004\011\007\242\365\172\175\122  
\123\022\222\225\356\070\200\045\015\246\131\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003  
\125\035\043\004\030\060\026\200\024\335\004\011\007\242\365\172  
\175\122\123\022\222\225\356\070\200\045\015\246\131\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\206\060\015\006  
\011\052\206\110\206\367\015\001\001\013\005\000\003\202\002\001  
\000\040\030\021\224\051\373\046\235\034\036\036\160\141\361\225  
\162\223\161\044\255\150\223\130\216\062\257\033\263\160\003\374  
\045\053\164\205\220\075\170\152\364\271\213\245\227\073\265\030  
\221\273\036\247\371\100\133\221\371\125\231\257\036\021\320\134  
\035\247\146\343\261\224\007\014\062\071\246\352\033\260\171\330  
\035\234\160\104\343\212\335\304\371\225\037\212\070\103\077\001  
\205\245\107\247\075\106\262\274\345\042\150\367\173\234\330\054  
\076\012\041\310\055\063\254\277\305\201\231\061\164\301\165\161  
\305\276\261\360\043\105\364\235\153\374\031\143\235\243\274\004  
\306\030\013\045\273\123\211\017\263\200\120\336\105\356\104\177  
\253\224\170\144\230\323\366\050\335\207\330\160\145\164\373\016  
\271\023\353\247\017\141\251\062\226\314\336\273\355\143\114\030  
\273\251\100\367\240\124\156\040\210\161\165\030\352\172\264\064  
\162\340\043\047\167\134\266\220\352\206\045\100\253\357\063\017  
\313\237\202\276\242\040\373\366\265\055\032\346\302\205\261\164  
\017\373\310\145\002\244\122\001\107\335\111\042\301\277\330\353  
\153\254\176\336\354\143\063\025\267\043\010\217\306\017\215\101  
\132\335\216\305\271\217\345\105\077\170\333\272\322\033\100\261  
\376\161\115\077\340\201\242\272\136\264\354\025\340\223\335\010  
\037\176\341\125\231\013\041\336\223\236\012\373\346\243\111\275  
\066\060\376\347\167\262\240\165\227\265\055\201\210\027\145\040  
\367\332\220\000\237\311\122\314\062\312\065\174\365\075\017\330  
\053\327\365\046\154\311\006\064\226\026\352\160\131\032\062\171  
\171\013\266\210\177\017\122\110\075\277\154\330\242\104\056\321  
\116\267\162\130\323\211\023\225\376\104\253\370\327\213\033\156  
\234\274\054\240\133\325\152\000\257\137\067\341\325\372\020\013  
\230\234\206\347\046\217\316\360\354\156\212\127\013\200\343\116  
\262\300\240\143\141\220\272\125\150\067\164\152\266\222\333\237  
\241\206\042\266\145\047\016\354\266\237\102\140\344\147\302\265



```
\332\101\013\304\323\213\141\033\274\372\037\221\053\327\104\007
\136\272\051\254\331\305\351\357\123\110\132\353\200\361\050\130
\041\315\260\006\125\373\047\077\123\220\160\251\004\036\127\047
\271
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SSL.com Root Certification Authority RSA"

# Issuer: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Serial Number:7b:2c:9b:d3:16:80:32:99

# Subject: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Not Valid Before: Fri Feb 12 17:39:39 2016

# Not Valid After : Tue Feb 12 17:39:39 2041

# Fingerprint (SHA-256):

85:66:6A:56:2E:E0:BE:5C:E9:25:C1:D8:89:0A:6F:76:A8:7E:C1:6D:4D:7D:5F:29:EA:74:19:CF:20:12:3B:69

# Fingerprint (SHA1): B7:AB:33:08:D1:EA:44:77:BA:14:80:12:5A:6F:BD:A9:36:49:0C:BB

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN

CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SSL.com Root Certification Authority RSA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\267\253\063\010\321\352\104\167\272\024\200\022\132\157\275\251
\066\111\014\273
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\206\151\022\300\160\361\354\254\254\302\325\274\245\133\241\051
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\122\123\101
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\010\173\054\233\323\026\200\062\231
```

END

CKA\_TRUST\_SERVER\_AUTH

CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "SSL.com Root Certification Authority ECC"

#

# Issuer: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Serial Number:75:e6:df:cb:c1:68:5b:a8

# Subject: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Not Valid Before: Fri Feb 12 18:14:03 2016

# Not Valid After : Tue Feb 12 18:14:03 2041

# Fingerprint (SHA-256):

34:17:BB:06:CC:60:07:DA:1B:96:1C:92:0B:8A:B4:CE:3F:AD:82:0E:4A:A3:0B:9A:CB:C4:A7:4E:BD:CE:BC:65

# Fingerprint (SHA1): C3:19:7C:39:24:E6:54:AF:1B:C4:AB:20:95:7A:E2:C3:0E:13:02:6A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SSL.com Root Certification Authority ECC"

CKA\_CERTIFICATE\_TYPE

CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061  
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157  
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040  
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006  
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157  
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156  
\040\101\165\164\150\157\162\151\164\171\040\105\103\103

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061  
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157  
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040  
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006  
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157  
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156  
\040\101\165\164\150\157\162\151\164\171\040\105\103\103

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\010\165\346\337\313\301\150\133\250

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\215\060\202\002\024\240\003\002\001\002\002\010\165

\346\337\313\301\150\133\250\060\012\006\010\052\206\110\316\075  
\004\003\002\060\174\061\013\060\011\006\003\125\004\006\023\002  
\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145\170  
\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157\165  
\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017\123  
\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061\061  
\060\057\006\003\125\004\003\014\050\123\123\114\056\143\157\155  
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164  
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103  
\103\060\036\027\015\061\066\060\062\061\062\061\070\061\064\060\063  
\063\132\027\015\064\061\060\062\061\062\061\070\061\064\060\063  
\132\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163  
\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164  
\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114  
\040\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057  
\006\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122  
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\040\105\103\103\060  
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201  
\004\000\042\003\142\000\004\105\156\251\120\304\246\043\066\236  
\137\050\215\027\313\226\042\144\077\334\172\216\035\314\010\263  
\242\161\044\272\216\111\271\004\033\107\226\130\253\055\225\310  
\355\236\010\065\310\047\353\211\214\123\130\353\142\212\376\360  
\133\017\153\061\122\143\101\073\211\315\354\354\266\215\031\323  
\064\007\334\273\306\006\177\302\105\225\354\313\177\250\043\340  
\011\351\201\372\363\107\323\243\143\060\141\060\035\006\003\125  
\035\016\004\026\004\024\202\321\205\163\060\347\065\004\323\216  
\002\222\373\345\244\321\304\041\350\315\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125  
\035\043\004\030\060\026\200\024\202\321\205\163\060\347\065\004  
\323\216\002\222\373\345\244\321\304\041\350\315\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\206\060\012\006\010  
\052\206\110\316\075\004\003\002\003\147\000\060\144\002\060\157  
\347\353\131\021\244\140\317\141\260\226\173\355\005\371\057\023  
\221\334\355\345\374\120\153\021\106\106\263\034\041\000\142\273  
\276\303\347\350\315\007\231\371\015\013\135\162\076\304\252\002  
\060\037\274\272\013\342\060\044\373\174\155\200\125\012\231\076  
\200\015\063\345\146\243\263\243\273\245\325\213\217\011\054\246  
\135\176\342\360\007\010\150\155\322\174\151\156\137\337\345\152  
\145

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER

CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

```

Trust for "SSL.com Root Certification Authority ECC"
Issuer: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US
Serial Number:75:e6:df:cb:c1:68:5b:a8
Subject: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US
Not Valid Before: Fri Feb 12 18:14:03 2016
Not Valid After : Tue Feb 12 18:14:03 2041
Fingerprint (SHA-256):
34:17:BB:06:CC:60:07:DA:1B:96:1C:92:0B:8A:B4:CE:3F:AD:82:0E:4A:A3:0B:9A:CB:C4:A7:4E:BD:CE:BC:65
Fingerprint (SHA1): C3:19:7C:39:24:E6:54:AF:1B:C4:AB:20:95:7A:E2:C3:0E:13:02:6A
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com Root Certification Authority ECC"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\303\031\174\071\044\346\124\257\033\304\253\040\225\172\342\303
\016\023\002\152
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\056\332\344\071\177\234\217\067\321\160\237\046\027\121\072\216
END
CKA_ISSUER
MULTILINE_OCTAL
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\105\103\103
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\165\346\337\313\301\150\133\250
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "SSL.com EV Root Certification Authority RSA R2"
#
Issuer: CN=SSL.com EV Root
Certification Authority RSA R2,O=SSL Corporation,L=Houston,ST=Texas,C=US
Serial Number:56:b6:29:cd:34:bc:78:f6
Subject: CN=SSL.com EV Root Certification Authority RSA R2,O=SSL
Corporation,L=Houston,ST=Texas,C=US

```

```
Not Valid Before: Wed May 31 18:14:37 2017
Not Valid After : Fri May 30 18:14:37 2042
Fingerprint (SHA-256):
2E:7B:F1:6C:C2:24:85:A7:BB:E2:AA:86:96:75:07:61:B0:AE:39:BE:3B:2F:E9:D0:CC:6D:4E:F7:34:91:42:5C
Fingerprint (SHA1): 74:3A:F0:52:9B:D0:32:A0:F4:4A:83:CD:D4:BA:A9:7B:7C:2E:C4:9A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com EV Root Certification Authority RSA R2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163
\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164
\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114
\040\103\157\162\160\157\162\141\164\151\157\156\061\067\060\065
\006\003\125\004\003\014\056\123\123\114\056\143\157\155\040\105
\126\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122
\123\101\040\122\062
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163
\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164
\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114
\040\103\157\162\160\157\162\141\164\151\157\156\061\067\060\065
\006\003\125\004\003\014\056\123\123\114\056\143\157\155\040\105
\126\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122
\123\101\040\122\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\126\266\051\315\064\274\170\366
END
CKA_VALUE
MULTILINE_OCTAL
\060\202\005\353\060\202\003\323\240\003\002\001\002\002\010\126
\266\051\315\064\274\170\366\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\201\202\061\013\060\011\006\003\125
\004\006\023\002\125\123\061\016\060\014\006\003\125\004\010\014
\005\124\145\170\141\163\061\020\060\016\006\003\125\004\007\014
\007\110\157\165\163\164\157\156\061\030\060\026\006\003\125\004
\012\014\017\123\123\114\040\103\157\162\160\157\162\141\164\151
\157\156\061\067\060\065\006\003\125\004\003\014\056\123\123\114
```

\056\143\157\155\040\105\126\040\122\157\157\164\040\103\145\162  
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157  
\162\151\164\171\040\122\123\101\040\122\062\060\036\027\015\061  
\067\060\065\063\061\061\070\061\064\063\067\132\027\015\064\062  
\060\065\063\060\061\070\061\064\063\067\132\060\201\202\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\016\060\014\006  
\003\125\004\010\014\005\124\145\170\141\163\061\020\060\016\006  
\003\125\004\007\014\007\110\157\165\163\164\157\156\061\030\060  
\026\006\003\125\004\012\014\017\123\123\114\040\103\157\162\160  
\157\162\141\164\151\157\156\061\067\060\065\006\003\125\004\003  
\014\056\123\123\114\056\143\157\155\040\105\126\040\122\157\157  
\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040  
\101\165\164\150\157\162\151\164\171\040\122\123\101\040\122\062  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\217\066\145\100\341\326\115\300\327\264\351\106\332\153\352  
\063\107\315\114\371\175\175\276\275\055\075\360\333\170\341\206  
\245\331\272\011\127\150\355\127\076\240\320\010\101\203\347\050  
\101\044\037\343\162\025\320\001\032\373\136\160\043\262\313\237  
\071\343\317\305\116\306\222\155\046\306\173\273\263\332\047\235  
\012\206\351\201\067\005\376\360\161\161\354\303\034\351\143\242  
\027\024\235\357\033\147\323\205\125\002\002\326\111\311\314\132  
\341\261\367\157\062\237\311\324\073\210\101\250\234\275\313\253  
\333\155\173\011\037\242\114\162\220\332\053\010\374\317\074\124  
\316\147\017\250\317\135\226\031\013\304\343\162\353\255\321\175  
\035\047\357\222\353\020\277\133\353\073\257\317\200\335\301\322  
\226\004\133\172\176\244\251\074\070\166\244\142\216\240\071\136  
\352\167\317\135\000\131\217\146\054\076\007\242\243\005\046\021  
\151\227\352\205\267\017\226\013\113\310\100\341\120\272\056\212  
\313\367\017\232\042\347\177\232\067\023\315\362\115\023\153\041  
\321\300\314\042\362\241\106\366\104\151\234\312\141\065\007\000  
\157\326\141\010\021\352\272\270\366\351\263\140\345\115\271\354  
\237\024\146\311\127\130\333\315\207\151\370\212\206\022\003\107  
\277\146\023\166\254\167\175\064\044\205\203\315\327\252\234\220  
\032\237\041\054\177\170\267\144\270\330\350\246\364\170\263\125  
\313\204\322\062\304\170\256\243\217\141\335\316\010\123\255\354  
\210\374\025\344\232\015\346\237\032\167\316\114\217\270\024\025  
\075\142\234\206\070\006\000\146\022\344\131\166\132\123\300\002  
\230\242\020\053\150\104\173\216\171\316\063\112\166\252\133\201  
\026\033\265\212\330\320\000\173\136\142\264\011\326\206\143\016  
\246\005\225\111\272\050\213\210\223\262\064\034\330\244\125\156  
\267\034\320\336\231\125\073\043\364\042\340\371\051\146\046\354  
\040\120\167\333\112\013\217\276\345\002\140\160\101\136\324\256  
\120\071\042\024\046\313\262\073\163\164\125\107\007\171\201\071  
\250\060\023\104\345\004\212\256\226\023\045\102\017\271\123\304  
\233\374\315\344\034\336\074\372\253\326\006\112\037\147\246\230  
\060\034\335\054\333\334\030\225\127\146\306\377\134\213\126\365  
\167\002\003\001\000\001\243\143\060\141\060\017\006\003\125\035

\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125  
\035\043\004\030\060\026\200\024\371\140\273\324\343\325\064\366  
\270\365\006\200\045\247\163\333\106\151\250\236\060\035\006\003  
\125\035\016\004\026\004\024\371\140\273\324\343\325\064\366\270  
\365\006\200\045\247\163\333\106\151\250\236\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\206\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\126  
\263\216\313\012\235\111\216\277\244\304\221\273\146\027\005\121  
\230\165\373\345\120\054\172\236\361\024\372\253\323\212\076\377  
\221\051\217\143\213\330\264\251\124\001\015\276\223\206\057\371  
\112\155\307\136\365\127\371\312\125\034\022\276\107\017\066\305  
\337\152\267\333\165\302\107\045\177\271\361\143\370\150\055\125  
\004\321\362\215\260\244\317\274\074\136\037\170\347\245\240\040  
\160\260\004\305\267\367\162\247\336\042\015\275\063\045\106\214  
\144\222\046\343\076\056\143\226\332\233\214\075\370\030\011\327  
\003\314\175\206\202\340\312\004\007\121\120\327\377\222\325\014  
\357\332\206\237\231\327\353\267\257\150\342\071\046\224\272\150  
\267\277\203\323\352\172\147\075\142\147\256\045\345\162\350\342  
\344\354\256\022\366\113\053\074\237\351\260\100\363\070\124\263  
\375\267\150\310\332\306\217\121\074\262\373\221\334\034\347\233  
\235\341\267\015\162\217\342\244\304\251\170\371\353\024\254\306  
\103\005\302\145\071\050\030\002\303\202\262\235\005\276\145\355  
\226\137\145\164\074\373\011\065\056\173\234\023\375\033\017\135  
\307\155\201\072\126\017\314\073\341\257\002\057\042\254\106\312  
\106\074\240\034\114\326\104\264\136\056\134\025\146\011\341\046  
\051\376\306\122\141\272\261\163\377\303\014\234\345\154\152\224  
\077\024\312\100\026\225\204\363\131\251\254\137\114\141\223\155  
\321\073\314\242\225\014\042\246\147\147\104\056\271\331\322\212  
\101\263\146\013\132\373\175\043\245\362\032\260\377\336\233\203  
\224\056\321\077\337\222\267\221\257\005\073\145\307\240\154\261  
\315\142\022\303\220\033\343\045\316\064\274\157\167\166\261\020  
\303\367\005\032\300\326\257\164\142\110\027\167\222\151\220\141  
\034\336\225\200\164\124\217\030\034\303\363\003\320\277\244\103  
\165\206\123\030\172\012\056\011\034\066\237\221\375\202\212\042  
\113\321\016\120\045\335\313\003\014\027\311\203\000\010\116\065  
\115\212\213\355\360\002\224\146\054\104\177\313\225\047\226\027  
\255\011\060\254\266\161\027\156\213\027\366\034\011\324\055\073  
\230\245\161\323\124\023\331\140\363\365\113\146\117\372\361\356  
\040\022\215\264\254\127\261\105\143\241\254\166\251\302\373

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SSL.com EV Root Certification Authority RSA R2"

# Issuer: CN=SSL.com EV Root Certification Authority RSA R2,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Serial Number:56:b6:29:cd:34:bc:78:f6

```
Subject: CN=SSL.com EV Root Certification Authority RSA R2,O=SSL
Corporation,L=Houston,ST=Texas,C=US
Not Valid Before: Wed May 31 18:14:37 2017
Not Valid After : Fri May 30 18:14:37 2042
Fingerprint (SHA-256):
2E:7B:F1:6C:C2:24:85:A7:BB:E2:AA:86:96:75:07:61:B0:AE:39:BE:3B:2F:E9:D0:CC:6D:4E:F7:34:91:42:5C
Fingerprint (SHA1): 74:3A:F0:52:9B:D0:32:A0:F4:4A:83:CD:D4:BA:A9:7B:7C:2E:C4:9A
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE
CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com EV Root Certification Authority RSA R2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\164\072\360\122\233\320\062\240\364\112\203\315\324\272\251\173
\174\056\304\232
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\341\036\061\130\032\256\124\123\002\366\027\152\021\173\115\225
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163
\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164
\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114
\040\103\157\162\160\157\162\141\164\151\157\156\061\067\060\065
\006\003\125\004\003\014\056\123\123\114\056\143\157\155\040\105
\126\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122
\123\101\040\122\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\126\266\051\315\064\274\170\366
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "SSL.com EV Root Certification Authority ECC"
#
Issuer: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US
Serial Number:2c:29:9c:5b:16:ed:05:95
Subject: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US
Not Valid Before: Fri Feb 12 18:15:23 2016
Not Valid After : Tue Feb 12 18:15:23 2041
```



```
Fingerprint (SHA-256):
22:A2:C1:F7:BD:ED:70:4C:C1:E7:01:B5:F4:08:C3:10:88:0F:E9:56:B5:DE:2A:4A:44:F9:9C:87:3A:25:A7:C8
Fingerprint (SHA1): 4C:DD:51:A3:D1:F5:20:32:14:B0:C6:C5:32:23:03:91:C7:46:42:6D
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com EV Root Certification
 Authority ECC"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\064\060\062\006
\003\125\004\003\014\053\123\123\114\056\143\157\155\040\105\126
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103
\103
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\064\060\062\006
\003\125\004\003\014\053\123\123\114\056\143\157\155\040\105\126
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103
\103
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\010\054\051\234\133\026\355\005\225
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\224\060\202\002\032\240\003\002\001\002\002\010\054
\051\234\133\026\355\005\225\060\012\006\010\052\206\110\316\075
\004\003\002\060\177\061\013\060\011\006\003\125\004\006\023\002
\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145\170
\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157\165
\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017\123
\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061\064
\060\062\006\003\125\004\003\014\053\123\123\114\056\143\157\155
\040\105\126\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
```

\040\105\103\103\060\036\027\015\061\066\060\062\061\062\061\070  
\061\065\062\063\132\027\015\064\061\060\062\061\062\061\070\061  
\065\062\063\132\060\177\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145  
\170\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157  
\165\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017  
\123\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061  
\064\060\062\006\003\125\004\003\014\053\123\123\114\056\143\157  
\155\040\105\126\040\122\157\157\164\040\103\145\162\164\151\146  
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164  
\171\040\105\103\103\060\166\060\020\006\007\052\206\110\316\075  
\002\001\006\005\053\201\004\000\042\003\142\000\004\252\022\107  
\220\230\033\373\357\303\100\007\203\040\116\361\060\202\242\006  
\321\362\222\206\141\362\366\041\150\312\000\304\307\352\103\000  
\124\206\334\375\037\337\000\270\101\142\134\334\160\026\062\336  
\037\231\324\314\305\007\310\010\037\141\026\007\121\075\175\134  
\007\123\343\065\070\214\337\315\237\331\056\015\112\266\031\056  
\132\160\132\006\355\276\360\241\260\312\320\011\051\243\143\060  
\141\060\035\006\003\125\035\016\004\026\004\024\133\312\136\345  
\336\322\201\252\315\250\055\144\121\266\331\162\233\227\346\117  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\037\006\003\125\035\043\004\030\060\026\200\024\133\312  
\136\345\336\322\201\252\315\250\055\144\121\266\331\162\233\227  
\346\117\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\206\060\012\006\010\052\206\110\316\075\004\003\002\003\150  
\000\060\145\002\061\000\212\346\100\211\067\353\351\325\023\331  
\312\324\153\044\363\260\075\207\106\130\032\354\261\337\157\373  
\126\272\160\153\307\070\314\350\261\214\117\017\367\361\147\166  
\016\203\320\036\121\217\002\060\075\366\043\050\046\114\306\140  
\207\223\046\233\262\065\036\272\326\367\074\321\034\316\372\045  
\074\246\032\201\025\133\363\022\017\154\356\145\212\311\207\250  
\371\007\340\142\232\214\134\112

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SSL.com EV Root Certification Authority ECC"

# Issuer: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Serial Number:2c:29:9c:5b:16:ed:05:95

# Subject: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Not Valid Before: Fri Feb 12 18:15:23 2016

# Not Valid After : Tue Feb 12 18:15:23 2041

# Fingerprint (SHA-256):

22:A2:C1:F7:BD:ED:70:4C:C1:E7:01:B5:F4:08:C3:10:88:0F:E9:56:B5:DE:2A:4A:44:F9:9C:87:3A:25:A7:C8

# Fingerprint (SHA1): 4C:DD:51:A3:D1:F5:20:32:14:B0:C6:C5:32:23:03:91:C7:46:42:6D

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

```

CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com EV Root Certification Authority ECC"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\114\335\121\243\321\365\040\062\024\260\306\305\062\043\003\221
\307\106\102\155
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\131\123\042\145\203\102\001\124\300\316\102\271\132\174\362\220
END
CKA_ISSUER MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\064\060\062\006
\003\125\004\003\014\053\123\123\114\056\143\157\155\040\105\126
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103
\103
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\054\051\234\133\026\355\005\225
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
#
Certificate "GlobalSign Root CA - R6"
#
Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6
Serial Number:45:e6:bb:03:83:33:c3:85:65:48:e6:ff:45:51
Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6
Not Valid Before: Wed Dec 10 00:00:00 2014
Not Valid After : Sun Dec 10 00:00:00 2034
Fingerprint (SHA-256):
2C:AB:EA:FE:37:D0:6C:A2:2A:BA:73:91:C0:03:3D:25:98:29:52:C4:53:64:73:49:76:3A:3A:B5:AD:6C:CF:69
Fingerprint (SHA1): 80:94:64:0E:B5:A7:A1:CA:11:9C:1F:DD:D5:9F:81:02:63:A7:FB:D1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root CA - R6"

```

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157  
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040  
\055\040\122\066\061\023\060\021\006\003\125\004\012\023\012\107  
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125  
\004\003\023\012\107\154\157\142\141\154\123\151\147\156

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157  
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040  
\055\040\122\066\061\023\060\021\006\003\125\004\012\023\012\107  
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125  
\004\003\023\012\107\154\157\142\141\154\123\151\147\156

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\016\105\346\273\003\203\063\303\205\145\110\346\377\105\121

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\203\060\202\003\153\240\003\002\001\002\002\016\105  
\346\273\003\203\063\303\205\145\110\346\377\105\121\060\015\006  
\011\052\206\110\206\367\015\001\001\014\005\000\060\114\061\040  
\060\036\006\003\125\004\013\023\027\107\154\157\142\141\154\123  
\151\147\156\040\122\157\157\164\040\103\101\040\055\040\122\066  
\061\023\060\021\006\003\125\004\012\023\012\107\154\157\142\141  
\154\123\151\147\156\061\023\060\021\006\003\125\004\003\023\012  
\107\154\157\142\141\154\123\151\147\156\060\036\027\015\061\064  
\061\062\061\060\060\060\060\060\060\060\132\027\015\063\064\061  
\062\061\060\060\060\060\060\060\060\132\060\114\061\040\060\036  
\006\003\125\004\013\023\027\107\154\157\142\141\154\123\151\147  
\156\040\122\157\157\164\040\103\101\040\055\040\122\066\061\023  
\060\021\006\003\125\004\012\023\012\107\154\157\142\141\154\123  
\151\147\156\061\023\060\021\006\003\125\004\003\023\012\107\154  
\157\142\141\154\123\151\147\156\060\202\002\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000  
\060\202\002\012\002\202\002\001\000\225\007\350\163\312\146\371  
\354\024\312\173\074\367\015\010\361\264\105\013\054\202\264\110  
\306\353\133\074\256\203\270\101\222\063\024\244\157\177\351\052  
\314\306\260\210\153\305\266\211\321\306\262\377\024\316\121\024  
\041\354\112\335\033\132\306\326\207\356\115\072\025\006\355\144  
\146\013\222\200\312\104\336\163\224\116\363\247\211\177\117\170  
\143\010\310\022\120\155\102\146\057\115\271\171\050\115\122\032  
\212\032\200\267\031\201\016\176\304\212\274\144\114\041\034\103  
\150\327\075\074\212\305\262\146\325\220\232\267\061\006\305\276  
\342\155\062\006\246\036\371\271\353\252\243\270\277\276\202\143  
\120\320\360\030\211\337\344\017\171\365\352\242\037\052\322\160

\056\173\347\274\223\273\155\123\342\110\174\214\020\007\070\377  
\146\262\167\141\176\340\352\214\074\252\264\244\366\363\225\112  
\022\007\155\375\214\262\211\317\320\240\141\167\310\130\164\260  
\324\043\072\367\135\072\312\242\333\235\011\336\135\104\055\220  
\361\201\315\127\222\372\176\274\120\004\143\064\337\153\223\030  
\276\153\066\262\071\344\254\044\066\267\360\357\266\034\023\127  
\223\266\336\262\370\342\205\267\163\242\270\065\252\105\362\340  
\235\066\241\157\124\212\361\162\126\156\056\210\305\121\102\104  
\025\224\356\243\305\070\226\233\116\116\132\013\107\363\006\066  
\111\167\060\274\161\067\345\246\354\041\010\165\374\346\141\026  
\077\167\325\331\221\227\204\012\154\324\002\115\164\300\024\355  
\375\071\373\203\362\136\024\241\004\260\013\351\376\356\217\341  
\156\013\262\010\263\141\146\011\152\261\006\072\145\226\131\300  
\360\065\375\311\332\050\215\032\021\207\160\201\012\250\232\165  
\035\236\072\206\005\000\236\333\200\326\045\371\334\005\236\047  
\131\114\166\071\133\352\371\245\241\330\203\017\321\377\337\060  
\021\371\205\317\063\110\365\312\155\144\024\054\172\130\117\323  
\113\010\111\305\225\144\032\143\016\171\075\365\263\214\312\130  
\255\234\102\105\171\156\016\207\031\134\124\261\145\266\277\214  
\233\334\023\351\015\157\270\056\334\147\156\311\213\021\265\204  
\024\212\000\031\160\203\171\221\227\221\324\032\047\277\067\036  
\062\007\330\024\143\074\050\114\257\002\003\001\000\001\243\143  
\060\141\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003  
\001\001\377\060\035\006\003\125\035\016\004\026\004\024\256\154  
\005\243\223\023\342\242\347\342\327\034\326\307\360\177\310\147  
\123\240\060\037\006\003\125\035\043\004\030\060\026\200\024\256  
\154\005\243\223\023\342\242\347\342\327\034\326\307\360\177\310  
\147\123\240\060\015\006\011\052\206\110\206\367\015\001\001\014  
\005\000\003\202\002\001\000\203\045\355\350\321\375\225\122\315  
\236\300\004\240\221\151\346\134\320\204\336\334\255\242\117\350  
\107\170\326\145\230\251\133\250\074\207\174\002\212\321\156\267  
\026\163\346\137\300\124\230\325\164\276\301\315\342\021\221\255  
\043\030\075\335\341\162\104\226\264\225\136\300\173\216\231\170  
\026\103\023\126\127\263\242\263\073\265\167\334\100\162\254\243  
\353\233\065\076\261\010\041\241\347\304\103\067\171\062\276\265  
\347\234\054\114\274\103\051\231\216\060\323\254\041\340\343\035  
\372\330\007\063\166\124\000\042\052\271\115\040\056\160\150\332  
\345\123\374\203\134\323\235\362\377\104\014\104\146\362\322\343  
\275\106\000\032\155\002\272\045\135\215\241\061\121\335\124\106  
\034\115\333\231\226\357\032\034\004\134\246\025\357\170\340\171  
\376\135\333\076\252\114\125\375\232\025\251\157\341\246\373\337  
\160\060\351\303\356\102\106\355\302\223\005\211\372\175\143\173  
\077\320\161\201\174\000\350\230\256\016\170\064\303\045\373\257  
\012\237\040\153\335\073\023\217\022\214\342\101\032\110\172\163  
\240\167\151\307\266\134\177\202\310\036\376\130\033\050\053\250  
\154\255\136\155\300\005\322\173\267\353\200\376\045\067\376\002  
\233\150\254\102\135\303\356\365\314\334\360\120\165\322\066\151

```
\234\346\173\004\337\156\006\151\266\336\012\011\110\131\207\353
\173\024\140\172\144\252\151\103\357\221\307\114\354\030\335\154
\357\123\055\214\231\341\136\362\162\076\317\124\310\275\147\354
\244\017\114\105\377\323\271\060\043\007\114\217\020\277\206\226
\331\231\132\264\231\127\034\244\314\273\025\211\123\272\054\005
\017\344\304\236\031\261\030\064\325\114\235\272\355\367\037\257
\044\225\004\170\250\003\273\356\201\345\332\137\174\213\112\241
\220\164\045\247\263\076\113\310\054\126\275\307\310\357\070\342
\134\222\360\171\367\234\204\272\164\055\141\001\040\176\176\321
\362\117\007\131\137\213\055\103\122\353\106\014\224\341\365\146
\107\171\167\325\124\133\037\255\044\067\313\105\132\116\240\104
\110\310\330\260\231\305\025\204\011\366\326\111\111\300\145\270
\346\032\161\156\240\250\361\202\350\105\076\154\326\002\327\012
\147\203\005\132\311\244\020
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign Root CA - R6"

# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6

# Serial Number:45:e6:bb:03:83:33:c3:85:65:48:e6:ff:45:51

# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6

# Not Valid Before: Wed Dec 10 00:00:00 2014

# Not Valid After : Sun Dec 10 00:00:00 2034

# Fingerprint (SHA-256):

2C:AB:EA:FE:37:D0:6C:A2:2A:BA:73:91:C0:03:3D:25:98:29:52:C4:53:64:73:49:76:3A:3A:B5:AD:6C:CF:69

# Fingerprint (SHA1): 80:94:64:0E:B5:A7:A1:CA:11:9C:1F:DD:D5:9F:81:02:63:A7:FB:D1

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GlobalSign Root CA - R6"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\200\224\144\016\265\247\241\312\021\234\037\335\325\237\201\002
\143\247\373\321
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\117\335\007\344\324\042\144\071\036\014\067\102\352\321\306\256
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\066\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
```

```

END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\016\105\346\273\003\203\063\303\205\145\110\346\377\105\121
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST
CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "OISTE WISeKey Global Root GC CA"
#
Issuer: CN=OISTE WISeKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH
Serial Number:21:2a:56:0c:ae:da:0c:ab:40:45:bf:2b:a2:2d:3a:ea
Subject: CN=OISTE WISeKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH
Not Valid Before: Tue May 09 09:48:34 2017
Not Valid After : Fri May 09 09:58:33 2042
Fingerprint (SHA-256):
85:60:F9:1C:36:24:DA:BA:95:70:B5:FE:A0:DB:E3:6F:F1:1A:83:23:BE:94:86:85:4F:B3:F3:4A:55:71:19:8D
Fingerprint (SHA1): E0:11:84:5E:34:DE:BE:88:81:B9:9C:F6:16:26:D1:96:1F:C3:B9:31
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "OISTE WISeKey Global Root GC CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\103\040\103\101
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\103\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL

```

\002\020\041\052\126\014\256\332\014\253\100\105\277\053\242\055  
\072\352

END

CKA\_VALUE

MULTILINE\_OCTAL

\060\202\002\151\060\202\001\357\240\003\002\001\002\002\020\041  
\052\126\014\256\332\014\253\100\105\277\053\242\055\072\352\060  
\012\006\010\052\206\110\316\075\004\003\003\060\155\061\013\060  
\011\006\003\125\004\006\023\002\103\110\061\020\060\016\006\003  
\125\004\012\023\007\127\111\123\145\113\145\171\061\042\060\040  
\006\003\125\004\013\023\031\117\111\123\124\105\040\106\157\165  
\156\144\141\164\151\157\156\040\105\156\144\157\162\163\145\144  
\061\050\060\046\006\003\125\004\003\023\037\117\111\123\124\105  
\040\127\111\123\145\113\145\171\040\107\154\157\142\141\154\040  
\122\157\157\164\040\107\103\040\103\101\060\036\027\015\061\067  
\060\065\060\071\060\071\064\070\063\064\132\027\015\064\062\060  
\065\060\071\060\071\065\070\063\063\132\060\155\061\013\060\011  
\006\003\125\004\006\023\002\103\110\061\020\060\016\006\003\125  
\004\012\023\007\127\111\123\145\113\145\171\061\042\060\040\006  
\003\125\004\013\023\031\117\111\123\124\105\040\106\157\165\156  
\144\141\164\151\157\156\040\105\156\144\157\162\163\145\144\061  
\050\060\046\006\003\125\004\003\023\037\117\111\123\124\105\040  
\127\111\123\145\113\145\171\040\107\154\157\142\141\154\040\122  
\157\157\164\040\107\103\040\103\101\060\166\060\020\006\007\052  
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000  
\004\114\351\120\300\306\017\162\030\274\330\361\272\263\211\342  
\171\112\243\026\247\153\124\044\333\121\377\352\364\011\044\303  
\013\042\237\313\152\047\202\201\015\322\300\257\061\344\164\202  
\156\312\045\331\214\165\235\361\333\320\232\242\113\041\176\026  
\247\143\220\322\071\324\261\207\170\137\030\226\017\120\033\065  
\067\017\152\306\334\331\023\115\244\216\220\067\346\275\133\061  
\221\243\124\060\122\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004  
\024\110\207\024\254\343\303\236\220\140\072\327\312\211\356\323  
\255\214\264\120\146\060\020\006\011\053\006\001\004\001\202\067  
\025\001\004\003\002\001\000\060\012\006\010\052\206\110\316\075  
\004\003\003\003\150\000\060\145\002\060\046\307\151\133\334\325  
\347\262\347\310\014\214\214\303\335\171\214\033\143\325\311\122  
\224\116\115\202\112\163\036\262\200\204\251\045\300\114\132\155  
\111\051\140\170\023\342\176\110\353\144\002\061\000\333\064\040  
\062\010\377\232\111\002\266\210\336\024\257\135\154\231\161\215  
\032\077\213\327\340\242\066\206\034\007\202\072\166\123\375\302  
\242\355\357\173\260\200\117\130\017\113\123\071\275

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE



CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "OISTE WISeKey Global Root GC CA"

# Issuer: CN=OISTE WISeKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH

# Serial Number:21:2a:56:0c:ae:da:0c:ab:40:45:bf:2b:a2:2d:3a:ea

# Subject: CN=OISTE WISeKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH

# Not Valid Before: Tue May 09

09:48:34 2017

# Not Valid After : Fri May 09 09:58:33 2042

# Fingerprint (SHA-256):

85:60:F9:1C:36:24:DA:BA:95:70:B5:FE:A0:DB:E3:6F:F1:1A:83:23:BE:94:86:85:4F:B3:F3:4A:55:71:19:8D

# Fingerprint (SHA1): E0:11:84:5E:34:DE:BE:88:81:B9:9C:F6:16:26:D1:96:1F:C3:B9:31

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "OISTE WISeKey Global Root GC CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\340\021\204\136\064\336\276\210\201\271\234\366\026\046\321\226

\037\303\271\061

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\251\326\271\055\057\223\144\370\245\151\312\221\351\150\007\043

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061

\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145

\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124

\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144

\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037

\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154

\157\142\141\154\040\122\157\157\164\040\107\103\040\103\101

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\041\052\126\014\256\332\014\253\100\105\277\053\242\055

\072\352

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "UCA Global G2 Root"

#

# Issuer: CN=UCA Global G2 Root,O=UniTrust,C=CN

# Serial Number:5d:df:b1:da:5a:a3:ed:5d:be:5a:65:20:65:03:90:ef

```
Subject: CN=UCA Global G2 Root,O=UniTrust,C=CN
Not Valid Before: Fri Mar 11 00:00:00 2016
Not Valid After : Mon Dec 31 00:00:00 2040
Fingerprint (SHA-256):
9B:EA:11:C9:76:FE:01:47:64:C1:BE:56:A6:F9:14:B5:A5:60:31:7A:BD:99:88:39:33:82:E5:16:1A:A0:49:3C
Fingerprint (SHA1): 28:F9:78:16:19:7A:FF:18:25:18:AA:44:FE:C1:A0:CE:5C:B6:4C:8A
CKA_CLASS CK_OBJECT_CLASS
CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "UCA Global G2 Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\033\060\031\006\003\125\004\003\014\022\125\103\101
\040\107\154\157\142\141\154\040\107\062\040\122\157\157\164
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\033\060\031\006\003\125\004\003\014\022\125\103\101
\040\107\154\157\142\141\154\040\107\062\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\135\337\261\332\132\243\355\135\276\132\145\040\145\003
\220\357
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\106\060\202\003\056\240\003\002\001\002\002\020\135
\337\261\332\132\243\355\135\276\132\145\040\145\003\220\357\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\075
\061\013\060\011\006\003\125\004\006\023\002\103\116\061\021\060
\017\006\003\125\004\012\014\010\125\156\151\124\162\165\163\164
\061\033\060\031\006\003\125\004\003\014\022\125\103\101\040\107
\154\157\142\141\154\040\107\062\040\122\157\157\164\060\036\027
\015\061\066\060\063\061\061\060\060\060\060\060\060\132\027\015
\064\060\061\062\063\061\060\060\060\060\060\060\132\060\075\061
\013\060\011\006\003\125\004\006\023\002\103\116\061\021\060\017
\006\003\125\004\012\014\010\125\156\151\124\162\165\163\164\061
\033\060\031\006\003\125\004\003\014\022\125\103\101\040\107\154
\157\142\141\154\040\107\062\040\122\157\157\164\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\305\346\053
\157\174\357\046\005\047\243\201\044\332\157\313\001\371\231\232
\251\062\302\042\207\141\101\221\073\313\303\150\033\006\305\114
```

\251\053\301\147\027\042\035\053\355\371\051\211\223\242\170\275  
\222\153\240\243\015\242\176\312\223\263\246\321\214\065\325\165  
\371\027\366\317\105\305\345\172\354\167\223\240\217\043\256\016  
\032\003\177\276\324\320\355\056\173\253\106\043\133\377\054\346  
\124\172\224\300\052\025\360\311\215\260\172\073\044\341\327\150  
\342\061\074\006\063\106\266\124\021\246\245\057\042\124\052\130  
\015\001\002\361\372\025\121\147\154\300\372\327\266\033\177\321  
\126\210\057\032\072\215\073\273\202\021\340\107\000\320\122\207  
\253\373\206\176\017\044\153\100\235\064\147\274\215\307\055\206  
\157\171\076\216\251\074\027\113\177\260\231\343\260\161\140\334  
\013\365\144\303\316\103\274\155\161\271\322\336\047\133\212\350  
\330\306\256\341\131\175\317\050\055\065\270\225\126\032\361\262  
\130\113\267\022\067\310\174\263\355\113\200\341\215\372\062\043  
\266\157\267\110\225\010\261\104\116\205\214\072\002\124\040\057  
\337\277\127\117\073\072\220\041\327\301\046\065\124\040\354\307  
\077\107\354\357\132\277\113\172\301\255\073\027\120\134\142\330  
\017\113\112\334\053\372\156\274\163\222\315\354\307\120\350\101  
\226\327\251\176\155\330\351\035\217\212\265\271\130\222\272\112  
\222\053\014\126\375\200\353\010\360\136\051\156\033\034\014\257  
\217\223\211\255\333\275\243\236\041\312\211\031\354\337\265\303  
\032\353\026\376\170\066\114\326\156\320\076\027\034\220\027\153  
\046\272\373\172\057\277\021\034\030\016\055\163\003\217\240\345  
\065\240\132\342\114\165\035\161\341\071\070\123\170\100\314\203  
\223\327\012\236\235\133\217\212\344\345\340\110\344\110\262\107  
\315\116\052\165\052\173\362\042\366\311\276\011\221\226\127\172  
\210\210\254\356\160\254\371\334\051\343\014\034\073\022\116\104  
\326\247\116\260\046\310\363\331\032\227\221\150\352\357\215\106  
\006\322\126\105\130\232\074\014\017\203\270\005\045\303\071\317  
\073\244\064\211\267\171\022\057\107\305\347\251\227\151\374\246  
\167\147\265\337\173\361\172\145\025\344\141\126\145\002\003\001  
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\201\304\214\314\365\344\060\377\245\014\010\137\214\025  
\147\041\164\001\337\337\060\015\006\011\052\206\110\206\367\015  
\001\001\013\005\000\003\202\002\001\000\023\145\042\365\216\053  
\255\104\344\313\377\271\150\346\303\200\110\075\004\173\372\043  
\057\172\355\066\332\262\316\155\366\346\236\345\137\130\217\313  
\067\062\241\310\145\266\256\070\075\065\033\076\274\073\266\004  
\320\274\371\111\365\233\367\205\305\066\266\313\274\370\310\071  
\325\344\137\007\275\025\124\227\164\312\312\355\117\272\272\144  
\166\237\201\270\204\105\111\114\215\157\242\353\261\314\321\303  
\224\332\104\302\346\342\352\030\350\242\037\047\005\272\327\345  
\326\251\315\335\357\166\230\215\000\016\315\033\372\003\267\216  
\200\130\016\047\077\122\373\224\242\312\136\145\311\326\204\332  
\271\065\161\363\046\300\117\167\346\201\047\322\167\073\232\024  
\157\171\364\366\320\341\323\224\272\320\127\121\275\047\005\015  
\301\375\310\022\060\356\157\215\021\053\010\235\324\324\277\200

```
\105\024\232\210\104\332\060\352\264\247\343\356\357\133\202\325
\076\326\255\170\222\333\134\074\363\330\255\372\270\153\177\304
\066\050\266\002\025\212\124\054\234\260\027\163\216\320\067\243
\024\074\230\225\000\014\051\005\133\236\111\111\261\137\307\343
\313\317\047\145\216\065\027\267\127\310\060\331\101\133\271\024
\266\350\302\017\224\061\247\224\230\314\152\353\265\341\047\365
\020\250\001\350\216\022\142\350\210\314\265\177\106\227\300\233
\020\146\070\032\066\106\137\042\150\075\337\311\306\023\047\253
\123\006\254\242\074\206\006\145\157\261\176\261\051\104\232\243
\272\111\151\050\151\217\327\345\137\255\004\206\144\157\032\240
\014\305\010\142\316\200\243\320\363\354\150\336\276\063\307\027
\133\177\200\304\114\114\261\246\204\212\303\073\270\011\315\024
\201\272\030\343\124\127\066\376\333\057\174\107\241\072\063\310
\371\130\073\104\117\261\312\002\211\004\226\050\150\305\113\270
\046\211\273\326\063\057\120\325\376\232\211\272\030\062\222\124
\306\133\340\235\371\136\345\015\042\233\366\332\342\310\041\262
\142\041\252\206\100\262\056\144\323\137\310\343\176\021\147\105
\037\005\376\343\242\357\263\250\263\363\175\217\370\014\037\042
\037\055\160\264\270\001\064\166\060\000\345\043\170\247\126\327
\120\037\212\373\006\365\302\031\360\320
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "UCA Global G2 Root"

# Issuer: CN=UCA Global G2 Root,O=UniTrust,C=CN

# Serial Number:5d:df:b1:da:5a:a3:ed:5d:be:5a:65:20:65:03:90:ef

# Subject: CN=UCA Global G2 Root,O=UniTrust,C=CN

# Not Valid Before: Fri Mar 11 00:00:00 2016

# Not Valid After : Mon Dec 31 00:00:00 2040

# Fingerprint (SHA-256):

9B:EA:11:C9:76:FE:01:47:64:C1:BE:56:A6:F9:14:B5:A5:60:31:7A:BD:99:88:39:33:82:E5:16:1A:A0:49:3C

# Fingerprint (SHA1): 28:F9:78:16:19:7A:FF:18:25:18:AA:44:FE:C1:A0:CE:5C:B6:4C:8A

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "UCA Global G2 Root"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\050\371\170\026\031\172\377\030\045\030\252\104\376\301\240\316
\134\266\114\212
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\200\376\360\304\112\360\134\142\062\237\034\272\170\251\120\370
```

END

```

CKA_ISSUER MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\033\060\031\006\003\125\004\003\014\022\125\103\101
\040\107\154\157\142\141\154\040\107\062\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\135\337\261\332\132\243\355\135\276\132\145\040\145\003
\220\357
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

#
Certificate "UCA Extended Validation Root"
#
Issuer: CN=UCA Extended Validation Root,O=UniTrust,C=CN
Serial Number:4f:d2:2b:8f:f5:64:c8:33:9e:4f:34:58:66:23:70:60
Subject: CN=UCA Extended Validation Root,O=UniTrust,C=CN
Not Valid Before: Fri Mar 13 00:00:00 2015
Not Valid After : Fri Dec 31 00:00:00 2038
Fingerprint (SHA-256):
D4:3A:F9:B3:54:73:75:5C:96:84:FC:06:D7:D8:CB:70:EE:5C:28:E7:73:FB:29:4E:B4:1E:E7:17:22:92:4D:24
Fingerprint (SHA1): A3:A1:B0:6F:24:61:23:4A:E3:36:A5:C2:37:FC:A6:FF:DD:F0:D7:3A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "UCA Extended Validation Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\045\060\043\006\003\125\004\003\014\034\125\103\101
\040\105\170\164\145\156\144\145\144\040\126\141\154\151\144\141
\164\151\157\156\040\122\157\157\164
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\045\060\043\006\003\125\004\003\014\034\125\103\101
\040\105\170\164\145\156\144\145\144\040\126\141\154\151\144\141
\164\151\157\156\040\122\157\157\164

```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\117\322\053\217\365\144\310\063\236\117\064\130\146\043  
\160\140

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\132\060\202\003\102\240\003\002\001\002\002\020\117  
\322\053\217\365\144\310\063\236\117\064\130\146\043\160\140\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\107  
\061\013\060\011\006\003\125\004\006\023\002\103\116\061\021\060  
\017\006\003\125\004\012\014\010\125\156\151\124\162\165\163\164  
\061\045\060\043\006\003\125\004\003\014\034\125\103\101\040\105  
\170\164\145\156\144\145\144\040\126\141\154\151\144\141\164\151  
\157\156\040\122\157\157\164\060\036\027\015\061\065\060\063\061  
\063\060\060\060\060\060\060\132\027\015\063\070\061\062\063\061  
\060\060\060\060\060\060\132\060\107\061\013\060\011\006\003\125  
\004\006\023\002\103\116\061\021\060\017\006\003\125\004\012\014  
\010\125\156\151\124\162\165\163\164\061\045\060\043\006\003\125  
\004\003\014\034\125\103\101\040\105\170\164\145\156\144\145\144  
\040\126\141\154\151\144\141\164\151\157\156\040\122\157\157\164  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\251\011\007\050\023\002\260\231\340\144\252\036\103\026\172  
\163\261\221\240\165\076\250\372\343\070\000\172\354\211\152\040  
\017\213\305\260\233\063\003\132\206\306\130\206\325\301\205\273  
\117\306\234\100\115\312\276\356\151\226\270\255\201\060\232\174  
\222\005\353\005\053\232\110\320\270\166\076\226\310\040\273\322  
\260\361\217\330\254\105\106\377\252\147\140\264\167\176\152\037  
\074\032\122\172\004\075\007\074\205\015\204\320\037\166\012\367  
\152\024\337\162\343\064\174\127\116\126\001\076\171\361\252\051  
\073\154\372\370\217\155\115\310\065\337\256\353\334\044\356\171  
\105\247\205\266\005\210\336\210\135\045\174\227\144\147\011\331  
\277\132\025\005\206\363\011\036\354\130\062\063\021\363\167\144  
\260\166\037\344\020\065\027\033\362\016\261\154\244\052\243\163  
\374\011\037\036\062\031\123\021\347\331\263\054\056\166\056\241  
\243\336\176\152\210\011\350\362\007\212\370\262\315\020\347\342  
\163\100\223\273\010\321\077\341\374\013\224\263\045\357\174\246  
\327\321\257\237\377\226\232\365\221\173\230\013\167\324\176\350  
\007\322\142\265\225\071\343\363\361\155\017\016\145\204\212\143  
\124\305\200\266\340\236\113\175\107\046\247\001\010\135\321\210  
\236\327\303\062\104\372\202\112\012\150\124\177\070\123\003\314  
\244\000\063\144\121\131\013\243\202\221\172\136\354\026\302\363  
\052\346\142\332\052\333\131\142\020\045\112\052\201\013\107\007  
\103\006\160\207\322\372\223\021\051\172\110\115\353\224\307\160  
\115\257\147\325\121\261\200\040\001\001\264\172\010\246\220\177  
\116\340\357\007\101\207\257\152\245\136\213\373\317\120\262\232  
\124\257\303\211\272\130\055\365\060\230\261\066\162\071\176\111  
\004\375\051\247\114\171\344\005\127\333\224\271\026\123\215\106

\263\035\225\141\127\126\177\257\360\026\133\141\130\157\066\120  
\021\013\330\254\053\225\026\032\016\037\010\315\066\064\145\020  
\142\146\325\200\137\024\040\137\055\014\240\170\012\150\326\054  
\327\351\157\053\322\112\005\223\374\236\157\153\147\377\210\361  
\116\245\151\112\122\067\005\352\306\026\215\322\304\231\321\202  
\053\073\272\065\165\367\121\121\130\363\310\007\335\344\264\003  
\177\002\003\001\000\001\243\102\060\100\060\035\006\003\125\035  
\016\004\026\004\024\331\164\072\344\060\075\015\367\022\334\176  
\132\005\237\036\064\232\367\341\024\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\206\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\066\215  
\227\314\102\025\144\051\067\233\046\054\326\373\256\025\151\054  
\153\032\032\367\137\266\371\007\114\131\352\363\311\310\271\256  
\314\272\056\172\334\300\365\260\055\300\073\257\237\160\005\021  
\152\237\045\117\001\051\160\343\345\014\341\352\132\174\334\111  
\273\301\036\052\201\365\026\113\162\221\310\242\061\271\252\332  
\374\235\037\363\135\100\002\023\374\116\034\006\312\263\024\220  
\124\027\031\022\032\361\037\327\014\151\132\366\161\170\364\224  
\175\221\013\216\354\220\124\216\274\157\241\114\253\374\164\144  
\375\161\232\370\101\007\241\315\221\344\074\232\340\233\062\071  
\163\253\052\325\151\310\170\221\046\061\175\342\307\060\361\374  
\024\170\167\022\016\023\364\335\026\224\277\113\147\173\160\123  
\205\312\260\273\363\070\115\054\220\071\300\015\302\135\153\351  
\342\345\325\210\215\326\054\277\253\033\276\265\050\207\022\027  
\164\156\374\175\374\217\320\207\046\260\033\373\271\154\253\342  
\236\075\025\301\073\056\147\002\130\221\237\357\370\102\037\054  
\267\150\365\165\255\317\265\366\377\021\175\302\360\044\245\255  
\323\372\240\074\251\372\135\334\245\240\357\104\244\276\326\350  
\345\344\023\226\027\173\006\076\062\355\307\267\102\274\166\243  
\330\145\070\053\070\065\121\041\016\016\157\056\064\023\100\341  
\053\147\014\155\112\101\060\030\043\132\062\125\231\311\027\340  
\074\336\366\354\171\255\053\130\031\242\255\054\042\032\225\216  
\276\226\220\135\102\127\304\371\024\003\065\053\034\055\121\127  
\010\247\072\336\077\344\310\264\003\163\302\301\046\200\273\013  
\102\037\255\015\257\046\162\332\314\276\263\243\203\130\015\202  
\305\037\106\121\343\234\030\314\215\233\215\354\111\353\165\120  
\325\214\050\131\312\164\064\332\214\013\041\253\036\352\033\345  
\307\375\025\076\300\027\252\373\043\156\046\106\313\372\371\261  
\162\153\151\317\042\204\013\142\017\254\331\031\000\224\242\166  
\074\324\055\232\355\004\236\055\006\142\020\067\122\034\205\162  
\033\047\345\314\306\061\354\067\354\143\131\233\013\035\166\314  
\176\062\232\210\225\010\066\122\273\336\166\137\166\111\111\255  
\177\275\145\040\262\311\301\053\166\030\166\237\126\261

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "UCA Extended Validation Root"

# Issuer: CN=UCA Extended Validation Root,O=UniTrust,C=CN

# Serial Number:4f:d2:2b:8f:f5:64:c8:33:9e:4f:34:58:66:23:70:60

# Subject: CN=UCA Extended Validation Root,O=UniTrust,C=CN

# Not Valid Before: Fri Mar 13 00:00:00 2015

# Not Valid After : Fri Dec 31 00:00:00 2038

# Fingerprint (SHA-256):

D4:3A:F9:B3:54:73:75:5C:96:84:FC:06:D7:D8:CB:70:EE:5C:28:E7:73:FB:29:4E:B4:1E:E7:17:22:92:4D:24

# Fingerprint (SHA1): A3:A1:B0:6F:24:61:23:4A:E3:36:A5:C2:37:FC:A6:FF:DD:F0:D7:3A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL

UTF8 "UCA Extended Validation Root"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\243\241\260\157\044\141\043\112\343\066\245\302\067\374\246\377  
\335\360\327\072

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\241\363\137\103\306\064\233\332\277\214\176\005\123\255\226\342

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061  
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165  
\163\164\061\045\060\043\006\003\125\004\003\014\034\125\103\101  
\040\105\170\164\145\156\144\145\144\040\126\141\154\151\144\141  
\164\151\157\156\040\122\157\157\164

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\117\322\053\217\365\144\310\063\236\117\064\130\146\043  
\160\140

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Certigna Root CA"

#

# Issuer: CN=Certigna Root

CA,OU=0002 48146308100036,O=Dhimyotis,C=FR

# Serial Number:00:ca:e9:1b:89:f1:55:03:0d:a3:e6:41:6d:c4:e3:a6:e1

# Subject: CN=Certigna Root CA,OU=0002 48146308100036,O=Dhimyotis,C=FR

# Not Valid Before: Tue Oct 01 08:32:27 2013



```
Not Valid After : Sat Oct 01 08:32:27 2033
Fingerprint (SHA-256):
D4:8D:3D:23:EE:DB:50:A4:59:E5:51:97:60:1C:27:77:4B:9D:7B:18:C9:4D:5A:05:95:11:A1:02:50:B9:31:68
Fingerprint (SHA1): 2D:0D:52:14:FF:9E:AD:99:24:01:74:20:47:6E:6C:85:27:27:F5:43
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certigna Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\034\060\032\006\003\125\004\013\014\023\060\060
\060\062\040\064\070\061\064\066\063\060\070\061\060\060\060\063
\066\061\031\060\027\006\003\125\004\003\014\020\103\145\162\164
\151\147\156\141\040\122\157\157\164\040\103\101
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\034\060\032\006\003\125\004\013\014\023\060\060
\060\062\040\064\070\061\064\066\063\060\070\061\060\060\060\063
\066\061\031\060\027\006\003\125\004\003\014\020\103\145\162\164
\151\147\156\141\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\312\351\033\211\361\125\003\015\243\346\101\155\304
\343\246\341
END
CKA_VALUE MULTILINE_OCTAL
\060\202\006\133\060\202\004\103\240\003\002\001\002\002\021\000
\312\351\033\211\361\125\003\015\243\346\101\155\304\343\246\341
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061\022
\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157\164
\151\163\061\034\060\032\006\003\125\004\013\014\023\060\060\060
\062\040\064\070\061\064\066\063\060\070\061\060\060\060\063\066
\061\031\060\027\006\003\125\004\003\014\020\103\145\162\164\151
\147\156\141\040\122\157\157\164\040\103\101\060\036\027\015\061
\063\061\060\060\061\060\070\063\062\062\067\132\027\015\063\063
\061\060\060\061\060\070\063\062\062\067\132\060\132\061\013\060
\011\006\003\125\004\006\023\002\106\122\061\022\060\020\006\003
\125\004\012\014\011\104\150\151\155\171\157\164\151\163\061\034
\060\032\006\003\125\004\013\014\023\060\060\060\062\040\064\070
\061\064\066\063\060\070\061\060\060\060\063\066\061\031\060\027
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\006\003\125\004\003\014\020\103\145\162\164\151\147\156\141\040  
\122\157\157\164\040\103\101\060\202\002\042\060\015\006\011\052  
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060  
\202\002\012\002\202\002\001\000\315\030\071\145\032\131\261\352  
\144\026\016\214\224\044\225\174\203\323\305\071\046\334\014\357  
\026\127\215\327\330\254\243\102\177\202\312\355\315\133\333\016  
\267\055\355\105\010\027\262\331\263\313\326\027\122\162\050\333  
\216\116\236\212\266\013\371\236\204\232\115\166\336\042\051\134  
\322\263\322\006\076\060\071\251\164\243\222\126\034\241\157\114  
\012\040\155\237\043\172\264\306\332\054\344\035\054\334\263\050  
\320\023\362\114\116\002\111\241\124\100\236\346\345\005\240\055  
\204\310\377\230\154\320\353\212\032\204\010\036\267\150\043\356  
\043\325\160\316\155\121\151\020\356\241\172\302\321\042\061\302  
\202\205\322\362\125\166\120\174\045\172\311\204\134\013\254\335  
\102\116\053\347\202\242\044\211\313\220\262\320\356\043\272\146  
\114\273\142\244\371\123\132\144\173\174\230\372\243\110\236\017  
\225\256\247\030\364\152\354\056\003\105\257\360\164\370\052\315  
\172\135\321\276\104\046\062\051\361\361\365\154\314\176\002\041  
\013\237\157\244\077\276\235\123\342\317\175\251\054\174\130\032  
\227\341\075\067\067\030\146\050\322\100\305\121\212\214\303\055  
\316\123\210\044\130\144\060\026\305\252\340\326\012\246\100\337  
\170\366\365\004\174\151\023\204\274\321\321\247\006\317\001\367  
\150\300\250\127\273\072\141\255\004\214\223\343\255\374\360\333  
\104\155\131\334\111\131\256\254\232\231\066\060\101\173\166\063  
\042\207\243\302\222\206\156\371\160\356\256\207\207\225\033\304  
\172\275\061\363\324\322\345\231\377\276\110\354\165\365\170\026  
\035\246\160\301\177\074\033\241\222\373\317\310\074\326\305\223  
\012\217\365\125\072\166\225\316\131\230\212\011\225\167\062\232  
\203\272\054\004\072\227\275\324\057\276\327\154\233\242\312\175  
\155\046\311\125\325\317\303\171\122\010\011\231\007\044\055\144  
\045\153\246\041\151\233\152\335\164\115\153\227\172\101\275\253  
\027\371\220\027\110\217\066\371\055\325\305\333\356\252\205\105  
\101\372\315\072\105\261\150\346\066\114\233\220\127\354\043\271  
\207\010\302\304\011\361\227\206\052\050\115\342\164\300\332\304  
\214\333\337\342\241\027\131\316\044\131\164\061\332\177\375\060  
\155\331\334\341\152\341\374\137\002\003\001\000\001\243\202\001  
\032\060\202\001\026\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004  
\024\030\207\126\340\156\167\356\044\065\074\116\163\232\037\326  
\341\342\171\176\053\060\037\006\003\125\035\043\004\030\060\026  
\200\024\030\207\126\340\156\167\356\044\065\074\116\163\232\037  
\326\341\342\171\176\053\060\104\006\003\125\035\040\004\075\060  
\073\060\071\006\004\125\035\040\000\060\061\060\057\006\010\053  
\006\001\005\005\007\002\001\026\043\150\164\164\160\163\072\057  
\057\167\167\167\167\056\143\145\162\164\151\147\156\141\056\146  
\162\057\141\165\164\157\162\151\164\145\163\057\060\155\006\003  
\125\035\037\004\146\060\144\060\057\240\055\240\053\206\051\150

\164\164\160\072\057\057\143\162\154\056\143\145\162\164\151\147  
\156\141\056\146\162\057\143\145\162\164\151\147\156\141\162\157  
\157\164\143\141\056\143\162\154\060\061\240\057\240\055\206\053  
\150\164\164\160\072\057\057\143\162\154\056\144\150\151\155\171  
\157\164\151\163\056\143\157\155\057\143\145\162\164\151\147\156  
\141\162\157\157\164\143\141\056\143\162\154\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\224  
\270\236\117\360\343\225\010\042\347\315\150\101\367\034\125\325  
\174\000\342\055\072\211\135\150\070\057\121\042\013\112\215\313  
\351\273\135\076\273\134\075\261\050\376\344\123\125\023\317\241  
\220\033\002\035\137\146\106\011\063\050\341\015\044\227\160\323  
\020\037\352\144\127\226\273\135\332\347\304\214\117\114\144\106  
\035\134\207\343\131\336\102\321\233\250\176\246\211\335\217\034  
\311\060\202\355\073\234\315\300\351\031\340\152\330\002\165\067  
\253\367\064\050\050\221\362\004\012\117\065\343\140\046\001\372  
\320\021\214\371\021\152\356\257\075\303\120\323\217\137\063\171  
\074\206\250\163\105\220\214\040\266\162\163\027\043\276\007\145  
\345\170\222\015\272\001\300\353\214\034\146\277\254\206\167\001  
\224\015\234\346\351\071\215\037\246\121\214\231\014\071\167\341  
\264\233\372\034\147\127\157\152\152\216\251\053\114\127\171\172  
\127\042\317\315\137\143\106\215\134\131\072\206\370\062\107\142  
\243\147\015\030\221\334\373\246\153\365\110\141\163\043\131\216  
\002\247\274\104\352\364\111\235\361\124\130\371\140\257\332\030  
\244\057\050\105\334\172\240\210\206\135\363\073\347\377\051\065  
\200\374\144\103\224\346\343\034\157\276\255\016\052\143\231\053  
\311\176\205\366\161\350\006\003\225\376\336\217\110\034\132\324  
\222\350\053\356\347\061\333\272\004\152\207\230\347\305\137\357  
\175\247\042\367\001\330\115\371\211\320\016\232\005\131\244\236  
\230\331\157\053\312\160\276\144\302\125\243\364\351\257\303\222  
\051\334\210\026\044\231\074\215\046\230\266\133\267\314\316\267  
\067\007\375\046\331\230\205\044\377\131\043\003\232\355\235\235  
\250\344\136\070\316\327\122\015\157\322\077\155\261\005\153\111  
\316\212\221\106\163\364\366\057\360\250\163\167\016\145\254\241  
\215\146\122\151\176\113\150\014\307\036\067\047\203\245\214\307  
\002\344\024\315\111\001\260\163\263\375\306\220\072\157\322\154  
\355\073\356\354\221\276\242\103\135\213\000\112\146\045\104\160  
\336\100\017\370\174\025\367\242\316\074\327\136\023\214\201\027  
\030\027\321\275\361\167\020\072\324\145\071\301\047\254\127\054  
\045\124\377\242\332\117\212\141\071\136\256\075\112\214\275

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certigna Root CA"

# Issuer: CN=Certigna Root CA,OU=0002 48146308100036,O=Dhimyotis,C=FR

# Serial Number:00:ca:e9:1b:89:f1:55:03:0d:a3:e6:41:6d:c4:e3:a6:e1

```

Subject: CN=Certigna Root CA,OU=0002 48146308100036,O=Dhimyotis,C=FR
Not Valid Before: Tue Oct 01 08:32:27 2013
Not Valid After : Sat Oct 01 08:32:27 2033
Fingerprint (SHA-256):
D4:8D:3D:23:EE:DB:50:A4:59:E5:51:97:60:1C:27:77:4B:9D:7B:18:C9:4D:5A:05:95:11:A1:02:50:B9:31:68
Fingerprint (SHA1): 2D:0D:52:14:FF:9E:AD:99:24:01:74:20:47:6E:6C:85:27:27:F5:43
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN
CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certigna Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\055\015\122\024\377\236\255\231\044\001\164\040\107\156\154\205
\047\047\365\103
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\016\134\060\142\047\353\133\274\327\256\142\272\351\325\337\167
END
CKA_ISSUER MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\034\060\032\006\003\125\004\013\014\023\060\060
\060\062\040\064\070\061\064\066\063\060\070\061\060\060\060\063
\066\061\031\060\027\006\003\125\004\003\014\020\103\145\162\164
\151\147\156\141\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\312\351\033\211\361\125\003\015\243\346\101\155\304
\343\246\341
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING
CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "emSign Root CA - G1"
#
Issuer: CN=emSign Root CA - G1,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
Serial Number:31:f5:e4:62:0c:6c:58:ed:d6:d8
Subject: CN=emSign Root CA - G1,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
Not Valid Before: Sun Feb 18 18:30:00 2018
Not Valid After : Wed Feb 18 18:30:00 2043
Fingerprint (SHA-256):
40:F6:AF:03:46:A9:9A:A1:CD:1D:55:5A:4E:9C:CE:62:C7:F9:63:46:03:EE:40:66:15:83:3D:C8:C8:D0:03:67
Fingerprint (SHA1): 8A:C7:AD:8F:73:AC:4E:C1:B5:75:4D:A5:40:F4:FC:CF:7C:B5:8E:8C

```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign Root CA - G1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032\006
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157
\164\040\103\101\040\055\040\107\061
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032\006
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157
\164\040\103\101\040\055\040\107\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\012\061\365\344\142\014\154\130\355\326\330
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\224\060\202\002\174\240\003\002\001\002\002\012\061
\365\344\142\014\154\130\355\326\330\060\015\006\011\052\206\110
\206\367\015\001\001\013\005\000\060\147\061\013\060\011\006\003
\125\004\006\023\002\111\116\061\023\060\021\006\003\125\004\013
\023\012\145\155\123\151\147\156\040\120\113\111\061\045\060\043
\006\003\125\004\012\023\034\145\115\165\144\150\162\141\040\124
\145\143\150\156\157\154\157\147\151\145\163\040\114\151\155\151
\164\145\144\061\034\060\032\006\003\125\004\003\023\023\145\155
\123\151\147\156\040\122\157\157\164\040\103\101\040\055\040\107
\061\060\036\027\015\061\070\060\062\061\070\061\070\063\060\060
\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060\060
\132\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116
\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147
\156\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034
\145\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157
\147\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032
\006\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157
\157\164\040\103\101\040\055\040\107\061\060\202\001\042\060\015
```

\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001  
\017\000\060\202\001\012\002\202\001\001\000\223\113\273\351\146  
\212\356\235\133\325\064\223\320\033\036\303\347\236\270\144\063  
\177\143\170\150\264\315\056\161\165\327\233\040\306\115\051\274  
\266\150\140\212\367\041\232\126\065\132\363\166\275\330\315\232  
\377\223\126\113\245\131\006\241\223\064\051\335\026\064\165\116  
\362\201\264\307\226\116\255\031\025\122\112\376\074\160\165\160  
\315\257\053\253\025\232\063\074\252\263\213\252\315\103\375\365  
\352\160\377\355\317\021\073\224\316\116\062\026\323\043\100\052  
\167\263\257\074\001\054\154\355\231\054\213\331\116\151\230\262  
\367\217\101\260\062\170\141\326\015\137\303\372\242\100\222\035  
\134\027\346\160\076\065\347\242\267\302\142\342\253\244\070\114  
\265\071\065\157\352\003\151\372\072\124\150\205\155\326\362\057  
\103\125\036\221\015\016\330\325\152\244\226\321\023\074\054\170  
\120\350\072\222\322\027\126\345\065\032\100\034\076\215\054\355  
\071\337\102\340\203\101\164\337\243\315\302\206\140\110\150\343  
\151\013\124\000\213\344\166\151\041\015\171\116\064\010\136\024  
\302\314\261\267\255\327\174\160\212\307\205\002\003\001\000\001  
\243\102\060\100\060\035\006\003\125\035\016\004\026\004\024\373  
\357\015\206\236\260\343\335\251\271\361\041\027\177\076\374\360  
\167\053\032\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001  
\013\005\000\003\202\001\001\000\131\377\362\214\365\207\175\161  
\075\243\237\033\133\321\332\370\323\234\153\066\275\233\251\141  
\353\336\026\054\164\075\236\346\165\332\327\272\247\274\102\027  
\347\075\221\353\345\175\335\076\234\361\317\222\254\154\110\314  
\302\042\077\151\073\305\266\025\057\243\065\306\150\052\034\127  
\257\071\357\215\320\065\303\030\014\173\000\126\034\315\213\031  
\164\336\276\017\022\340\320\252\241\077\002\064\261\160\316\235  
\030\326\010\003\011\106\356\140\340\176\266\304\111\004\121\175  
\160\140\274\252\262\377\171\162\172\246\035\075\137\052\370\312  
\342\375\071\267\107\271\353\176\337\004\043\257\372\234\006\007  
\351\373\143\223\200\100\265\306\154\012\061\050\316\014\237\317  
\263\043\065\200\101\215\154\304\067\173\201\057\200\241\100\102  
\205\351\331\070\215\350\241\123\315\001\277\151\350\132\006\362  
\105\013\220\372\256\341\277\235\362\256\127\074\245\256\262\126  
\364\213\145\100\351\375\061\201\054\364\071\011\330\356\153\247  
\264\246\035\025\245\230\367\001\201\330\205\175\363\121\134\161  
\210\336\272\314\037\200\176\112

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "emSign Root CA - G1"

# Issuer: CN=emSign Root CA - G1,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN

```

Serial Number:31:f5:e4:62:0c:6c:58:ed:d6:d8
Subject: CN=emSign Root CA - G1,O=eMudhra Technologies
Limited,OU=emSign PKI,C=IN
Not Valid Before: Sun Feb 18 18:30:00 2018
Not Valid After : Wed Feb 18 18:30:00 2043
Fingerprint (SHA-256):
40:F6:AF:03:46:A9:9A:A1:CD:1D:55:5A:4E:9C:CE:62:C7:F9:63:46:03:EE:40:66:15:83:3D:C8:C8:D0:03:67
Fingerprint (SHA1): 8A:C7:AD:8F:73:AC:4E:C1:B5:75:4D:A5:40:F4:FC:CF:7C:B5:8E:8C
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign Root CA - G1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\212\307\255\217\163\254\116\301\265\165\115\245\100\364\374\317
\174\265\216\214
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\234\102\204\127\335\313\013\247\056\225\255\266\363\332\274\254
END
CKA_ISSUER MULTILINE_OCTAL
\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032\006
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157
\164\040\103\101\040\055\040\107\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\012\061\365\344\142\014\154\130\355\326\330
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "emSign ECC Root CA - G3"
#
Issuer: CN=emSign ECC Root CA - G3,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
Serial Number:3c:f6:07:a9:68:70:0e:da:8b:84
Subject: CN=emSign ECC Root CA - G3,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
Not Valid Before: Sun Feb 18 18:30:00 2018
Not Valid After : Wed Feb 18 18:30:00 2043
Fingerprint (SHA-256):
86:A1:EC:BA:08:9C:4A:8D:3B:BE:27:34:C6:12:BA:34:1D:81:3E:04:3C:F9:E8:A8:62:CD:5C:57:A3:6B:BE:6B

```

# Fingerprint (SHA1): 30:43:FA:4F:F2:57:DC:A0:C3:80:EE:2E:58:EA:78:B2:3F:E6:BB:C1

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "emSign ECC Root CA - G3"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\153\061\013\060\011\006\003\125\004\006\023\002\111\116\061  
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156  
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145  
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147  
\151\145\163\040\114\151\155\151\164\145\144\061\040\060\036\006  
\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103  
\040\122\157\157\164\040\103\101\040\055\040\107\063

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\153\061\013\060\011\006\003\125\004\006\023\002\111\116\061  
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156  
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145  
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147  
\151\145\163\040\114\151\155\151\164\145\144\061\040\060\036\006  
\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103  
\040\122\157\157\164\040\103\101\040\055\040\107\063

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\012\074\366\007\251\150\160\016\332\213\204

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\116\060\202\001\323\240\003\002\001\002\002\012\074  
\366\007\251\150\160\016\332\213\204\060\012\006\010\052\206\110  
\316\075\004\003\003\060\153\061\013\060\011\006\003\125\004\006  
\023\002\111\116\061\023\060\021\006\003\125\004\013\023\012\145  
\155\123\151\147\156\040\120\113\111\061\045\060\043\006\003\125  
\004\012\023\034\145\115\165\144\150\162\141\040\124\145\143\150  
\156\157\154\157\147\151\145\163\040\114\151\155\151\164\145\144  
\061\040\060\036\006\003\125\004\003\023\027\145\155\123\151\147  
\156\040\105\103\103\040\122\157\157\164\040\103\101\040\055\040  
\107\063\060\036\027\015\061\070\060\062\061\070\061\070\063\060  
\060\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060  
\060\132\060\153\061\013\060\011\006\003\125\004\006\023\002\111  
\116\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151  
\147\156\040\120\113\111\061\045\060\043\006\003\125\004\012\023  
\034\145\115\165\144\150\162\141\040\124\145\143\150\156\157\154  
\157\147\151\145\163\040\114\151\155\151\164\145\144\061\040\060



```
\036\006\003\125\004\003\023\027\145\155\123\151\147\156\040\105
\103\103\040\122\157\157\164\040\103\101\040\055\040\107\063\060
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201
\004\000\042\003\142\000\004\043\245\014\270\055\022\365\050\363
\261\262\335\342\002\022\200\236\071\137\111\115\237\311\045\064
\131\164\354\273\006\034\347\300\162\257\350\256\057\341\101\124
\207\024\250\112\262\350\174\202\346\133\152\265\334\263\165\316
\213\006\320\206\043\277\106\325\216\017\077\004\364\327\034\222
\176\366\245\143\302\365\137\216\056\117\241\030\031\002\053\062
\012\202\144\175\026\223\321\243\102\060\100\060\035\006\003\125
\035\016\004\026\004\024\174\135\002\204\023\324\314\212\233\201
\316\027\034\056\051\036\234\110\143\102\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\012\006\010\052
\206\110\316\075\004\003\003\003\151\000\060\146\002\061\000\276
\363\141\317\002\020\035\144\225\007\270\030\156\210\205\005\057
\203\010\027\220\312\037\212\114\350\015\033\172\261\255\325\201
\011\107\357\073\254\010\004\174\134\231\261\355\107\007\322\002
\061\000\235\272\125\374\251\112\350\355\355\346\166\001\102\173
\310\370\140\331\215\121\213\125\073\373\214\173\353\145\011\303
\370\226\315\107\250\202\362\026\125\167\044\176\022\020\225\004
\054\243
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "emSign ECC Root CA - G3"

# Issuer: CN=emSign ECC Root CA - G3,O=eMudhra Technologies

Limited,OU=emSign PKI,C=IN

# Serial Number:3c:f6:07:a9:68:70:0e:da:8b:84

# Subject: CN=emSign ECC Root CA - G3,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN

# Not Valid Before: Sun Feb 18 18:30:00 2018

# Not Valid After : Wed Feb 18 18:30:00 2043

# Fingerprint (SHA-256):

86:A1:EC:BA:08:9C:4A:8D:3B:BE:27:34:C6:12:BA:34:1D:81:3E:04:3C:F9:E8:A8:62:CD:5C:57:A3:6B:BE:6B

# Fingerprint (SHA1): 30:43:FA:4F:F2:57:DC:A0:C3:80:EE:2E:58:EA:78:B2:3F:E6:BB:C1

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "emSign ECC Root CA - G3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\060\103\372\117\362\127\334\240\303\200\356\056\130\352\170\262
\077\346\273\301
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\316\013\162\321\237\210\216\320\120\003\350\343\270\213\147\100

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\153\061\013\060\011\006\003\125\004\006\023\002\111\116\061

\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156

\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145

\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147

\151\145\163\040\114\151\155\151\164\145\144\061\040\060\036\006

\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103

\040\122\157\157\164\040\103\101\040\055\040\107\063

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\012\074\366\007\251\150\160\016\332\213\204

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "emSign Root CA - C1"

#

# Issuer: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US

# Serial Number:00:ae:cf:00:ba:c4:cf:32:f8:43:b2

# Subject: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US

# Not Valid Before: Sun Feb 18 18:30:00 2018

# Not Valid After : Wed Feb 18 18:30:00 2043

# Fingerprint (SHA-256):

12:56:09:AA:30:1D:A0:A2:49:B9:7A:82:39:CB:6A:34:21:6F:44:DC:AC:9F:39:54:B1:42:92:F2:E8:C8:60:8F

#

Fingerprint (SHA1): E7:2E:F1:DF:FC:B2:09:28:CF:5D:D4:D5:67:37:B1:51:CB:86:4F:01

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "emSign Root CA - C1"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156

\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145

\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006\003

\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157\164

\040\103\101\040\055\040\103\061

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156  
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145  
\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006\003  
\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157\164  
\040\103\101\040\055\040\103\061

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\013\000\256\317\000\272\304\317\062\370\103\262

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\163\060\202\002\133\240\003\002\001\002\002\013\000  
\256\317\000\272\304\317\062\370\103\262\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\060\126\061\013\060\011\006  
\003\125\004\006\023\002\125\123\061\023\060\021\006\003\125\004  
\013\023\012\145\155\123\151\147\156\040\120\113\111\061\024\060  
\022\006\003\125\004\012\023\013\145\115\165\144\150\162\141\040  
\111\156\143\061\034\060\032\006\003\125\004\003\023\023\145\155  
\123\151\147\156\040\122\157\157\164\040\103\101\040\055\040\103  
\061\060\036\027\015\061\070\060\062\061\070\061\070\063\060\060  
\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060\060  
\132\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147  
\156\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013  
\145\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006  
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157  
\164\040\103\101\040\055\040\103\061\060\202\001\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017  
\000\060\202\001\012\002\202\001\001\000\317\353\251\271\361\231  
\005\314\330\050\041\112\363\163\064\121\204\126\020\365\240\117  
\054\022\343\372\023\232\047\320\317\371\171\032\164\137\035\171  
\071\374\133\370\160\216\340\222\122\367\344\045\371\124\203\331  
\035\323\310\132\205\077\136\307\266\007\356\076\300\316\232\257  
\254\126\102\052\071\045\160\326\277\265\173\066\255\254\366\163  
\334\315\327\035\212\203\245\373\053\220\025\067\153\034\046\107  
\334\073\051\126\223\152\263\301\152\072\235\075\365\301\227\070  
\130\005\213\034\021\343\344\264\270\135\205\035\203\376\170\137  
\013\105\150\030\110\245\106\163\064\073\376\017\310\166\273\307  
\030\363\005\321\206\363\205\355\347\271\331\062\255\125\210\316  
\246\266\221\260\117\254\176\025\043\226\366\077\360\040\064\026  
\336\012\306\304\004\105\171\177\247\375\276\322\251\245\257\234  
\305\043\052\367\074\041\154\275\257\217\116\305\072\262\363\064  
\022\374\337\200\032\111\244\324\251\225\367\236\211\136\242\211  
\254\224\313\250\150\233\257\212\145\047\315\211\356\335\214\265  
\153\051\160\103\240\151\013\344\271\017\002\003\001\000\001\243  
\102\060\100\060\035\006\003\125\035\016\004\026\004\024\376\241  
\340\160\036\052\003\071\122\132\102\276\134\221\205\172\030\252

```
\115\265\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\001\001\000\302\112\126\372\025\041\173\050\242
\351\345\035\373\370\055\304\071\226\101\114\073\047\054\304\154
\030\025\200\306\254\257\107\131\057\046\013\343\066\260\357\073
\376\103\227\111\062\231\022\025\133\337\021\051\377\253\123\370
\273\301\170\017\254\234\123\257\127\275\150\214\075\151\063\360
\243\240\043\143\073\144\147\042\104\255\325\161\313\126\052\170
\222\243\117\022\061\066\066\342\336\376\000\304\243\140\017\047
\255\240\260\212\265\066\172\122\241\275\047\364\040\047\142\350
\115\224\044\023\344\012\004\351\074\253\056\310\103\011\112\306
\141\004\345\111\064\176\323\304\310\365\017\300\252\351\272\124
\136\363\143\053\117\117\120\324\376\271\173\231\214\075\300\056
\274\002\053\323\304\100\344\212\007\061\036\233\316\046\231\023
\373\021\352\232\042\014\021\031\307\136\033\201\120\060\310\226
\022\156\347\313\101\177\221\073\242\107\267\124\200\033\334\000
\314\232\220\352\303\303\120\006\142\014\060\300\025\110\247\250
\131\174\341\256\042\242\342\012\172\017\372\142\253\122\114\341
\361\337\312\276\203\015\102
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

# Trust for "emSign Root CA - C1"

# Issuer: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US

# Serial Number:00:ae:cf:00:ba:c4:cf:32:f8:43:b2

# Subject: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US

# Not Valid Before: Sun Feb 18 18:30:00 2018

# Not Valid After : Wed Feb 18 18:30:00 2043

# Fingerprint (SHA-256):

12:56:09:AA:30:1D:A0:A2:49:B9:7A:82:39:CB:6A:34:21:6F:44:DC:AC:9F:39:54:B1:42:92:F2:E8:C8:60:8F

# Fingerprint (SHA1): E7:2E:F1:DF:FC:B2:09:28:CF:5D:D4:D5:67:37:B1:51:CB:86:4F:01

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "emSign Root CA - C1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\347\056\361\337\374\262\011\050\317\135\324\325\147\067\261\121
```

```
\313\206\117\001
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\330\343\135\001\041\372\170\132\260\337\272\322\356\052\137\150
```

END

```

CKA_ISSUER MULTILINE_OCTAL
\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006\003
\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157\164
\040\103\101\040\055\040\103\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\013\000\256\317\000\272\304\317\062\370\103\262
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "emSign ECC Root CA - C3"
#
Issuer: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US
Serial Number:7b:71:b6:82:56:b8:12:7c:9c:a8
Subject: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US
Not Valid Before: Sun Feb 18 18:30:00 2018
Not Valid After : Wed Feb 18 18:30:00 2043
Fingerprint (SHA-256):
BC:4D:80:9B:15:18:9D:78:DB:3E:1D:8C:F4:F9:72:6A:79:5D:A1:64:3C:A5:F1:35:8E:1D:DB:0E:DC:0D:7E:B3
#
Fingerprint (SHA1): B6:AF:43:C2:9B:81:53:7D:F6:EF:6B:C3:1F:1F:60:15:0C:EE:48:66
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign ECC Root CA - C3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006\003
\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103\040
\122\157\157\164\040\103\101\040\055\040\103\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145

```

\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006\003  
\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103\040  
\122\157\157\164\040\103\101\040\055\040\103\063

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\012\173\161\266\202\126\270\022\174\234\250

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\053\060\202\001\261\240\003\002\001\002\002\012\173  
\161\266\202\126\270\022\174\234\250\060\012\006\010\052\206\110  
\316\075\004\003\003\060\132\061\013\060\011\006\003\125\004\006  
\023\002\125\123\061\023\060\021\006\003\125\004\013\023\012\145  
\155\123\151\147\156\040\120\113\111\061\024\060\022\006\003\125  
\004\012\023\013\145\115\165\144\150\162\141\040\111\156\143\061  
\040\060\036\006\003\125\004\003\023\027\145\155\123\151\147\156  
\040\105\103\103\040\122\157\157\164\040\103\101\040\055\040\103  
\063\060\036\027\015\061\070\060\062\061\070\061\070\063\060\060\060  
\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060\060  
\132\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147  
\156\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013  
\145\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006  
\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103  
\040\122\157\157\164\040\103\101\040\055\040\103\063\060\166\060  
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000  
\042\003\142\000\004\375\245\141\256\173\046\020\035\351\267\042  
\060\256\006\364\201\263\261\102\161\225\071\274\323\122\343\257  
\257\371\362\227\065\222\066\106\016\207\225\215\271\071\132\351  
\273\337\320\376\310\007\101\074\273\125\157\203\243\152\373\142  
\260\201\211\002\160\175\110\305\112\343\351\042\124\042\115\223  
\273\102\014\257\167\234\043\246\175\327\141\021\316\145\307\370  
\177\376\365\362\251\243\102\060\100\060\035\006\003\125\035\016  
\004\026\004\024\373\132\110\320\200\040\100\362\250\351\000\007  
\151\031\167\247\346\303\364\317\060\016\006\003\125\035\017\001  
\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001  
\001\377\004\005\060\003\001\001\377\060\012\006\010\052\206\110  
\316\075\004\003\003\003\150\000\060\145\002\061\000\264\330\057  
\002\211\375\266\114\142\272\103\116\023\204\162\265\256\335\034  
\336\326\265\334\126\217\130\100\132\055\336\040\114\042\203\312  
\223\250\176\356\022\100\307\326\207\117\370\337\205\002\060\034  
\024\144\344\174\226\203\021\234\260\321\132\141\113\246\017\111  
\323\000\374\241\374\344\245\377\177\255\327\060\320\307\167\177  
\276\201\007\125\060\120\040\024\365\127\070\012\250\061\121

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "emSign ECC Root CA - C3"

# Issuer: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US

# Serial Number:7b:71:b6:82:56:b8:12:7c:9c:a8

# Subject: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US

# Not Valid Before: Sun Feb 18 18:30:00 2018

#

Not Valid After : Wed Feb 18 18:30:00 2043

# Fingerprint (SHA-256):

BC:4D:80:9B:15:18:9D:78:DB:3E:1D:8C:F4:F9:72:6A:79:5D:A1:64:3C:A5:F1:35:8E:1D:DB:0E:DC:0D:7E:B3

# Fingerprint (SHA1): B6:AF:43:C2:9B:81:53:7D:F6:EF:6B:C3:1F:1F:60:15:0C:EE:48:66

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "emSign ECC Root CA - C3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\266\257\103\302\233\201\123\175\366\357\153\303\037\037\140\025

\014\356\110\146

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\076\123\263\243\201\356\327\020\370\323\260\035\027\222\365\325

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156

\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145

\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006\003

\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103\040

\122\157\157\164\040\103\101\040\055\040\103\063

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\012\173\161\266\202\126\270\022\174\234\250

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Hongkong Post Root CA 3"

#

# Issuer: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK

# Serial Number:08:16:5f:8a:4c:a5:ec:00:c9:93:40:df:c4:c6:ae:23:b8:1c:5a:a4

# Subject: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK

# Not Valid Before: Sat Jun 03 02:29:46 2017

```
Not Valid After : Tue Jun 03 02:29:46 2042
Fingerprint (SHA-256):
5A:2F:C0:3F:0C:83:B0:90:BB:FA:40:60:4B:09:88:44:6C:76:36:18:3D:F9:84:6E:17:10:1A:44:7F:B8:EF:D6
Fingerprint (SHA1): 58:A2:D0:EC:20:52:81:5B:C1:F3:F8:64:02:24:4E:C2:8E:02:4B:02
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL
CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Hongkong Post Root CA 3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\022\060\020\006\003\125\004\010\023\011\110\157\156\147\040\113
\157\156\147\061\022\060\020\006\003\125\004\007\023\011\110\157
\156\147\040\113\157\156\147\061\026\060\024\006\003\125\004\012
\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164\061
\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153\157
\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101\040
\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\022\060\020\006\003\125\004\010\023\011\110\157\156\147\040\113
\157\156\147\061\022\060\020\006\003\125\004\007\023\011\110\157
\156\147\040\113\157\156\147\061\026\060\024\006\003\125\004\012
\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164\061
\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153\157
\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101\040
\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\024\010\026\137\212\114\245\354\000\311\223\100\337\304\306
\256\043\270\034\132\244
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\317\060\202\003\267\240\003\002\001\002\002\024\010
\026\137\212\114\245\354\000\311\223\100\337\304\306\256\043\270
\034\132\244\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\157\061\013\060\011\006\003\125\004\006\023\002\110
\113\061\022\060\020\006\003\125\004\010\023\011\110\157\156\147
\040\113\157\156\147\061\022\060\020\006\003\125\004\007\023\011
\110\157\156\147\040\113\157\156\147\061\026\060\024\006\003\125
\004\012\023\015\110\157\156\147\153\157\156\147\040\120\157\163
\164\061\040\060\036\006\003\125\004\003\023\027\110\157\156\147
\153\157\156\147\040\120\157\163\164\040\122\157\157\164\040\103
```



\101\040\063\060\036\027\015\061\067\060\066\060\063\060\062\062  
\071\064\066\132\027\015\064\062\060\066\060\063\060\062\062\071  
\064\066\132\060\157\061\013\060\011\006\003\125\004\006\023\002  
\110\113\061\022\060\020\006\003\125\004\010\023\011\110\157\156  
\147\040\113\157\156\147\061\022\060\020\006\003\125\004\007\023  
\011\110\157\156\147\040\113\157\156\147\061\026\060\024\006\003  
\125\004\012\023\015\110\157\156\147\153\157\156\147\040\120\157  
\163\164\061\040\060\036\006\003\125\004\003\023\027\110\157\156  
\147\153\157\156\147\040\120\157\163\164\040\122\157\157\164\040  
\103\101\040\063\060\202\002\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012  
\002\202\002\001\000\263\210\327\352\316\017\040\116\276\346\326  
\003\155\356\131\374\302\127\337\051\150\241\203\016\076\150\307  
\150\130\234\034\140\113\211\103\014\271\324\025\262\356\301\116  
\165\351\265\247\357\345\351\065\231\344\314\034\347\113\137\215  
\063\060\040\063\123\331\246\273\325\076\023\216\351\037\207\111  
\255\120\055\120\312\030\276\001\130\242\023\160\226\273\211\210  
\126\200\134\370\275\054\074\341\114\127\210\273\323\271\225\357  
\313\307\366\332\061\164\050\246\346\124\211\365\101\061\312\345  
\046\032\315\202\340\160\332\073\051\273\325\003\365\231\272\125  
\365\144\321\140\016\263\211\111\270\212\057\005\322\204\105\050  
\174\217\150\120\022\170\374\013\265\123\313\302\230\034\204\243  
\236\260\276\043\244\332\334\310\053\036\332\156\105\036\211\230  
\332\371\000\056\006\351\014\073\160\325\120\045\210\231\313\315  
\163\140\367\325\377\065\147\305\241\274\136\253\315\112\270\105  
\353\310\150\036\015\015\024\106\022\343\322\144\142\212\102\230  
\274\264\306\010\010\370\375\250\114\144\234\166\001\275\057\251  
\154\063\017\330\077\050\270\074\151\001\102\206\176\151\301\311  
\006\312\345\172\106\145\351\302\326\120\101\056\077\267\344\355  
\154\327\277\046\001\021\242\026\051\112\153\064\006\220\354\023  
\322\266\373\152\166\322\074\355\360\326\055\335\341\025\354\243  
\233\057\054\311\076\053\344\151\073\377\162\045\261\066\206\133  
\307\177\153\213\125\033\112\305\040\141\075\256\313\120\341\010  
\072\276\260\217\143\101\123\060\010\131\074\230\035\167\272\143  
\221\172\312\020\120\140\277\360\327\274\225\207\217\227\305\376  
\227\152\001\224\243\174\133\205\035\052\071\072\320\124\241\321  
\071\161\235\375\041\371\265\173\360\342\340\002\217\156\226\044  
\045\054\240\036\054\250\304\211\247\357\355\231\006\057\266\012  
\114\117\333\242\314\067\032\257\107\205\055\212\137\304\064\064  
\114\000\375\030\223\147\023\321\067\346\110\264\213\006\305\127  
\173\031\206\012\171\313\000\311\122\257\102\377\067\217\341\243  
\036\172\075\120\253\143\006\347\025\265\077\266\105\067\224\067  
\261\176\362\110\303\177\305\165\376\227\215\105\217\032\247\032  
\162\050\032\100\017\002\003\001\000\001\243\143\060\141\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060  
\037\006\003\125\035\043\004\030\060\026\200\024\027\235\315\036  
\213\326\071\053\160\323\134\324\240\270\037\260\000\374\305\141

\060\035\006\003\125\035\016\004\026\004\024\027\235\315\036\213  
\326\071\053\160\323\134\324\240\270\037\260\000\374\305\141\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202  
\002\001\000\126\325\173\156\346\042\001\322\102\233\030\325\016  
\327\146\043\134\343\376\240\307\222\322\351\224\255\113\242\306  
\354\022\174\164\325\110\322\131\024\231\300\353\271\321\353\364  
\110\060\133\255\247\127\163\231\251\323\345\267\321\056\131\044  
\130\334\150\056\056\142\330\152\344\160\013\055\040\120\040\244  
\062\225\321\000\230\273\323\375\367\062\362\111\256\306\172\340  
\107\276\156\316\313\243\162\072\055\151\135\313\310\350\105\071  
\324\372\102\301\021\114\167\135\222\373\152\377\130\104\345\353  
\201\236\257\240\231\255\276\251\001\146\313\070\035\074\337\103  
\037\364\115\156\264\272\027\106\374\175\375\207\201\171\152\015  
\063\017\372\057\370\024\271\200\263\135\115\252\227\341\371\344  
\030\305\370\325\070\214\046\074\375\362\050\342\356\132\111\210  
\054\337\171\075\216\236\220\074\275\101\112\072\335\133\366\232  
\264\316\077\045\060\177\062\175\242\003\224\320\334\172\241\122  
\336\156\223\215\030\046\375\125\254\275\217\233\322\317\257\347  
\206\054\313\037\011\157\243\157\251\204\324\163\277\115\241\164  
\033\116\043\140\362\314\016\252\177\244\234\114\045\250\262\146  
\073\070\377\331\224\060\366\162\204\276\150\125\020\017\306\163  
\054\026\151\223\007\376\261\105\355\273\242\125\152\260\332\265  
\112\002\045\047\205\327\267\267\206\104\026\211\154\200\053\076  
\227\251\234\325\176\125\114\306\336\105\020\034\352\351\073\237  
\003\123\356\356\172\001\002\026\170\324\350\302\276\106\166\210  
\023\077\042\273\110\022\035\122\000\264\002\176\041\032\036\234  
\045\364\363\075\136\036\322\034\371\263\055\266\367\067\134\306  
\313\041\116\260\367\231\107\030\205\301\053\272\125\256\006\352  
\320\007\262\334\253\320\202\226\165\316\322\120\376\231\347\317  
\057\237\347\166\321\141\052\373\041\273\061\320\252\237\107\244  
\262\042\312\026\072\120\127\304\133\103\147\305\145\142\003\111  
\001\353\103\331\330\370\236\255\317\261\143\016\105\364\240\132  
\054\233\055\305\246\300\255\250\107\364\047\114\070\015\056\033  
\111\073\122\364\350\210\203\053\124\050\324\362\065\122\264\062  
\203\142\151\144\014\221\234\237\227\352\164\026\375\037\021\006  
\232\233\364

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Hongkong Post Root CA 3"

# Issuer: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK

# Serial Number:08:16:5f:8a:4c:a5:ec:00:c9:93:40:df:c4:c6:ae:23:b8:1c:5a:a4

# Subject: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK

# Not Valid Before: Sat Jun 03 02:29:46 2017

# Not Valid After : Tue Jun 03 02:29:46 2042

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Fingerprint (SHA-256):
5A:2F:C0:3F:0C:83:B0:90:BB:FA:40:60:4B:09:88:44:6C:76:36:18:3D:F9:84:6E:17:10:1A:44:7F:B8:EF:D6
#
Fingerprint (SHA1): 58:A2:D0:EC:20:52:81:5B:C1:F3:F8:64:02:24:4E:C2:8E:02:4B:02
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Hongkong Post Root CA 3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\130\242\320\354\040\122\201\133\301\363\370\144\002\044\116\302
\216\002\113\002
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\021\374\237\275\163\060\002\212\375\077\363\130\271\313\040\360
END
CKA_ISSUER MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\022\060\020\006\003\125\004\010\023\011\110\157\156\147\040\113
\157\156\147\061\022\060\020\006\003\125\004\007\023\011\110\157
\156\147\040\113\157\156\147\061\026\060\024\006\003\125\004\012
\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164\061
\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153\157
\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101\040
\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\010\026\137\212\114\245\354\000\311\223\100\337\304\306
\256\043\270\034\132\244
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Entrust Root Certification Authority - G4"
#
Issuer: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
Serial Number:00:d9:b5:43:7f:af:a9:39:0f:00:00:00:00:55:65:ad:58
Subject: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
Not Valid Before: Wed May 27 11:11:16 2015
Not Valid After : Sun Dec 27 11:41:16 2037
Fingerprint (SHA-256):
DB:35:17:D1:F6:73:2A:2D:5A:B9:7C:53:3E:C7:07:79:EE:32:70:A6:2F:B4:AC:42:38:37:24:60:E6:F0:1E:88

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#
Fingerprint (SHA1): 14:88:4E:86:26:37:B0:26:AF:59:62:5C:40:77:EC:35:29:BA:96:01
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust Root Certification Authority - G4"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\064
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\064
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\331\265\103\177\257\251\071\017\000\000\000\000\125
\145\255\130
END
CKA_VALUE
MULTILINE_OCTAL
\060\202\006\113\060\202\004\063\240\003\002\001\002\002\021\000
\331\265\103\177\257\251\071\017\000\000\000\000\125\145\255\130

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\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165\163  
\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004\013  
\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165\163  
\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162\155  
\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051\040  
\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111\156  
\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162\151  
\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060\060  
\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040\122  
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107\064  
\060\036\027\015\061\065\060\065\062\067\061\061\061\061\061\066  
\132\027\015\063\067\061\062\062\067\061\061\064\061\061\066\132  
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165  
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004  
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165  
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162  
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051  
\040\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111  
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162  
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060  
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040  
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107  
\064\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002  
\001\000\261\354\054\102\356\342\321\060\377\245\222\107\342\055  
\303\272\144\227\155\312\367\015\265\131\301\263\313\250\150\031  
\330\257\204\155\060\160\135\176\363\056\322\123\231\341\376\037  
\136\331\110\257\135\023\215\333\377\143\063\115\323\000\002\274  
\304\370\321\006\010\224\171\130\212\025\336\051\263\375\375\304  
\117\350\252\342\240\073\171\315\277\153\103\062\335\331\164\020  
\271\367\364\150\324\273\320\207\325\252\113\212\052\157\052\004  
\265\262\246\307\240\172\346\110\253\322\321\131\314\326\176\043  
\346\227\154\360\102\345\334\121\113\025\101\355\111\112\311\336  
\020\227\326\166\301\357\245\265\066\024\227\065\330\170\042\065  
\122\357\103\275\333\047\333\141\126\202\064\334\313\210\140\014  
\013\132\345\054\001\306\124\257\327\252\301\020\173\322\005\132  
\270\100\236\206\247\303\220\206\002\126\122\011\172\234\322\047  
\202\123\112\145\122\152\365\074\347\250\362\234\257\213\275\323  
\016\324\324\136\156\207\236\152\075\105\035\321\135\033\364\351  
\012\254\140\231\373\211\264\377\230\054\317\174\035\351\002\252  
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\301\263\057\365\155\362\373\312\241\370\051\235\106\213\263\152  
\366\346\147\007\276\054\147\012\052\037\132\262\076\127\304\323

\041\041\143\145\122\221\033\261\231\216\171\176\346\353\215\000  
\331\132\252\352\163\350\244\202\002\107\226\376\133\216\124\141  
\243\353\057\113\060\260\213\043\165\162\174\041\074\310\366\361  
\164\324\034\173\243\005\125\356\273\115\073\062\276\232\167\146  
\236\254\151\220\042\007\037\141\072\226\276\345\232\117\314\005  
\074\050\131\323\301\014\124\250\131\141\275\310\162\114\350\334  
\237\207\177\275\234\110\066\136\225\243\016\271\070\044\125\374  
\165\146\353\002\343\010\064\051\112\306\343\053\057\063\240\332  
\243\206\245\022\227\375\200\053\332\024\102\343\222\275\076\362  
\135\136\147\164\056\034\210\107\051\064\137\342\062\250\234\045  
\067\214\272\230\000\227\213\111\226\036\375\045\212\254\334\332  
\330\135\164\156\146\260\377\104\337\241\030\306\276\110\057\067  
\224\170\370\225\112\077\177\023\136\135\131\375\164\206\103\143  
\163\111\002\003\001\000\001\243\102\060\100\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003  
\125\035\016\004\026\004\024\237\070\304\126\043\303\071\350\240  
\161\154\350\124\114\344\350\072\261\277\147\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\022  
\345\102\246\173\213\017\014\344\106\245\266\140\100\207\214\045  
\176\255\270\150\056\133\306\100\166\074\003\370\311\131\364\363  
\253\142\316\020\215\264\132\144\214\150\300\260\162\103\064\322  
\033\013\366\054\123\322\312\220\113\206\146\374\252\203\042\364  
\213\032\157\046\110\254\166\167\010\277\305\230\134\364\046\211  
\236\173\303\271\144\062\001\177\323\303\335\130\155\354\261\253  
\204\125\164\167\204\004\047\122\153\206\114\316\335\271\145\377  
\326\306\136\237\232\020\231\113\165\152\376\152\351\227\040\344  
\344\166\172\306\320\044\252\220\315\040\220\272\107\144\373\177  
\007\263\123\170\265\012\142\362\163\103\316\101\053\201\152\056  
\205\026\224\123\324\153\137\162\042\253\121\055\102\325\000\234  
\231\277\336\273\224\073\127\375\232\365\206\313\126\073\133\210  
\001\345\174\050\113\003\371\111\203\174\262\177\174\343\355\216  
\241\177\140\123\216\125\235\120\064\022\017\267\227\173\154\207  
\112\104\347\365\155\354\200\067\360\130\031\156\112\150\166\360  
\037\222\344\352\265\222\323\141\121\020\013\255\247\331\137\307  
\137\334\037\243\134\214\241\176\233\267\236\323\126\157\146\136  
\007\226\040\355\013\164\373\146\116\213\021\025\351\201\111\176  
\157\260\324\120\177\042\327\137\145\002\015\246\364\205\036\330  
\256\006\113\112\247\322\061\146\302\370\316\345\010\246\244\002  
\226\104\150\127\304\325\063\317\031\057\024\304\224\034\173\244  
\331\360\237\016\261\200\342\321\236\021\144\251\210\021\072\166  
\202\345\142\302\200\330\244\203\355\223\357\174\057\220\260\062  
\114\226\025\150\110\122\324\231\010\300\044\350\034\343\263\245  
\041\016\222\300\220\037\317\040\137\312\073\070\307\267\155\072  
\363\346\104\270\016\061\153\210\216\160\353\234\027\122\250\101  
\224\056\207\266\347\246\022\305\165\337\133\300\012\156\173\244  
\344\136\206\371\066\224\337\167\303\351\015\300\071\361\171\273  
\106\216\253\103\131\047\267\040\273\043\351\126\100\041\354\061

```
\075\145\252\103\362\075\337\160\104\341\272\115\046\020\073\230
\237\363\310\216\033\070\126\041\152\121\223\323\221\312\106\332
\211\267\075\123\203\054\010\037\213\217\123\335\377\254\037
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

# Trust for "Entrust Root Certification Authority - G4"

# Issuer: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

# Serial Number:00:d9:b5:43:7f:af:a9:39:0f:00:00:00:00:55:65:ad:58

#

Subject: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

# Not Valid Before: Wed May 27 11:11:16 2015

# Not Valid After : Sun Dec 27 11:41:16 2037

# Fingerprint (SHA-256):

DB:35:17:D1:F6:73:2A:2D:5A:B9:7C:53:3E:C7:07:79:EE:32:70:A6:2F:B4:AC:42:38:37:24:60:E6:F0:1E:88

# Fingerprint (SHA1): 14:88:4E:86:26:37:B0:26:AF:59:62:5C:40:77:EC:35:29:BA:96:01

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Entrust Root Certification Authority - G4"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\024\210\116\206\046\067\260\046\257\131\142\134\100\167\354\065
\051\272\226\001
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\211\123\361\203\043\267\174\216\005\361\214\161\070\116\037\210
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\064
```

END

CKA\_SERIAL\_NUMBER

```

MULTILINE_OCTAL
\002\021\000\331\265\103\177\257\251\071\017\000\000\000\000\125
\145\255\130
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

#
Certificate "Microsoft ECC Root Certificate Authority 2017"
#
Issuer: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US
Serial Number:66:f2:3d:af:87:de:8b:b1:4a:ea:0c:57:31:01:c2:ec
Subject: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US
Not Valid Before: Wed Dec 18 23:06:45 2019
Not Valid After : Fri Jul 18 23:16:04 2042
Fingerprint (SHA-256):
35:8D:F3:9D:76:4A:F9:E1:B7:66:E9:C9:72:DF:35:2E:E1:5C:FA:C2:27:AF:6A:D1:D7:0E:8E:4A:6E:DC:BA:02
Fingerprint (SHA1): 99:9A:64:C3:7F:F4:7D:9F:AB:95:F1:47:69:89:14:60:EE:C4:C3:C5
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsoft ECC Root Certificate Authority 2017"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\105\103\103\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\105\103\103\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL

```



\002\020\146\362\075\257\207\336\213\261\112\352\014\127\061\001  
\302\354

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\131\060\202\001\337\240\003\002\001\002\002\020\146  
\362\075\257\207\336\213\261\112\352\014\127\061\001\302\354\060  
\012\006\010\052\206\110\316\075\004\003\003\060\145\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\036\060\034\006\003  
\125\004\012\023\025\115\151\143\162\157\163\157\146\164\040\103  
\157\162\160\157\162\141\164\151\157\156\061\066\060\064\006\003  
\125\004\003\023\055\115\151\143\162\157\163\157\146\164\040\105  
\103\103\040\122\157\157\164\040\103\145\162\164\151\146\151\143  
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\062\060  
\061\067\060\036\027\015\061\071\061\062\061\070\062\063\060\066  
\064\065\132\027\015\064\062\060\067\061\070\062\063\061\066\060  
\064\132\060\145\061\013\060\011\006\003\125\004\006\023\002\125  
\123\061\036\060\034\006\003\125\004\012\023\025\115\151\143\162  
\157\163\157\146\164\040\103\157\162\160\157\162\141\164\151\157  
\156\061\066\060\064\006\003\125\004\003\023\055\115\151\143\162  
\157\163\157\146\164\040\105\103\103\040\122\157\157\164\040\103  
\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157  
\162\151\164\171\040\062\060\061\067\060\166\060\020\006\007\052  
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000  
\004\324\274\075\002\102\165\101\023\043\315\200\004\206\002\121  
\057\152\250\201\142\013\145\314\366\312\235\036\157\112\146\121  
\242\003\331\235\221\372\266\026\261\214\156\336\174\315\333\171  
\246\057\316\273\316\161\057\345\245\253\050\354\143\004\146\231  
\370\372\362\223\020\005\341\201\050\102\343\306\150\364\346\033  
\204\140\112\211\257\355\171\017\073\316\361\366\104\365\001\170  
\300\243\124\060\122\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004  
\024\310\313\231\162\160\122\014\370\346\276\262\004\127\051\052  
\317\102\020\355\065\060\020\006\011\053\006\001\004\001\202\067  
\025\001\004\003\002\001\000\060\012\006\010\052\206\110\316\075  
\004\003\003\003\150\000\060\145\002\060\130\362\115\352\014\371  
\137\136\356\140\051\313\072\362\333\326\062\204\031\077\174\325  
\057\302\261\314\223\256\120\273\011\062\306\306\355\176\311\066  
\224\022\344\150\205\006\242\033\320\057\002\061\000\231\351\026  
\264\016\372\126\110\324\244\060\026\221\170\333\124\214\145\001  
\212\347\120\146\302\061\267\071\272\270\032\042\007\116\374\153  
\124\026\040\377\053\265\347\114\014\115\246\117\163

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

```

Trust for "Microsoft ECC Root Certificate Authority 2017"
Issuer: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US
Serial Number:66:f2:3d:af:87:de:8b:b1:4a:ea:0c:57:31:01:c2:ec
Subject: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US
Not Valid Before: Wed Dec 18 23:06:45 2019
Not Valid After : Fri Jul 18 23:16:04 2042
Fingerprint (SHA-256):
35:8D:F3:9D:76:4A:F9:E1:B7:66:E9:C9:72:DF:35:2E:E1:5C:FA:C2:27:AF:6A:D1:D7:0E:8E:4A:6E:DC:BA:02
#
Fingerprint (SHA1): 99:9A:64:C3:7F:F4:7D:9F:AB:95:F1:47:69:89:14:60:EE:C4:C3:C5
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsoft ECC Root Certificate Authority 2017"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\231\232\144\303\177\364\175\237\253\225\361\107\151\211\024\140
\356\304\303\305
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\335\241\003\346\112\223\020\321\277\360\031\102\313\376\355\147
END
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\105\103\103\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\146\362\075\257\207\336\213\261\112\352\014\127\061\001
\302\354
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Microsoft RSA Root Certificate Authority 2017"
#
Issuer: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US
Serial Number:1e:d3:97:09:5f:d8:b4:b3:47:70:1e:aa:be:7f:45:b3
Subject: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US
Not Valid Before: Wed Dec 18 22:51:22 2019

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Not Valid After : Fri Jul 18 23:00:23 2042
Fingerprint (SHA-256):
C7:41:F7:0F:4B:2A:8D:88:BF:2E:71:C1:41:22:EF:53:EF:10:EB:A0:CF:A5:E6:4C:FA:20:F4:18:85:30:73:E0
Fingerprint (SHA1): 73:A5:E6:4A:3B:FF:83:16:FF:0E:DC:CC:61:8A:90:6E:4E:AE:4D:74
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL
CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsoft RSA Root Certificate Authority 2017"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\122\123\101\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\122\123\101\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\036\323\227\011\137\330\264\263\107\160\036\252\276\177
\105\263
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\250\060\202\003\220\240\003\002\001\002\002\020\036
\323\227\011\137\330\264\263\107\160\036\252\276\177\105\263\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\145
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\036\060
\034\006\003\125\004\012\023\025\115\151\143\162\157\163\157\146
\164\040\103\157\162\160\157\162\141\164\151\157\156\061\066\060
\064\006\003\125\004\003\023\055\115\151\143\162\157\163\157\146
\164\040\122\123\101\040\122\157\157\164\040\103\145\162\164\151
\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171
\040\062\060\061\067\060\036\027\015\061\071\061\062\061\070\062
\062\065\061\062\062\132\027\015\064\062\060\067\061\070\062\063
\060\060\062\063\132\060\145\061\013\060\011\006\003\125\004\006
```

\023\002\125\123\061\036\060\034\006\003\125\004\012\023\025\115  
\151\143\162\157\163\157\146\164\040\103\157\162\160\157\162\141  
\164\151\157\156\061\066\060\064\006\003\125\004\003\023\055\115  
\151\143\162\157\163\157\146\164\040\122\123\101\040\122\157\157  
\164\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165  
\164\150\157\162\151\164\171\040\062\060\061\067\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\312\133\276  
\224\063\214\051\225\221\026\012\225\275\107\142\301\211\363\231  
\066\337\106\220\311\245\355\170\152\157\107\221\150\370\047\147  
\120\063\035\241\246\373\340\345\103\243\204\002\127\001\135\234  
\110\100\202\123\020\274\277\307\073\150\220\266\202\055\345\364  
\145\320\314\155\031\314\225\371\173\254\112\224\255\016\336\113  
\103\035\207\007\222\023\220\200\203\144\065\071\004\374\345\351  
\154\263\266\037\120\224\070\145\120\134\027\106\271\266\205\265  
\034\265\027\350\326\105\235\330\262\046\260\312\304\160\112\256  
\140\244\335\263\331\354\374\073\325\127\162\274\077\310\311\262  
\336\113\153\370\043\154\003\300\005\275\225\307\315\163\073\146  
\200\144\343\032\254\056\371\107\005\362\006\266\233\163\365\170  
\063\133\307\241\373\047\052\241\264\232\221\214\221\323\072\202  
\076\166\100\264\315\122\141\121\160\050\077\305\305\132\362\311  
\214\111\273\024\133\115\310\377\147\115\114\022\226\255\365\376  
\170\250\227\207\327\375\136\040\200\334\241\113\042\373\324\211  
\255\272\316\107\227\107\125\173\217\105\310\147\050\204\225\034  
\150\060\357\357\111\340\065\173\144\347\230\260\224\332\115\205  
\073\076\125\304\050\257\127\363\236\023\333\106\047\237\036\242  
\136\104\203\244\245\312\325\023\263\113\077\304\343\302\346\206  
\141\244\122\060\271\172\040\117\157\017\070\123\313\063\014\023  
\053\217\326\232\275\052\310\055\261\034\175\113\121\312\107\321  
\110\047\162\135\207\353\325\105\346\110\145\235\257\122\220\272  
\133\242\030\145\127\022\237\150\271\324\025\153\224\304\151\042  
\230\364\063\340\355\371\121\216\101\120\311\064\117\166\220\254  
\374\070\301\330\341\173\271\343\343\224\341\106\151\313\016\012  
\120\153\023\272\254\017\067\132\267\022\265\220\201\036\126\256  
\127\042\206\331\311\322\321\327\121\343\253\073\306\125\375\036  
\016\323\164\012\321\332\252\352\151\270\227\050\217\110\304\007  
\370\122\103\072\364\312\125\065\054\260\246\152\300\234\371\362  
\201\341\022\152\300\105\331\147\263\316\377\043\242\211\012\124  
\324\024\271\052\250\327\354\371\253\315\045\130\062\171\217\220  
\133\230\071\304\010\006\301\254\177\016\075\000\245\002\003\001  
\000\001\243\124\060\122\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\011\313\131\177\206\262\160\217\032\303\071\343\300\331  
\351\277\273\115\262\043\060\020\006\011\053\006\001\004\001\202  
\067\025\001\004\003\002\001\000\060\015\006\011\052\206\110\206  
\367\015\001\001\014\005\000\003\202\002\001\000\254\257\076\135  
\302\021\226\211\216\243\347\222\326\227\025\270\023\242\246\102

\056\002\315\026\005\131\047\312\040\350\272\270\350\032\354\115  
\250\227\126\256\145\103\261\217\000\233\122\315\125\315\123\071  
\155\142\114\213\015\133\174\056\104\277\203\020\217\363\123\202  
\200\303\117\072\307\156\021\077\346\343\026\221\204\373\155\204  
\177\064\164\255\211\247\316\271\327\327\237\204\144\222\276\225  
\241\255\011\123\063\335\356\012\352\112\121\216\157\125\253\272  
\265\224\106\256\214\177\330\242\120\045\145\140\200\106\333\063  
\004\256\154\265\230\164\124\045\334\223\344\370\343\125\025\075  
\270\155\303\012\244\022\301\151\205\156\337\144\361\123\231\341  
\112\165\040\235\225\017\344\326\334\003\361\131\030\350\107\211  
\262\127\132\224\266\251\330\027\053\027\111\345\166\313\301\126  
\231\072\067\261\377\151\054\221\221\223\341\337\114\243\067\166  
\115\241\237\370\155\036\035\323\372\354\373\364\105\035\023\155  
\317\367\131\345\042\047\162\053\206\363\127\273\060\355\044\115  
\334\175\126\273\243\263\370\064\171\211\301\340\362\002\141\367  
\246\374\017\273\034\027\013\256\101\331\174\275\047\243\375\056  
\072\321\223\224\261\163\035\044\213\257\133\040\211\255\267\147  
\146\171\365\072\306\246\226\063\376\123\222\310\106\261\021\221  
\306\231\177\217\311\326\146\061\040\101\020\207\055\014\326\301  
\257\064\230\312\144\203\373\023\127\321\301\360\074\172\214\245  
\301\375\225\041\240\161\301\223\147\161\022\352\217\210\012\151  
\031\144\231\043\126\373\254\052\056\160\276\146\304\014\204\357  
\345\213\363\223\001\370\152\220\223\147\113\262\150\243\265\142  
\217\351\077\214\172\073\136\017\347\214\270\306\174\357\067\375  
\164\342\310\117\063\162\341\224\071\155\275\022\257\276\014\116  
\160\174\033\157\215\263\062\223\163\104\026\155\350\364\367\340  
\225\200\217\226\135\070\244\364\253\336\012\060\207\223\330\115  
\000\161\142\105\047\113\072\102\204\133\177\145\267\147\064\122  
\055\234\026\153\252\250\330\173\243\102\114\161\307\014\312\076  
\203\344\246\357\267\001\060\136\121\243\171\365\160\151\246\101  
\104\017\206\260\054\221\306\075\352\256\017\204

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Microsoft RSA Root Certificate Authority 2017"

# Issuer: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US

# Serial Number: 1e:d3:97:09:5f:d8:b4:b3:47:70:1e:aa:be:7f:45:b3

# Subject: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US

# Not Valid Before: Wed Dec 18 22:51:22 2019

# Not Valid After : Fri Jul 18 23:00:23 2042

# Fingerprint (SHA-256):

C7:41:F7:0F:4B:2A:8D:88:BF:2E:71:C1:41:22:EF:53:EF:10:EB:A0:CF:A5:E6:4C:FA:20:F4:18:85:30:73:E0

# Fingerprint (SHA1): 73:A5:E6:4A:3B:FF:83:16:FF:0E:DC:CC:61:8A:90:6E:4E:AE:4D:74

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL
CK_FALSE
CKA_LABEL UTF8 "Microsoft RSA Root Certificate Authority 2017"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\163\245\346\112\073\377\203\026\377\016\334\314\141\212\220\156
\116\256\115\164
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\020\377\000\377\317\311\370\307\172\300\356\065\216\311\017\107
END
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\122\123\101\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\036\323\227\011\137\330\264\263\107\160\036\252\276\177
\105\263
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING
CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "e-Szigno Root CA 2017"
#
Issuer: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU
Serial Number:01:54:48:ef:21:fd:97:59:0d:f5:04:0a
Subject: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU
Not Valid Before: Tue Aug 22 12:07:06 2017
Not Valid After : Fri Aug 22 12:07:06 2042
Fingerprint (SHA-256):
BE:B0:0B:30:83:9B:9B:C3:2C:32:E4:44:79:05:95:06:41:F2:64:21:B1:5E:D0:89:19:8B:51:8A:E2:EA:1B:99
Fingerprint (SHA1): 89:D4:83:03:4F:9E:9A:48:80:5F:72:37:D4:A9:A6:EF:CB:7C:1F:D1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "e-Szigno Root CA 2017"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL

```

\060\161\061\013\060\011\006\003\125\004\006\023\002\110\125\061  
\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145  
\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151\143  
\162\157\163\145\143\040\114\164\144\056\061\027\060\025\006\003  
\125\004\141\014\016\126\101\124\110\125\055\062\063\065\070\064  
\064\071\067\061\036\060\034\006\003\125\004\003\014\025\145\055  
\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040\062  
\060\061\067

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\161\061\013\060\011\006\003\125\004\006\023\002\110\125\061  
\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145  
\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151\143  
\162\157\163\145\143\040\114\164\144\056\061\027\060\025\006\003  
\125\004\141\014\016\126\101\124\110\125\055\062\063\065\070\064  
\064\071\067\061\036\060\034\006\003\125\004\003\014\025\145\055  
\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040\062  
\060\061\067

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\014\001\124\110\357\041\375\227\131\015\365\004\012

END

CKA\_VALUE

MULTILINE\_OCTAL

\060\202\002\100\060\202\001\345\240\003\002\001\002\002\014\001  
\124\110\357\041\375\227\131\015\365\004\012\060\012\006\010\052  
\206\110\316\075\004\003\002\060\161\061\013\060\011\006\003\125  
\004\006\023\002\110\125\061\021\060\017\006\003\125\004\007\014  
\010\102\165\144\141\160\145\163\164\061\026\060\024\006\003\125  
\004\012\014\015\115\151\143\162\157\163\145\143\040\114\164\144  
\056\061\027\060\025\006\003\125\004\141\014\016\126\101\124\110  
\125\055\062\063\065\070\064\064\071\067\061\036\060\034\006\003  
\125\004\003\014\025\145\055\123\172\151\147\156\157\040\122\157  
\157\164\040\103\101\040\062\060\061\067\060\036\027\015\061\067  
\060\070\062\062\061\062\060\067\060\066\132\027\015\064\062\060  
\070\062\062\061\062\060\067\060\066\132\060\161\061\013\060\011  
\006\003\125\004\006\023\002\110\125\061\021\060\017\006\003\125  
\004\007\014\010\102\165\144\141\160\145\163\164\061\026\060\024  
\006\003\125\004\012\014\015\115\151\143\162\157\163\145\143\040  
\114\164\144\056\061\027\060\025\006\003\125\004\141\014\016\126  
\101\124\110\125\055\062\063\065\070\064\064\071\067\061\036\060  
\034\006\003\125\004\003\014\025\145\055\123\172\151\147\156\157  
\040\122\157\157\164\040\103\101\040\062\060\061\067\060\131\060  
\023\006\007\052\206\110\316\075\002\001\006\010\052\206\110\316  
\075\003\001\007\003\102\000\004\226\334\075\212\330\260\173\157  
\306\047\276\104\220\261\263\126\025\173\216\103\044\175\032\204

```
\131\356\143\150\262\306\136\207\320\025\110\036\250\220\255\275
\123\242\332\336\072\220\246\140\137\150\062\265\206\101\337\207
\133\054\173\305\376\174\172\332\243\143\060\141\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006
\003\125\035\016\004\026\004\024\207\021\025\010\321\252\301\170
\014\261\257\316\306\311\220\357\277\060\004\300\060\037\006\003
\125\035\043\004\030\060\026\200\024\207\021\025\010\321\252\301
\170\014\261\257\316\306\311\220\357\277\060\004\300\060\012\006
\010\052\206\110\316\075\004\003\002\003\111\000\060\106\002\041
\000\265\127\335\327\212\125\013\066\341\206\104\372\324\331\150
\215\270\334\043\212\212\015\324\057\175\352\163\354\277\115\154
\250\002\041\000\313\245\264\022\372\347\265\350\317\176\223\374
\363\065\217\157\116\132\174\264\274\116\262\374\162\252\133\131
\371\347\334\061
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "e-Szigno Root CA 2017"

# Issuer: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU

# Serial Number:01:54:48:ef:21:fd:97:59:0d:f5:04:0a

# Subject: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU

# Not Valid Before: Tue Aug 22 12:07:06 2017

# Not Valid After : Fri Aug 22 12:07:06 2042

# Fingerprint (SHA-256):

BE:B0:0B:30:83:9B:9B:C3:2C:32:E4:44:79:05:95:06:41:F2:64:21:B1:5E:D0:89:19:8B:51:8A:E2:EA:1B:99

#

Fingerprint (SHA1): 89:D4:83:03:4F:9E:9A:48:80:5F:72:37:D4:A9:A6:EF:CB:7C:1F:D1

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "e-Szigno Root CA 2017"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\211\324\203\003\117\236\232\110\200\137\162\067\324\251\246\357
\313\174\037\321
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\336\037\366\236\204\256\247\264\041\316\036\130\175\321\204\230
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\161\061\013\060\011\006\003\125\004\006\023\002\110\125\061
\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145
\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151\143
\162\157\163\145\143\040\114\164\144\056\061\027\060\025\006\003
```



```
\125\004\141\014\016\126\101\124\110\125\055\062\063\065\070\064
\064\071\067\061\036\060\034\006\003\125\004\003\014\025\145\055
\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040\062
\060\061\067
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\014\001\124\110\357\041\375\227\131\015\365\004\012
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "certSIGN Root CA G2"

#

# Issuer: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO

# Serial Number:11:00:34:b6:4e:c6:36:2d:36

# Subject: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO

# Not Valid Before: Mon Feb 06 09:27:35 2017

# Not Valid After : Thu Feb 06 09:27:35 2042

# Fingerprint (SHA-256):

65:7C:FE:2F:A7:3F:AA:38:46:25:71:F3:32:A2:36:3A:46:FC:E7:02:09:51:71:07:02:CD:FB:B6:EE:DA:33:05

# Fingerprint (SHA1): 26:F9:93:B4:ED:3D:28:27:B0:B9:4B:A7:E9:15:1D:A3:8D:92:E5:32

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "certSIGN Root CA G2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT

MULTILINE\_OCTAL

```
\060\101\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\024\060\022\006\003\125\004\012\023\013\103\105\122\124\123\111
\107\116\040\123\101\061\034\060\032\006\003\125\004\013\023\023
\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103\101
\040\107\062
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\101\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\024\060\022\006\003\125\004\012\023\013\103\105\122\124\123\111
\107\116\040\123\101\061\034\060\032\006\003\125\004\013\023\023
\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103\101
\040\107\062
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\011\021\000\064\266\116\306\066\055\066

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\107\060\202\003\057\240\003\002\001\002\002\011\021  
\000\064\266\116\306\066\055\066\060\015\006\011\052\206\110\206  
\367\015\001\001\013\005\000\060\101\061\013\060\011\006\003\125  
\004\006\023\002\122\117\061\024\060\022\006\003\125\004\012\023  
\013\103\105\122\124\123\111\107\116\040\123\101\061\034\060\032  
\006\003\125\004\013\023\023\143\145\162\164\123\111\107\116\040  
\122\117\117\124\040\103\101\040\107\062\060\036\027\015\061\067  
\060\062\060\066\060\071\062\067\063\065\132\027\015\064\062\060  
\062\060\066\060\071\062\067\063\065\132\060\101\061\013\060\011  
\006\003\125\004\006\023\002\122\117\061\024\060\022\006\003\125  
\004\012\023\013\103\105\122\124\123\111\107\116\040\123\101\061  
\034\060\032\006\003\125\004\013\023\023\143\145\162\164\123\111  
\107\116\040\122\117\117\124\040\103\101\040\107\062\060\202\002  
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000  
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\300\305  
\165\031\221\175\104\164\164\207\376\016\073\226\334\330\001\026  
\314\356\143\221\347\013\157\316\073\012\151\032\174\302\343\257  
\202\216\206\327\136\217\127\353\323\041\131\375\071\067\102\060  
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\312\022\160\273\246\145\363\151\165\143\275\225\373\033\227\315  
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\173\170\024\303\040\057\177\373\024\125\341\021\231\375\325\012  
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\254\054\273\056\206\342\243\166\217\345\223\052\317\245\253\310  
\134\215\113\006\377\022\106\254\170\313\024\007\065\340\251\337  
\213\351\257\025\117\026\211\133\275\366\215\306\131\256\210\205  
\016\301\211\353\037\147\305\105\216\377\155\067\066\053\170\146  
\203\221\121\053\075\377\121\167\166\142\241\354\147\076\076\201  
\203\340\126\251\120\037\037\172\231\253\143\277\204\027\167\361  
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\070\220\373\270\321\263\162\006\311\161\346\201\305\171\355\013  
\246\171\362\023\013\234\367\135\016\173\044\223\264\110\333\206  
\137\336\120\206\170\347\100\346\061\250\220\166\160\141\257\234  
\067\054\021\265\202\267\252\256\044\064\133\162\014\151\015\315  
\131\237\366\161\257\234\013\321\012\070\371\006\042\203\123\045  
\014\374\121\304\346\276\342\071\225\013\044\255\257\321\225\344  
\226\327\164\144\153\161\116\002\074\252\205\363\040\243\103\071  
\166\133\154\120\376\232\234\024\036\145\024\212\025\275\243\202  
\105\132\111\126\152\322\234\261\143\062\345\141\340\123\042\016  
\247\012\111\352\313\176\037\250\342\142\200\366\020\105\122\230  
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\323\171\075\155\153\111\311\050\016\056\164\120\277\014\331\106  
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\053\252\111\372\215\145\051\116\343\153\023\247\224\243\055\121  
\155\170\014\104\313\337\336\010\157\316\243\144\253\323\225\204  
\324\271\122\124\162\173\226\045\314\274\151\343\110\156\015\320  
\307\235\047\232\252\370\023\222\335\036\337\143\237\065\251\026  
\066\354\214\270\203\364\075\211\217\315\264\027\136\327\263\027  
\101\020\135\047\163\140\205\127\111\042\007

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "certSIGN Root CA G2"

# Issuer: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO

```

Serial Number:11:00:34:b6:4e:c6:36:2d:36
Subject: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO
Not Valid Before: Mon Feb 06 09:27:35 2017
Not Valid After : Thu Feb 06 09:27:35 2042
Fingerprint (SHA-256):
65:7C:FE:2F:A7:3F:AA:38:46:25:71:F3:32:A2:36:3A:46:FC:E7:02:09:51:71:07:02:CD:FB:B6:EE:DA:33:05
Fingerprint (SHA1): 26:F9:93:B4:ED:3D:28:27:B0:B9:4B:A7:E9:15:1D:A3:8D:92:E5:32
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL
UTF8 "certSIGN Root CA G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\046\371\223\264\355\075\050\047\260\271\113\247\351\025\035\243
\215\222\345\062
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\214\361\165\212\306\031\317\224\267\367\145\040\207\303\227\307
END
CKA_ISSUER MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\024\060\022\006\003\125\004\012\023\013\103\105\122\124\123\111
\107\116\040\123\101\061\034\060\032\006\003\125\004\013\023\023
\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103\101
\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\021\000\064\266\116\306\066\055\066
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Trustwave Global Certification Authority"
#
Issuer: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
#
Serial Number:05:f7:0e:86:da:49:f3:46:35:2e:ba:b2
Subject: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
Not Valid Before: Wed Aug 23 19:34:12 2017
Not Valid After : Sat Aug 23 19:34:12 2042
Fingerprint (SHA-256):
97:55:20:15:F5:DD:FC:3C:87:88:C0:06:94:45:55:40:88:94:45:00:84:F1:00:86:70:86:BC:1A:2B:B5:8D:C8

```

# Fingerprint (SHA1): 2F:8F:36:4F:E1:58:97:44:21:59:87:A5:2A:9A:D0:69:95:26:7F:B5

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "Trustwave Global Certification Authority"  
CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509  
CKA\_SUBJECT MULTILINE\_OCTAL  
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\021\060\017\006\003\125\004\010\014\010\111\154\154\151\156  
\157\151\163\061\020\060\016\006\003\125\004\007\014\007\103\150  
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\014\030  
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156  
\147\163\054\040\111\156\143\056\061\061\060\057\006\003\125\004  
\003\014\050\124\162\165\163\164\167\141\166\145\040\107\154\157  
\142\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157  
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END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL  
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\157\151\163\061\020\060\016\006\003\125\004\007\014\007\103\150  
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\014\030  
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156  
\147\163\054\040\111\156\143\056\061\061\060\057\006\003\125\004  
\003\014\050\124\162\165\163\164\167\141\166\145\040\107\154\157  
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END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\014\005\367\016\206\332\111\363\106\065\056\272\262

END

CKA\_VALUE

MULTILINE\_OCTAL

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\206\110\206\367\015\001\001\013\005\000\060\201\210\061\013\060  
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\125\004\010\014\010\111\154\154\151\156\157\151\163\061\020\060  
\016\006\003\125\004\007\014\007\103\150\151\143\141\147\157\061  
\041\060\037\006\003\125\004\012\014\030\124\162\165\163\164\167  
\141\166\145\040\110\157\154\144\151\156\147\163\054\040\111\156  
\143\056\061\061\060\057\006\003\125\004\003\014\050\124\162\165  
\163\164\167\141\166\145\040\107\154\157\142\141\154\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
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\071\063\064\061\062\132\027\015\064\062\060\070\062\063\061\071  
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\007\014\007\103\150\151\143\141\147\157\061\041\060\037\006\003  
\125\004\012\014\030\124\162\165\163\164\167\141\166\145\040\110  
\157\154\144\151\156\147\163\054\040\111\156\143\056\061\061\060  
\057\006\003\125\004\003\014\050\124\162\165\163\164\167\141\166  
\145\040\107\154\157\142\141\154\040\103\145\162\164\151\146\151  
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\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\271\135\121\050\113\074\067\222\321\202\316\275\035\275\315  
\335\270\253\317\012\076\341\135\345\334\252\011\271\127\002\076  
\346\143\141\337\362\017\202\143\256\243\367\254\163\321\174\347  
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\306\353\006\126\211\210\376\254\062\235\375\134\303\005\307\156  
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\237\210\050\313\243\222\111\017\354\320\017\342\155\104\117\200  
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\347\262\276\222\104\114\322\227\244\376\322\162\201\103\007\234  
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\332\045\162\304\366\000\261\042\171\275\343\174\131\142\112\234  
\005\157\075\316\346\326\107\143\231\306\044\157\162\022\310\254  
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\267\010\230\114\345\021\031\256\102\200\334\373\220\005\324\370  
\120\312\276\344\255\307\302\224\327\026\235\346\027\217\257\066  
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\117\307\076\051\333\155\130\203\124\075\207\175\043\005\324\344  
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\273\051\067\100\005\007\303\224\122\237\312\144\335\361\033\053  
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\127\266\231\132\342\013\171\220\327\127\022\121\065\031\210\101  
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\252\356\100\277\064\261\234\217\116\341\362\222\117\037\216\363  
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\236\112\247\157\000\260\101\105\267\042\312\150\110\305\102\242  
\256\335\035\362\340\156\116\005\130\261\300\220\026\052\244\075  
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\311\340\266\234\351\316\161\161\336\154\077\026\244\171

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Trustwave Global Certification Authority"

# Issuer: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,  
Inc.",L=Chicago,ST=Illinois,C=US

# Serial Number:05:f7:0e:86:da:49:f3:46:35:2e:ba:b2

# Subject: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,  
Inc.",L=Chicago,ST=Illinois,C=US

# Not Valid Before: Wed Aug 23 19:34:12 2017

# Not Valid After : Sat Aug 23 19:34:12 2042

```

Fingerprint (SHA-256):
97:55:20:15:F5:DD:FC:3C:87:88:C0:06:94:45:55:40:88:94:45:00:84:F1:00:86:70:86:BC:1A:2B:B5:8D:C8
Fingerprint (SHA1): 2F:8F:36:4F:E1:58:97:44:21:59:87:A5:2A:9A:D0:69:95:26:7F:B5
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE
CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Trustwave Global Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\057\217\066\117\341\130\227\104\041\131\207\245\052\232\320\151
\225\046\177\265
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\370\034\030\055\057\272\137\155\241\154\274\307\253\221\307\016
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\014\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\014\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\014\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\061\060\057\006\003\125\004
\003\014\050\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\005\367\016\206\332\111\363\106\065\056\272\262
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Trustwave Global ECC P256 Certification Authority"
#
Issuer: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
Serial Number:0d:6a:5f:08:3f:28:5c:3e:51:95:df:5d
Subject: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
Not Valid Before: Wed Aug 23 19:35:10 2017
Not Valid After : Sat Aug 23 19:35:10 2042
Fingerprint (SHA-256):
94:5B:BC:82:5E:A5:54:F4:89:D1:FD:51:A7:3D:DF:2E:A6:24:AC:70:19:A0:52:05:22:5C:22:A7:8C:CF:A8:B4

```



```
Fingerprint (SHA1): B4:90:82:DD:45:0C:BE:8B:5B:B1:66:D3:E2:A4:08:26:CD:ED:42:CF
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE
CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Trustwave Global ECC P256 Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\062\065\066\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\062\065\066\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\014\015\152\137\010\077\050\134\076\121\225\337\135
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\140\060\202\002\007\240\003\002\001\002\002\014\015
\152\137\010\077\050\134\076\121\225\337\135\060\012\006\010\052
\206\110\316\075\004\003\002\060\201\221\061\013\060\011\006\003
\125\004\006\023\002\125\123\061\021\060\017\006\003\125\004\010
\023\010\111\154\154\151\156\157\151\163\061\020\060\016\006\003
\125\004\007\023\007\103\150\151\143\141\147\157\061\041\060\037
\006\003\125\004\012\023\030\124\162\165\163\164\167\141\166\145
\040\110\157\154\144\151\156\147\163\054\040\111\156\143\056\061
\072\060\070\006\003\125\004\003\023\061\124\162\165\163\164\167
\141\166\145\040\107\154\157\142\141\154\040\105\103\103\040\120
```

\062\065\066\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\060\036\027\015\061  
\067\060\070\062\063\061\071\063\065\061\060\132\027\015\064\062  
\060\070\062\063\061\071\063\065\061\060\132\060\201\221\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\021\060\017\006  
\003\125\004\010\023\010\111\154\154\151\156\157\151\163\061\020  
\060\016\006\003\125\004\007\023\007\103\150\151\143\141\147\157  
\061\041\060\037\006\003\125\004\012\023\030\124\162\165\163\164  
\167\141\166\145\040\110\157\154\144\151\156\147\163\054\040\111  
\156\143\056\061\072\060\070\006\003\125\004\003\023\061\124\162  
\165\163\164\167\141\166\145\040\107\154\157\142\141\154\040\105  
\103\103\040\120\062\065\066\040\103\145\162\164\151\146\151\143  
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060  
\131\060\023\006\007\052\206\110\316\075\002\001\006\010\052\206  
\110\316\075\003\001\007\003\102\000\004\176\373\154\346\043\343  
\163\062\010\312\140\346\123\234\272\164\215\030\260\170\220\122  
\200\335\070\300\112\035\321\250\314\223\244\227\006\070\312\015  
\025\142\306\216\001\052\145\235\252\337\064\221\056\201\301\344  
\063\222\061\304\375\011\072\246\077\255\243\103\060\101\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\017\006\003\125\035\017\001\001\377\004\005\003\003\007\006\000  
\060\035\006\003\125\035\016\004\026\004\024\243\101\006\254\220  
\155\321\112\353\165\245\112\020\231\263\261\241\213\112\367\060  
\012\006\010\052\206\110\316\075\004\003\002\003\107\000\060\104  
\002\040\007\346\124\332\016\240\132\262\256\021\237\207\305\266  
\377\151\336\045\276\370\240\267\010\363\104\316\052\337\010\041  
\014\067\002\040\055\046\003\240\005\275\153\321\366\134\370\145  
\314\206\155\263\234\064\110\143\204\011\305\215\167\032\342\314  
\234\341\164\173

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Trustwave Global ECC P256 Certification Authority"

# Issuer: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings, Inc.",L=Chicago,ST=Illinois,C=US

# Serial Number:0d:6a:5f:08:3f:28:5c:3e:51:95:df:5d

# Subject: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings, Inc.",L=Chicago,ST=Illinois,C=US

# Not Valid Before: Wed Aug 23 19:35:10 2017

# Not Valid After : Sat Aug 23 19:35:10 2042

# Fingerprint (SHA-256):

94:5B:BC:82:5E:A5:54:F4:89:D1:FD:51:A7:3D:DF:2E:A6:24:AC:70:19:A0:52:05:22:5C:22:A7:8C:CF:A8:B4

# Fingerprint (SHA1): B4:90:82:DD:45:0C:BE:8B:5B:B1:66:D3:E2:A4:08:26:CD:ED:42:CF

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Trustwave Global
ECC P256 Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\264\220\202\335\105\014\276\213\133\261\146\323\342\244\010\046
\315\355\102\317
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\133\104\343\215\135\066\206\046\350\015\005\322\131\247\203\124
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\062\065\066\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\015\152\137\010\077\050\134\076\121\225\337\135
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Trustwave Global ECC P384 Certification Authority"
#
Issuer: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
Serial Number:08:bd:85:97:6c:99:27:a4:80:68:47:3b
Subject: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
Not Valid Before: Wed Aug 23 19:36:43 2017
Not Valid After : Sat Aug 23 19:36:43 2042
Fingerprint (SHA-256):
55:90:38:59:C8:C0:C3:EB:B8:75:9E:CE:4E:25:57:22:5F:F5:75:8B:BD:38:EB:D4:82:76:60:1E:1B:D5:80:97
Fingerprint (SHA1): E7:F3:A3:C8:CF:6F:C3:04:2E:6D:0E:67:32:C5:9E:68:95:0D:5E:D2
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE

```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL
 UTF8 "Trustwave Global ECC P384 Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\063\070\064\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\063\070\064\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_SERIAL_NUMBER
 MULTILINE_OCTAL
\002\014\010\275\205\227\154\231\047\244\200\150\107\073
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\235\060\202\002\044\240\003\002\001\002\002\014\010
\275\205\227\154\231\047\244\200\150\107\073\060\012\006\010\052
\206\110\316\075\004\003\003\060\201\221\061\013\060\011\006\003
\125\004\006\023\002\125\123\061\021\060\017\006\003\125\004\010
\023\010\111\154\154\151\156\157\151\163\061\020\060\016\006\003
\125\004\007\023\007\103\150\151\143\141\147\157\061\041\060\037
\006\003\125\004\012\023\030\124\162\165\163\164\167\141\166\145
\040\110\157\154\144\151\156\147\163\054\040\111\156\143\056\061
\072\060\070\006\003\125\004\003\023\061\124\162\165\163\164\167
\141\166\145\040\107\154\157\142\141\154\040\105\103\103\040\120
\063\070\064\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\060\036\027\015\061
\067\060\070\062\063\061\071\063\066\064\063\132\027\015\064\062
\060\070\062\063\061\071\063\066\064\063\132\060\201\221\061\013
```

\060\011\006\003\125\004\006\023\002\125\123\061\021\060\017\006  
\003\125\004\010\023\010\111\154\154\151\156\157\151\163\061\020  
\060\016\006\003\125\004\007\023\007\103\150\151\143\141\147\157  
\061\041\060\037\006\003\125\004\012\023\030\124\162\165\163\164  
\167\141\166\145\040\110\157\154\144\151\156\147\163\054\040\111  
\156\143\056\061\072\060\070\006\003\125\004\003\023\061\124\162  
\165\163\164\167\141\166\145\040\107\154\157\142\141\154\040\105  
\103\103\040\120\063\070\064\040\103\145\162\164\151\146\151\143  
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060  
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201  
\004\000\042\003\142\000\004\153\332\015\165\065\010\061\107\005  
\256\105\231\125\361\021\023\056\112\370\020\061\043\243\176\203  
\323\177\050\010\072\046\032\072\317\227\202\037\200\267\047\011  
\217\321\216\060\304\012\233\016\254\130\004\253\367\066\175\224  
\043\244\233\012\212\213\253\353\375\071\045\146\361\136\376\214  
\256\215\101\171\235\011\140\316\050\251\323\212\155\363\326\105  
\324\362\230\204\070\145\240\243\103\060\101\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\017\006\003  
\125\035\017\001\001\377\004\005\003\003\007\006\000\060\035\006  
\003\125\035\016\004\026\004\024\125\251\204\211\322\301\062\275  
\030\313\154\246\007\116\310\347\235\276\202\220\060\012\006\010  
\052\206\110\316\075\004\003\003\003\147\000\060\144\002\060\067  
\001\222\227\105\022\176\240\363\076\255\031\072\162\335\364\120  
\223\003\022\276\104\322\117\101\244\214\234\235\037\243\366\302  
\222\347\110\024\376\116\233\245\221\127\256\306\067\162\273\002  
\060\147\045\012\261\014\136\356\251\143\222\157\345\220\013\376  
\146\042\312\107\375\212\061\367\203\376\172\277\020\276\030\053  
\036\217\366\051\036\224\131\357\216\041\067\313\121\230\245\156  
\113

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Trustwave Global ECC P384 Certification Authority"

# Issuer: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings,  
Inc.",L=Chicago,ST=Illinois,C=US

# Serial Number:08:bd:85:97:6c:99:27:a4:80:68:47:3b

# Subject: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings,  
Inc.",L=Chicago,ST=Illinois,C=US

# Not Valid Before: Wed Aug 23 19:36:43 2017

# Not Valid After : Sat Aug 23 19:36:43 2042

# Fingerprint (SHA-256):

55:90:38:59:C8:C0:C3:EB:B8:75:9E:CE:4E:25:57:22:5F:F5:75:8B:BD:38:EB:D4:82:76:60:1E:1B:D5:80:97

# Fingerprint (SHA1): E7:F3:A3:C8:CF:6F:C3:04:2E:6D:0E:67:32:C5:9E:68:95:0D:5E:D2

CKA\_CLASS

```

CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Trustwave Global ECC P384 Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\347\363\243\310\317\157\303\004\056\155\016\147\062\305\236\150
\225\015\136\322
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\352\317\140\304\073\271\025\051\100\241\227\355\170\047\223\326
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\063\070\064\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\014\010\275\205\227\154\231\047\244\200\150\107\073
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "NAVER Global Root Certification Authority"
#
Issuer: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR
Serial Number:01:94:30:1e:a2:0b:dd:f5:c5:33:2a:b1:43:44:71:f8:d6:50:4d:0d
Subject: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR
Not Valid Before: Fri Aug 18 08:58:42 2017
Not Valid After : Tue Aug 18 23:59:59 2037
Fingerprint (SHA-256):
88:F4:38:DC:F8:FF:D1:FA:8F:42:91:15:FF:E5:F8:2A:E1:E0:6E:0C:70:C3:75:FA:AD:71:7B:34:A4:9E:72:65
Fingerprint (SHA1): 8F:6B:F2:A9:27:4A:DA:14:A0:C4:F4:8E:61:27:F9:C0:1E:78:5D:D1
CKA_CLASS
CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE

```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "NAVER Global Root Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\151\061\013\060\011\006\003\125\004\006\023\002\113\122\061
\046\060\044\006\003\125\004\012\014\035\116\101\126\105\122\040
\102\125\123\111\116\105\123\123\040\120\114\101\124\106\117\122
\115\040\103\157\162\160\056\061\062\060\060\006\003\125\004\003
\014\051\116\101\126\105\122\040\107\154\157\142\141\154\040\122
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\151\061\013\060\011\006\003\125\004\006\023\002\113\122\061
\046\060\044\006\003\125\004\012\014\035\116\101\126\105\122\040
\102\125\123\111\116\105\123\123\040\120\114\101\124\106\117\122
\115\040\103\157\162\160\056\061\062\060\060\006\003\125\004\003
\014\051\116\101\126\105\122\040\107\154\157\142\141\154\040\122
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\024\001\224\060\036\242\013\335\365\305\063\052\261\103\104
\161\370\326\120\115\015
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\242\060\202\003\212\240\003\002\001\002\002\024\001
\224\060\036\242\013\335\365\305\063\052\261\103\104\161\370\326
\120\115\015\060\015\006\011\052\206\110\206\367\015\001\001\014
\005\000\060\151\061\013\060\011\006\003\125\004\006\023\002\113
\122\061\046\060\044\006\003\125\004\012\014\035\116\101\126\105
\122\040\102\125\123\111\116\105\123\123\040\120\114\101\124\106
\117\122\115\040\103\157\162\160\056\061\062\060\060\006\003\125
\004\003\014\051\116\101\126\105\122\040\107\154\157\142\141\154
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\060\036\027
\015\061\067\060\070\061\070\060\070\065\070\064\062\132\027\015
\063\067\060\070\061\070\062\063\065\071\065\071\132\060\151\061
\013\060\011\006\003\125\004\006\023\002\113\122\061\046\060\044
\006\003\125\004\012\014\035\116\101\126\105\122\040\102\125\123
\111\116\105\123\123\040\120\114\101\124\106\117\122\115\040\103
\157\162\160\056\061\062\060\060\006\003\125\004\003\014\051\116
\101\126\105\122\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\060\202\002\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000
```

\060\202\002\012\002\202\002\001\000\266\324\361\223\134\265\100  
\211\012\253\015\220\133\120\143\256\220\224\164\027\105\162\326  
\173\145\132\051\113\247\126\240\113\270\057\102\165\351\331\173  
\044\132\061\145\253\027\027\321\063\072\331\021\334\100\066\207  
\337\307\152\351\046\136\131\212\167\343\350\110\234\061\026\372  
\076\221\261\312\311\243\342\237\316\041\123\243\002\066\060\313  
\122\002\345\332\062\135\303\305\346\371\356\021\307\213\311\104  
\036\204\223\030\112\264\237\345\022\144\151\320\046\205\142\001  
\266\311\002\035\276\203\121\273\134\332\370\255\025\152\231\367  
\222\124\367\064\133\351\277\352\051\201\022\324\123\221\226\263  
\221\132\335\376\220\163\050\373\060\106\265\312\010\007\307\161  
\162\311\146\323\064\227\366\214\364\030\112\341\320\075\132\105  
\266\151\247\051\373\043\316\210\330\022\234\000\110\250\246\017  
\263\073\222\215\161\016\164\305\213\310\114\371\364\233\216\270  
\074\151\355\157\073\120\057\130\355\304\260\320\034\033\152\014  
\342\274\104\252\330\315\024\135\224\170\141\277\016\156\332\052  
\274\057\014\013\161\246\263\026\077\234\346\371\314\237\123\065  
\342\003\240\240\030\277\273\361\276\364\326\214\207\015\102\367  
\006\271\361\155\355\004\224\250\376\266\323\006\306\100\141\337  
\235\235\363\124\166\316\123\072\001\246\222\101\354\004\243\217  
\015\242\325\011\312\326\313\232\361\357\103\135\300\253\245\101  
\317\134\123\160\160\311\210\246\055\324\153\141\163\120\046\206  
\141\016\137\033\302\053\342\214\325\273\235\301\003\102\272\224  
\332\137\251\260\312\314\115\012\357\107\151\003\057\042\373\361  
\050\316\277\135\120\145\250\220\155\263\164\260\010\307\254\250  
\321\353\076\234\374\135\032\203\056\053\313\265\363\104\235\072  
\247\027\141\226\242\161\323\160\226\025\115\267\114\163\356\031  
\134\305\133\076\101\376\254\165\140\073\033\143\316\000\335\332  
\010\220\142\264\345\055\356\110\247\153\027\231\124\276\207\112  
\343\251\136\004\114\353\020\155\124\326\357\361\350\362\142\026  
\313\200\153\355\075\355\365\037\060\245\256\113\311\023\355\212  
\001\001\311\270\121\130\300\146\072\261\146\113\304\325\061\002  
\142\351\164\204\014\333\115\106\055\002\003\001\000\001\243\102  
\060\100\060\035\006\003\125\035\016\004\026\004\024\322\237\210  
\337\241\315\054\275\354\365\073\001\001\223\063\047\262\353\140  
\113\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\015\006\011\052\206\110\206\367\015\001\001\014\005  
\000\003\202\002\001\000\062\312\200\263\235\075\124\006\335\322  
\322\056\360\244\001\041\013\147\110\312\155\216\340\310\252\015  
\252\215\041\127\217\306\076\172\312\333\121\324\122\263\324\226  
\204\245\130\140\177\345\013\216\037\365\334\012\025\201\345\073  
\266\267\042\057\011\234\023\026\261\154\014\065\010\155\253\143  
\162\355\334\276\354\307\127\346\060\040\161\326\327\020\301\023  
\125\001\214\052\103\344\101\361\317\072\172\123\222\316\242\003  
\005\015\070\337\002\273\020\056\331\073\322\233\172\300\241\246  
\370\265\061\346\364\165\311\271\123\231\165\107\042\132\024\025  
\307\170\033\266\235\351\014\370\033\166\361\205\204\336\241\332



```
\022\357\244\342\020\227\172\170\336\014\121\227\250\041\100\213
\206\275\015\360\136\116\113\066\273\073\040\037\212\102\126\341
\013\032\277\173\320\042\103\054\104\214\373\345\052\264\154\034
\034\272\224\340\023\176\041\346\232\302\313\305\102\144\264\036
\224\173\010\045\310\161\314\207\105\127\205\323\237\051\142\042
\203\121\227\000\030\227\167\152\230\222\311\174\140\154\337\154
\175\112\344\160\114\302\236\270\035\367\320\064\307\017\314\373
\247\377\003\276\255\160\220\332\013\335\310\155\227\137\232\177
\011\062\101\375\315\242\314\132\155\114\362\252\111\376\146\370
\351\330\065\353\016\050\036\356\110\057\072\320\171\011\070\174
\246\042\202\223\225\320\003\276\276\002\240\005\335\040\042\343
\157\035\210\064\140\306\346\012\271\011\165\013\360\007\350\151
\226\065\307\373\043\201\216\070\071\270\105\053\103\170\242\321
\054\024\377\015\050\162\162\225\233\136\011\333\211\104\230\252
\241\111\273\161\122\362\277\366\377\047\241\066\257\270\266\167
\210\335\072\244\155\233\064\220\334\024\135\060\277\267\353\027
\344\207\267\161\320\241\327\167\025\324\102\327\362\363\061\231
\135\233\335\026\155\077\352\006\043\370\106\242\042\355\223\366
\335\232\346\052\207\261\230\124\361\042\367\153\105\343\342\216
\166\035\232\215\304\006\215\066\267\024\363\235\124\151\267\216
\074\325\244\155\223\201\267\255\366\275\144\173\302\311\150\071
\240\222\234\315\064\206\221\220\372\144\121\235\376\376\353\245
\365\165\336\211\367\162
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "NAVER Global Root Certification Authority"

# Issuer: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR

# Serial Number:01:94:30:1e:a2:0b:dd:f5:c5:33:2a:b1:43:44:71:f8:d6:50:4d:0d

# Subject: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR

# Not Valid Before: Fri Aug 18 08:58:42 2017

# Not Valid After : Tue Aug 18 23:59:59 2037

# Fingerprint (SHA-256):

88:F4:38:DC:F8:FF:D1:FA:8F:42:91:15:FF:E5:F8:2A:E1:E0:6E:0C:70:C3:75:FA:AD:71:7B:34:A4:9E:72:65

# Fingerprint (SHA1): 8F:6B:F2:A9:27:4A:DA:14:A0:C4:F4:8E:61:27:F9:C0:1E:78:5D:D1

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "NAVER Global Root Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\217\153\362\251\047\112\332\024\240\304\364\216\141\047\371\300
\036\170\135\321
```

END

```

CKA_CERT_MD5_HASH MULTILINE_OCTAL
\310\176\101\366\045\073\365\011\263\027\350\106\075\277\320\233
END
CKA_ISSUER MULTILINE_OCTAL
\060\151\061\013\060\011\006\003\125\004\006\023\002\113\122\061
\046\060\044\006\003\125\004\012\014\035\116\101\126\105\122\040
\102\125\123\111\116\105\123\123\040\120\114\101\124\106\117\122
\115\040\103\157\162\160\056\061\062\060\060\006\003\125\004\003
\014\051\116\101\126\105\122\040\107\154\157\142\141\154\040\122
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\001\224\060\036\242\013\335\365\305\063\052\261\103\104
\161\370\326\120\115\015
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "AC RAIZ FNMT-RCM SERVIDORES SEGUROS"
#
Issuer: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-
Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES
Serial Number:62:f6:32:6c:e5:c4:e3:68:5c:1b:62:dd:9c:2e:9d:95
Subject: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-
Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES
Not Valid Before: Thu Dec 20 09:37:33 2018
Not Valid After : Sun Dec 20 09:37:33 2043
Fingerprint (SHA-256):
55:41:53:B1:3D:2C:F9:DD:B7:53:BF:BE:1A:4E:0A:E0:8D:0A:A4:18:70:58:FE:60:A2:B8:62:B2:E4:B8:7B:CB
Fingerprint (SHA1): 62:FF:D9:9E:C0:65:0D:03:CE:75:93:D2:ED:3F:2D:32:C9:E3:E5:4A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8
"AC RAIZ FNMT-RCM SERVIDORES SEGUROS"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\170\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\016\060\014\006\003\125\004\013\014\005\103\145\162
\145\163\061\030\060\026\006\003\125\004\141\014\017\126\101\124
\105\123\055\121\062\070\062\066\060\060\064\112\061\054\060\052

```

```
\006\003\125\004\003\014\043\101\103\040\122\101\111\132\040\106
\116\115\124\055\122\103\115\040\123\105\122\126\111\104\117\122
\105\123\040\123\105\107\125\122\117\123
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\170\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\016\060\014\006\003\125\004\013\014\005\103\145\162
\145\163\061\030\060\026\006\003\125\004\141\014\017\126\101\124
\105\123\055\121\062\070\062\066\060\060\064\112\061\054\060\052
\006\003\125\004\003\014\043\101\103\040\122\101\111\132\040\106
\116\115\124\055\122\103\115\040\123\105\122\126\111\104\117\122
\105\123\040\123\105\107\125\122\117\123
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\142\366\062\154\345\304\343\150\134\033\142\335\234\056
\235\225
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\156\060\202\001\363\240\003\002\001\002\002\020\142
\366\062\154\345\304\343\150\134\033\142\335\234\056\235\225\060
\012\006\010\052\206\110\316\075\004\003\003\060\170\061\013\060
\011\006\003\125\004\006\023\002\105\123\061\021\060\017\006\003
\125\004\012\014\010\106\116\115\124\055\122\103\115\061\016\060
\014\006\003\125\004\013\014\005\103\145\162\145\163\061\030\060
\026\006\003\125\004\141\014\017\126\101\124\105\123\055\121\062
\070\062\066\060\060\064\112\061\054\060\052\006\003\125\004\003
\014\043\101\103\040\122\101\111\132\040\106\116\115\124\055\122
\103\115\040\123\105\122\126\111\104\117\122\105\123\040\123\105
\107\125\122\117\123\060\036\027\015\061\070\061\062\062\060\060
\071\063\067\063\063\132\027\015\064\063\061\062\062\060\060\071
\063\067\063\063\132\060\170\061\013\060\011\006\003\125\004\006
\023\002\105\123\061\021\060\017\006\003\125\004\012\014\010\106
\116\115\124\055\122\103\115\061\016\060\014\006\003\125\004\013
\014\005\103\145\162\145\163\061\030\060\026\006\003\125\004\141
\014\017\126\101\124\105\123\055\121\062\070\062\066\060\060\064
\112\061\054\060\052\006\003\125\004\003\014\043\101\103\040\122
\101\111\132\040\106\116\115\124\055\122\103\115\040\123\105\122
\126\111\104\117\122\105\123\040\123\105\107\125\122\117\123\060
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201
\004\000\042\003\142\000\004\366\272\127\123\310\312\253\337\066
\112\122\041\344\227\322\203\147\236\360\145\121\320\136\207\307
\107\261\131\362\127\107\233\000\002\223\104\027\151\333\102\307
\261\262\072\030\016\264\135\214\263\146\135\241\064\371\066\054
\111\333\363\106\374\263\104\151\104\023\146\375\327\305\375\257
\066\115\316\003\115\007\161\317\257\152\005\322\242\103\132\012
```

```
\122\157\001\003\116\216\213\243\102\060\100\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003
\125\035\016\004\026\004\024\001\271\057\357\277\021\206\140\362
\117\320\101\156\253\163\037\347\322\156\111\060\012\006\010\052
\206\110\316\075\004\003\003\003\151\000\060\146\002\061\000\256
\112\343\053\100\303\164\021\362\225\255\026\043\336\116\014\032
\346\135\245\044\136\153\104\173\374\070\342\117\313\234\105\027
\021\114\024\047\046\125\071\165\112\003\314\023\220\237\222\002
\061\000\372\112\154\140\210\163\363\356\270\230\142\251\316\053
\302\331\212\246\160\061\035\257\260\224\114\353\117\306\343\321
\363\142\247\074\377\223\056\007\134\111\001\147\151\022\002\162
\277\347
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "AC

RAIZ FNMT-RCM SERVIDORES SEGUROS"

# Issuer: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-  
Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES

# Serial Number:62:f6:32:6c:e5:c4:e3:68:5c:1b:62:dd:9c:2e:9d:95

# Subject: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-  
Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES

# Not Valid Before: Thu Dec 20 09:37:33 2018

# Not Valid After : Sun Dec 20 09:37:33 2043

# Fingerprint (SHA-256):

55:41:53:B1:3D:2C:F9:DD:B7:53:BF:BE:1A:4E:0A:E0:8D:0A:A4:18:70:58:FE:60:A2:B8:62:B2:E4:B8:7B:CB

# Fingerprint (SHA1): 62:FF:D9:9E:C0:65:0D:03:CE:75:93:D2:ED:3F:2D:32:C9:E3:E5:4A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "AC RAIZ FNMT-RCM SERVIDORES SEGUROS"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\142\377\331\236\300\145\015\003\316\165\223\322\355\077\055\062
\311\343\345\112
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\031\066\234\122\003\057\322\321\273\043\314\335\036\022\125\273
```

END

CKA\_ISSUER

MULTILINE\_OCTAL

```
\060\170\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\016\060\014\006\003\125\004\013\014\005\103\145\162
```

```
\145\163\061\030\060\026\006\003\125\004\141\014\017\126\101\124
\105\123\055\121\062\070\062\066\060\060\064\112\061\054\060\052
\006\003\125\004\003\014\043\101\103\040\122\101\111\132\040\106
\116\115\124\055\122\103\115\040\123\105\122\126\111\104\117\122
\105\123\040\123\105\107\125\122\117\123
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\142\366\062\154\345\304\343\150\134\033\142\335\234\056
\235\225
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "GlobalSign Secure Mail Root R45"

#

# Issuer: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE

# Serial Number:76:53:fe:a8:4c:50:ab:9f:8d:32:b5:1d:03:8f:57:dc

#

Subject: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE

# Not Valid Before: Wed Mar 18 00:00:00 2020

# Not Valid After : Sat Mar 18 00:00:00 2045

# Fingerprint (SHA-256):

31:9A:F0:A7:72:9E:6F:89:26:9C:13:1E:A6:A3:A1:6F:CD:86:38:9F:DC:AB:3C:47:A4:A6:75:C1:61:A3:F9:74

# Fingerprint (SHA1): 76:18:D1:F3:80:24:3D:52:40:C6:11:6A:AD:57:77:09:7D:81:30:A0

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GlobalSign Secure Mail Root R45"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\122\064\065
```

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
```

\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164  
\040\122\064\065

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\166\123\376\250\114\120\253\237\215\062\265\035\003\217  
\127\334

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\160\060\202\003\130\240\003\002\001\002\002\020\166  
\123\376\250\114\120\253\237\215\062\265\035\003\217\127\334\060  
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\122  
\061\013\060\011\006\003\125\004\006\023\002\102\105\061\031\060  
\027\006\003\125\004\012\023\020\107\154\157\142\141\154\123\151  
\147\156\040\156\166\055\163\141\061\050\060\046\006\003\125\004  
\003\023\037\107\154\157\142\141\154\123\151\147\156\040\123\145  
\143\165\162\145\040\115\141\151\154\040\122\157\157\164\040\122  
\064\065\060\036\027\015\062\060\060\063\061\070\060\060\060\060  
\060\060\132\027\015\064\065\060\063\061\070\060\060\060\060\060  
\060\132\060\122\061\013\060\011\006\003\125\004\006\023\002\102  
\105\061\031\060\027\006\003\125\004\012\023\020\107\154\157\142  
\141\154\123\151\147\156\040\156\166\055\163\141\061\050\060\046  
\006\003\125\004\003\023\037\107\154\157\142\141\154\123\151\147  
\156\040\123\145\143\165\162\145\040\115\141\151\154\040\122\157  
\157\164\040\122\064\065\060\202\002\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202  
\002\012\002\202\002\001\000\334\171\314\155\006\371\155\273\340  
\126\004\154\177\340\165\314\055\005\111\350\113\334\124\354\133  
\167\225\162\277\177\142\235\205\251\212\044\120\137\123\345\333  
\164\157\244\051\133\023\052\011\255\232\305\057\302\367\166\073  
\241\105\106\252\103\346\044\376\053\260\157\062\160\031\106\132  
\171\046\057\374\075\175\137\144\313\127\314\141\141\250\331\225  
\156\343\225\240\156\177\107\022\030\326\357\003\311\373\212\372  
\232\275\202\025\251\125\167\113\021\117\131\340\153\303\161\363  
\014\330\124\325\201\150\076\023\271\025\056\207\212\074\104\047  
\066\142\044\156\370\054\005\162\060\141\275\102\221\043\304\235  
\045\247\331\124\232\024\243\061\255\200\171\014\247\143\154\230  
\243\254\127\107\063\037\145\226\341\320\322\065\332\371\161\367  
\241\246\045\265\101\135\337\076\140\330\321\366\237\245\362\270  
\314\023\252\217\371\262\156\341\203\055\223\335\076\205\032\335  
\350\261\134\046\001\313\111\205\374\374\322\324\177\205\142\206  
\164\371\313\354\065\042\242\014\060\217\073\253\171\353\126\362  
\372\102\363\355\371\037\105\211\100\051\255\352\222\164\352\122  
\375\126\264\053\332\242\355\165\302\156\253\316\122\220\113\366  
\336\360\111\217\232\110\324\210\031\155\105\346\314\214\271\335  
\144\140\140\002\100\370\271\317\274\130\353\075\205\271\306\012  
\323\234\007\146\217\307\030\071\043\106\341\074\036\243\057\120  
\141\222\013\075\053\154\361\243\107\070\127\221\253\015\217\306  
\235\115\004\322\046\122\134\345\245\375\052\055\026\052\001\151

\347\251\175\341\066\267\261\052\305\331\261\215\275\271\213\316  
\314\213\241\076\013\110\315\120\225\064\304\330\010\131\330\153  
\046\364\276\365\324\042\027\000\127\311\256\233\004\060\063\237  
\013\373\337\126\242\311\156\124\166\332\261\227\142\047\131\017  
\021\212\042\033\144\226\077\250\361\267\044\112\215\074\123\174  
\155\203\166\075\262\046\110\163\365\104\026\001\055\011\052\216  
\026\226\120\320\163\006\135\273\042\110\202\114\012\106\132\077  
\200\377\134\362\362\232\254\054\010\340\326\352\360\022\070\201  
\117\246\020\355\106\253\314\026\234\013\317\144\246\231\002\205  
\104\147\106\255\375\115\347\002\003\001\000\001\243\102\060\100  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\035\006\003\125\035\016\004\026\004\024\240\223\025\050  
\156\356\217\010\262\065\306\236\142\171\164\247\261\016\053\173  
\060\015\006\011\052\206\110\206\367\015\001\001\014\005\000\003  
\202\002\001\000\105\012\370\321\134\254\142\201\320\004\327\266  
\377\127\121\211\013\014\313\336\044\145\067\373\253\236\355\146  
\364\352\014\031\151\211\270\031\261\060\126\264\331\366\367\276  
\306\256\227\313\105\366\021\214\072\060\144\114\301\237\131\300  
\106\102\010\006\107\144\027\170\340\225\007\006\326\214\242\254  
\251\331\077\323\173\126\117\374\304\207\050\337\266\053\026\043  
\300\237\037\133\343\326\104\136\042\117\043\004\214\065\026\265  
\171\007\206\134\057\227\342\366\010\144\246\334\333\250\212\343  
\244\173\167\015\321\051\223\050\040\264\123\243\113\116\137\336  
\301\366\165\043\374\037\074\170\117\160\061\170\057\242\065\124  
\161\004\254\310\304\155\303\366\221\261\376\315\356\104\156\201  
\366\100\305\076\052\001\277\253\114\261\003\077\015\021\344\017  
\322\044\343\042\210\233\237\137\107\075\121\111\340\011\067\176  
\027\041\061\166\267\147\161\110\050\113\045\327\020\350\237\141  
\131\026\305\076\062\116\037\014\316\243\314\017\344\307\021\007  
\042\057\070\010\335\133\227\353\102\154\131\232\232\356\172\320  
\235\337\305\333\011\103\056\012\252\031\075\153\350\152\060\172  
\127\346\277\263\152\071\251\217\343\361\117\145\150\266\275\237  
\050\217\241\026\132\011\120\072\062\056\035\057\104\021\102\246  
\000\346\061\230\377\055\241\017\346\244\140\126\317\171\327\262  
\116\327\260\372\156\014\127\043\307\316\037\245\261\114\155\031  
\111\236\016\177\160\217\161\077\130\050\237\165\335\141\340\072  
\267\071\266\356\227\324\065\121\373\213\111\140\310\074\146\256  
\227\356\215\046\131\127\273\170\360\172\120\060\011\260\140\252  
\237\116\334\311\076\036\072\334\142\223\063\260\072\124\164\157  
\054\061\105\321\153\021\062\152\150\166\366\075\366\152\023\136  
\044\230\347\352\035\232\317\170\202\007\140\367\115\020\323\201  
\232\105\215\236\257\233\334\200\307\103\262\225\150\244\303\016  
\350\012\107\025\277\124\063\334\001\347\325\246\036\163\330\172  
\262\277\057\255\343\125\060\236\337\016\101\274\340\021\365\241  
\014\250\042\341\343\000\243\116\160\174\222\343\004\321\172\102  
\212\165\220\131\343\233\321\114\242\144\275\163\171\233\157\362  
\263\301\366\074

```

END
CKA_NSS_Mozilla_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "GlobalSign Secure Mail Root R45"
Issuer: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE
Serial Number:76:53:fe:a8:4c:50:ab:9f:8d:32:b5:1d:03:8f:57:dc
Subject: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE
Not Valid Before: Wed Mar 18 00:00:00 2020
Not Valid After : Sat Mar 18 00:00:00 2045
Fingerprint (SHA-256):
31:9A:F0:A7:72:9E:6F:89:26:9C:13:1E:A6:A3:A1:6F:CD:86:38:9F:DC:AB:3C:47:A4:A6:75:C1:61:A3:F9:74
Fingerprint (SHA1): 76:18:D1:F3:80:24:3D:52:40:C6:11:6A:AD:57:77:09:7D:81:30:A0
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE
CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Secure Mail Root R45"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\166\030\321\363\200\044\075\122\100\306\021\152\255\127\167\011
\175\201\060\240
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\223\304\173\263\016\124\107\034\103\054\213\276\160\205\142\051
END
CKA_ISSUER MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\122\064\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\166\123\376\250\114\120\253\237\215\062\265\035\003\217
\127\334
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL
CK_FALSE

#
Certificate "GlobalSign Secure Mail Root E45"

```



```

#
Issuer: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE
Serial Number:76:53:fe:aa:27:1d:95:46:5d:d6:f1:9e:e5:b8:90:0a
Subject: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE
Not Valid Before: Wed Mar 18 00:00:00 2020
Not Valid After : Sat Mar 18 00:00:00 2045
Fingerprint (SHA-256):
5C:BF:6F:B8:1F:D4:17:EA:41:28:CD:6F:81:72:A3:C9:40:20:94:F7:4A:B2:ED:3A:06:B4:40:5D:04:F3:0B:19
Fingerprint (SHA1): 18:2E:1F:32:4F:89:DF:BE:FE:88:89:F0:93:C2:C4:A0:2B:67:75:21
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Secure Mail Root E45"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\105\064\065
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\105\064\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\166\123\376\252\047\035\225\106\135\326\361\236\345\270
\220\012
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\041\060\202\001\247\240\003\002\001\002\002\020\166
\123\376\252\047\035\225\106\135\326\361\236\345\270\220\012\060
\012\006\010\052\206\110\316\075\004\003\003\060\122\061\013\060
\011\006\003\125\004\006\023\002\102\105\061\031\060\027\006\003
\125\004\012\023\020\107\154\157\142\141\154\123\151\147\156\040
\156\166\055\163\141\061\050\060\046\006\003\125\004\003\023\037
\107\154\157\142\141\154\123\151\147\156\040\123\145\143\165\162
\145\040\115\141\151\154\040\122\157\157\164\040\105\064\065\060
\036\027\015\062\060\060\063\061\070\060\060\060\060\060\060\132
\027\015\064\065\060\063\061\070\060\060\060\060\060\060\132\060

```

\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061\031  
\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154\123  
\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003\125  
\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040\123  
\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164\040  
\105\064\065\060\166\060\020\006\007\052\206\110\316\075\002\001  
\006\005\053\201\004\000\042\003\142\000\004\371\171\213\201\107  
\067\211\226\077\105\111\120\177\032\046\013\223\062\176\056\300  
\300\247\010\232\303\156\217\233\076\013\042\354\067\123\267\157  
\212\260\274\047\067\113\155\251\106\073\331\037\377\245\241\104  
\273\055\163\277\236\101\007\134\123\233\121\010\072\132\273\157  
\070\307\026\221\170\302\112\023\151\035\202\337\132\057\000\210  
\226\242\056\034\164\371\235\176\146\067\212\243\102\060\100\060  
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\035\006\003\125\035\016\004\026\004\024\337\023\136\213\137  
\302\100\002\375\126\267\224\114\266\036\325\246\261\024\226\060  
\012\006\010\052\206\110\316\075\004\003\003\003\150\000\060\145  
\002\060\023\260\276\327\161\040\076\344\253\234\316\066\022\175  
\137\114\037\052\265\151\105\063\137\323\055\132\262\344\210\307  
\336\012\066\102\062\171\235\246\153\272\341\371\104\052\173\212  
\303\022\002\061\000\240\146\034\116\207\235\207\311\355\231\114  
\033\012\356\055\140\303\067\307\035\315\265\162\260\331\306\357  
\274\362\377\077\360\122\335\010\347\252\144\171\303\344\151\127  
\221\057\244\313\174

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign Secure Mail Root E45"

# Issuer: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE

# Serial Number:76:53:fe:aa:27:1d:95:46:5d:d6:f1:9e:e5:b8:90:0a

# Subject: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE

# Not Valid Before: Wed Mar 18 00:00:00 2020

# Not Valid After : Sat Mar 18 00:00:00 2045

# Fingerprint (SHA-256):

5C:BF:6F:B8:1F:D4:17:EA:41:28:CD:6F:81:72:A3:C9:40:20:94:F7:4A:B2:ED:3A:06:B4:40:5D:04:F3:0B:19

# Fingerprint (SHA1): 18:2E:1F:32:4F:89:DF:BE:FE:88:89:F0:93:C2:C4:A0:2B:67:75:21

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GlobalSign Secure Mail Root E45"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\030\056\037\062\117\211\337\276\376\210\211\360\223\302\304\240

```

\053\147\165\041
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\305\374\306\056\237\364\122\055\052\250\244\272\373\147\062\377
END
CKA_ISSUER
MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\105\064\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\166\123\376\252\047\035\225\106\135\326\361\236\345\270
\220\012
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GlobalSign Root R46"
#
Issuer: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE
Serial Number: 11:d2:bb:b9:d7:23:18:9e:40:5f:0a:9d:2d:d0:df:25:67:d1
Subject: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE
Not Valid Before: Wed Mar 20 00:00:00 2019
Not
 Valid After : Tue Mar 20 00:00:00 2046
Fingerprint (SHA-256):
4F:A3:12:6D:8D:3A:11:D1:C4:85:5A:4F:80:7C:BA:D6:CF:91:9D:3A:5A:88:B0:3B:EA:2C:63:72:D9:3C:40:C9
Fingerprint (SHA1): 53:A2:B0:4B:CA:6B:D6:45:E6:39:8A:8E:C4:0D:D2:BF:77:C3:A2:90
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root R46"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\122\064\066
END

```

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061  
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154  
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003  
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040  
\122\157\157\164\040\122\064\066

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\022\021\322\273\271\327\043\030\236\100\137\012\235\055\320  
\337\045\147\321

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\132\060\202\003\102\240\003\002\001\002\002\022\021  
\322\273\271\327\043\030\236\100\137\012\235\055\320\337\045\147  
\321\060\015\006\011\052\206\110\206\367\015\001\001\014\005\000  
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061  
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154  
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003  
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040  
\122\157\157\164\040\122\064\066\060\036\027\015\061\071\060\063  
\062\060\060\060\060\060\060\060\132\027\015\064\066\060\063\062  
\060\060\060\060\060\060\060\132\060\106\061\013\060\011\006\003  
\125\004\006\023\002\102\105\061\031\060\027\006\003\125\004\012  
\023\020\107\154\157\142\141\154\123\151\147\156\040\156\166\055  
\163\141\061\034\060\032\006\003\125\004\003\023\023\107\154\157  
\142\141\154\123\151\147\156\040\122\157\157\164\040\122\064\066  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\254\254\164\062\350\263\145\345\272\355\103\046\035\246\211  
\015\105\272\051\210\262\244\035\143\335\323\301\054\011\127\211  
\071\241\125\351\147\064\167\014\156\344\125\035\122\045\322\023  
\153\136\341\035\251\267\175\211\062\137\015\236\237\054\172\143  
\140\100\037\246\260\266\170\217\231\124\226\010\130\256\344\006  
\274\142\005\002\026\277\257\250\043\003\266\224\017\274\156\154  
\302\313\325\246\273\014\351\366\301\002\373\041\336\146\335\027  
\253\164\102\357\360\164\057\045\364\352\153\125\133\220\333\235  
\337\136\207\012\100\373\255\031\153\373\367\312\140\210\336\332  
\301\217\326\256\325\177\324\074\203\356\327\026\114\203\105\063  
\153\047\320\206\320\034\055\153\363\253\175\361\205\251\365\050  
\322\255\357\363\204\113\034\207\374\023\243\072\162\242\132\021  
\053\326\047\161\047\355\201\055\155\146\201\222\207\264\033\130  
\172\314\077\012\372\106\117\115\170\134\370\053\110\343\004\204  
\313\135\366\264\152\263\145\374\102\236\121\046\043\040\313\075  
\024\371\201\355\145\026\000\117\032\144\227\146\010\317\214\173  
\343\053\300\235\371\024\362\033\361\126\152\026\277\054\205\205  
\315\170\070\232\353\102\152\002\064\030\203\027\116\224\126\370

\266\202\265\363\226\335\075\363\276\177\040\167\076\173\031\043  
\153\054\324\162\163\103\127\175\340\370\327\151\117\027\066\004  
\371\300\220\140\067\105\336\346\014\330\164\215\256\234\242\155  
\164\135\102\276\006\365\331\144\156\002\020\254\211\260\114\073  
\007\115\100\176\044\305\212\230\202\171\216\244\247\202\040\215  
\043\372\047\161\311\337\306\101\164\240\115\366\221\026\334\106  
\214\137\051\143\061\131\161\014\330\157\302\266\062\175\373\346  
\135\123\246\176\025\374\273\165\174\135\354\370\366\027\034\354  
\307\153\031\313\363\173\360\053\007\245\331\154\171\124\166\154  
\235\034\246\156\016\351\171\014\250\043\152\243\337\033\060\061  
\237\261\124\173\376\152\313\146\252\334\145\320\242\236\112\232  
\007\041\153\201\217\333\304\131\372\336\042\300\004\234\343\252  
\133\066\223\350\075\275\172\241\235\013\166\261\013\307\235\375  
\317\230\250\006\302\370\052\243\241\203\240\267\045\162\245\002  
\343\002\003\001\000\001\243\102\060\100\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125  
\035\016\004\026\004\024\003\134\253\163\201\207\250\314\260\246  
\325\224\342\066\226\111\377\005\231\054\060\015\006\011\052\206  
\110\206\367\015\001\001\014\005\000\003\202\002\001\000\174\170  
\354\366\002\054\273\133\176\222\053\135\071\334\276\330\035\242  
\102\063\115\371\357\244\052\073\104\151\036\254\331\105\243\116  
\074\247\330\044\121\262\124\034\223\116\304\357\173\223\205\140  
\046\352\011\110\340\365\273\307\351\150\322\273\152\061\161\314  
\171\256\021\250\360\231\375\345\037\274\057\250\314\127\353\166  
\304\041\246\107\123\125\115\150\277\005\244\356\327\046\253\142  
\332\103\067\113\342\306\265\345\262\203\031\072\307\323\333\115  
\236\010\172\363\356\317\076\142\373\254\350\140\314\321\307\241  
\134\203\105\304\105\314\363\027\153\024\311\004\002\076\322\044  
\246\171\351\036\316\242\347\301\131\025\237\035\342\113\232\076  
\237\166\010\055\153\330\272\127\024\332\203\352\376\214\125\351  
\320\116\251\314\167\061\261\104\021\172\134\261\076\323\024\105  
\025\030\142\044\023\322\313\115\316\134\203\301\066\362\020\265  
\016\210\155\270\341\126\237\211\336\226\146\071\107\144\054\156  
\115\256\142\173\277\140\164\031\270\126\254\222\254\026\062\355  
\255\150\125\376\230\272\323\064\336\364\311\141\303\016\206\366  
\113\204\140\356\015\173\265\062\130\171\221\125\054\201\103\263  
\164\037\172\252\045\236\035\327\241\213\271\315\102\056\004\244  
\146\203\115\211\065\266\154\250\066\112\171\041\170\042\320\102  
\274\321\100\061\220\241\276\004\317\312\147\355\365\360\200\323  
\140\311\203\052\042\005\320\007\073\122\277\014\236\252\053\371  
\273\346\037\217\045\272\205\215\027\036\002\376\135\120\004\127  
\317\376\055\274\357\134\300\032\253\266\237\044\306\337\163\150  
\110\220\054\024\364\077\122\032\344\322\313\024\303\141\151\317  
\342\371\030\305\272\063\237\024\243\004\135\271\161\367\265\224  
\330\366\063\301\132\301\064\213\174\233\335\223\072\347\023\242  
\160\141\237\257\217\353\330\305\165\370\063\146\324\164\147\072  
\067\167\234\347\335\244\017\166\103\146\212\103\362\237\373\014

```
\102\170\143\321\342\017\157\173\324\241\075\164\227\205\267\110
\071\101\326\040\374\320\072\263\372\350\157\304\212\272\161\067
\276\213\227\261\170\061\117\263\347\266\003\023\316\124\235\256
\045\131\314\177\065\137\010\367\100\105\061\170\052\172
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

#

Trust for "GlobalSign Root R46"

# Issuer: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE

# Serial Number:11:d2:bb:b9:d7:23:18:9e:40:5f:0a:9d:2d:d0:df:25:67:d1

# Subject: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE

# Not Valid Before: Wed Mar 20 00:00:00 2019

# Not Valid After : Tue Mar 20 00:00:00 2046

# Fingerprint (SHA-256):

4F:A3:12:6D:8D:3A:11:D1:C4:85:5A:4F:80:7C:BA:D6:CF:91:9D:3A:5A:88:B0:3B:EA:2C:63:72:D9:3C:40:C9

# Fingerprint (SHA1): 53:A2:B0:4B:CA:6B:D6:45:E6:39:8A:8E:C4:0D:D2:BF:77:C3:A2:90

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GlobalSign Root R46"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\123\242\260\113\312\153\326\105\346\071\212\216\304\015\322\277
\167\303\242\220
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\304\024\060\344\372\146\103\224\052\152\033\044\137\031\320\357
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\122\064\066
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\022\021\322\273\271\327\043\030\236\100\137\012\235\055\320
\337\045\147\321
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

```
#
Certificate "GlobalSign Root E46"
#
Issuer: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE
Serial Number:11:d2:bb:ba:33:6e:d4:bc:e6:24:68:c5:0d:84:1d:98:e8:43
Subject: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE
Not Valid Before: Wed Mar 20 00:00:00 2019
Not Valid After : Tue Mar 20 00:00:00 2046
Fingerprint (SHA-256):
CB:B9:C4:4D:84:B8:04:3E:10:50:EA:31:A6:9F:51:49:55:D7:BF:D2:E2:C6:B4:93:01:01:9A:D6:1D:9F:50:58
#
Fingerprint (SHA1): 39:B4:6C:D5:FE:80:06:EB:E2:2F:4A:BB:08:33:A0:AF:DB:B9:DD:84
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root E46"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\105\064\066
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\105\064\066
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\022\021\322\273\272\063\156\324\274\346\044\150\305\015\204
\035\230\350\103
END
CKA_VALUE
MULTILINE_OCTAL
\060\202\002\013\060\202\001\221\240\003\002\001\002\002\022\021
\322\273\272\063\156\324\274\346\044\150\305\015\204\035\230\350
\103\060\012\006\010\052\206\110\316\075\004\003\003\060\106\061
\013\060\011\006\003\125\004\006\023\002\102\105\061\031\060\027
\006\003\125\004\012\023\020\107\154\157\142\141\154\123\151\147
\156\040\156\166\055\163\141\061\034\060\032\006\003\125\004\003
\023\023\107\154\157\142\141\154\123\151\147\156\040\122\157\157
\164\040\105\064\066\060\036\027\015\061\071\060\063\062\060\060
```

```
\060\060\060\060\060\132\027\015\064\066\060\063\062\060\060\060
\060\060\060\060\132\060\106\061\013\060\011\006\003\125\004\006
\023\002\102\105\061\031\060\027\006\003\125\004\012\023\020\107
\154\157\142\141\154\123\151\147\156\040\156\166\055\163\141\061
\034\060\032\006\003\125\004\003\023\023\107\154\157\142\141\154
\123\151\147\156\040\122\157\157\164\040\105\064\066\060\166\060
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000
\042\003\142\000\004\234\016\261\317\267\350\236\122\167\165\064
\372\245\106\247\255\062\031\062\264\007\251\047\312\224\273\014
\322\012\020\307\332\211\260\227\014\160\023\011\001\216\330\352
\107\352\276\262\200\053\315\374\050\015\333\254\274\244\206\067
\355\160\010\000\165\352\223\013\173\056\122\234\043\150\043\006
\103\354\222\057\123\204\333\373\107\024\007\350\137\224\147\135
\311\172\201\074\040\243\102\060\100\060\016\006\003\125\035\017
\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035
\016\004\026\004\024\061\012\220\217\266\306\235\322\104\113\200
\265\242\346\037\261\022\117\033\225\060\012\006\010\052\206\110
\316\075\004\003\003\003\150\000\060\145\002\061\000\337\124\220
\355\233\357\213\224\002\223\027\202\231\276\263\236\054\366\013
\221\214\237\112\024\261\366\144\274\273\150\121\023\014\003\367
\025\213\204\140\271\213\377\122\216\347\214\274\034\002\060\074
\371\021\324\214\116\300\301\141\302\025\114\252\253\035\013\061
\137\073\034\342\000\227\104\061\346\376\163\226\057\332\226\323
\376\010\007\263\064\211\274\005\237\367\036\206\356\213\160
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign Root E46"

# Issuer: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE

# Serial Number: 11:d2:bb:ba:33:6e:d4:bc:e6:24:68:c5:0d:84:1d:98:e8:43

# Subject: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE

# Not Valid Before: Wed Mar 20 00:00:00 2019

# Not Valid After : Tue Mar 20 00:00:00 2046

# Fingerprint (SHA-256):

CB:B9:C4:4D:84:B8:04:3E:10:50:EA:31:A6:9F:51:49:55:D7:BF:D2:E2:C6:B4:93:01:01:9A:D6:1D:9F:50:58

# Fingerprint (SHA1): 39:B4:6C:D5:FE:80:06:EB:E2:2F:4A:BB:08:33:A0:AF:DB:B9:DD:84

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL

CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GlobalSign Root E46"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\071\264\154\325\376\200\006\353\342\057\112\273\010\063\240\257
```



```

\333\271\335\204
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\265\270\146\355\336\010\203\343\311\342\001\064\006\254\121\157
END
CKA_ISSUER MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\105\064\066
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\022\021\322\273\272\063\156\324\274\346\044\150\305\015\204
\035\230\350\103
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GLOBALTRUST
2020"
#
Issuer: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT
Serial Number:5a:4b:bd:5a:fb:4f:8a:5b:fa:65:e5
Subject: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT
Not Valid Before: Mon Feb 10 00:00:00 2020
Not Valid After : Sun Jun 10 00:00:00 2040
Fingerprint (SHA-256):
9A:29:6A:51:82:D1:D4:51:A2:E3:7F:43:9B:74:DA:AF:A2:67:52:33:29:F9:0F:9A:0D:20:07:C3:34:E2:3C:9A
Fingerprint (SHA1): D0:67:C1:13:51:01:0C:AA:D0:C7:6A:65:37:31:16:26:4F:53:71:A2
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GLOBALTRUST 2020"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\101\124\061
\043\060\041\006\003\125\004\012\023\032\145\055\143\157\155\155
\145\162\143\145\040\155\157\156\151\164\157\162\151\156\147\040
\107\155\142\110\061\031\060\027\006\003\125\004\003\023\020\107
\114\117\102\101\114\124\122\125\123\124\040\062\060\062\060
END
CKA_ID

```

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\115\061\013\060\011\006\003\125\004\006\023\002\101\124\061  
\043\060\041\006\003\125\004\012\023\032\145\055\143\157\155\155  
\145\162\143\145\040\155\157\156\151\164\157\162\151\156\147\040  
\107\155\142\110\061\031\060\027\006\003\125\004\003\023\020\107  
\114\117\102\101\114\124\122\125\123\124\040\062\060\062\060

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\013\132\113\275\132\373\117\212\133\372\145\345

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\202\060\202\003\152\240\003\002\001\002\002\013\132  
\113\275\132\373\117\212\133\372\145\345\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\060\115\061\013\060\011\006  
\003\125\004\006\023\002\101\124\061\043\060\041\006\003\125\004  
\012\023\032\145\055\143\157\155\155\145\162\143\145\040\155\157  
\156\151\164\157\162\151\156\147\040\107\155\142\110\061\031\060  
\027\006\003\125\004\003\023\020\107\114\117\102\101\114\124\122  
\125\123\124\040\062\060\062\060\060\060\060\036\027\015\062\060\060\062  
\061\060\060\060\060\060\060\060\132\027\015\064\060\060\066\061  
\060\060\060\060\060\060\060\132\060\115\061\013\060\011\006\003  
\125\004\006\023\002\101\124\061\043\060\041\006\003\125\004\012  
\023\032\145\055\143\157\155\155\145\162\143\145\040\155\157\156  
\151\164\157\162\151\156\147\040\107\155\142\110\061\031\060\027  
\006\003\125\004\003\023\020\107\114\117\102\101\114\124\122\125  
\123\124\040\062\060\062\060\060\202\002\042\060\015\006\011\052  
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060  
\202\002\012\002\202\002\001\000\256\056\126\255\033\034\357\366  
\225\217\240\167\033\053\323\143\217\204\115\105\242\017\237\133  
\105\253\131\173\121\064\371\354\213\212\170\305\335\153\257\275  
\304\337\223\105\036\277\221\070\013\256\016\026\347\101\163\370  
\333\273\321\270\121\340\313\203\073\163\070\156\167\212\017\131  
\143\046\315\247\052\316\124\373\270\342\300\174\107\316\140\174  
\077\262\163\362\300\031\266\212\222\207\065\015\220\050\242\344  
\025\004\143\076\272\257\356\174\136\314\246\213\120\262\070\367  
\101\143\312\316\377\151\217\150\016\225\066\345\314\271\214\011  
\312\113\335\061\220\226\310\314\037\375\126\226\064\333\216\034  
\352\054\276\205\056\143\335\252\251\225\323\375\051\225\023\360  
\310\230\223\331\055\026\107\220\021\203\242\072\042\242\050\127  
\242\353\376\300\214\050\240\246\175\347\052\102\073\202\200\143  
\245\143\037\031\314\174\262\146\250\302\323\155\067\157\342\176  
\006\121\331\105\204\037\022\316\044\122\144\205\013\110\200\116  
\207\261\042\042\060\252\353\256\276\340\002\340\100\350\260\102  
\200\003\121\252\264\176\252\104\327\103\141\363\242\153\026\211  
\111\244\243\244\053\212\002\304\170\364\150\212\301\344\172\066  
\261\157\033\226\033\167\111\215\324\311\006\162\217\317\123\343  
\334\027\205\040\112\334\230\047\323\221\046\053\107\036\151\007

\257\336\242\344\344\324\153\013\263\136\174\324\044\200\107\051  
\151\073\156\350\254\375\100\353\330\355\161\161\053\362\350\130  
\035\353\101\227\042\305\037\324\071\320\047\217\207\343\030\364  
\340\251\106\015\365\164\072\202\056\320\156\054\221\243\061\134  
\073\106\352\173\004\020\126\136\200\035\365\245\145\350\202\374  
\342\007\214\142\105\365\040\336\106\160\206\241\274\223\323\036  
\164\246\154\260\054\367\003\014\210\014\313\324\162\123\206\274  
\140\106\363\230\152\302\361\277\103\371\160\040\167\312\067\101  
\171\125\122\143\215\133\022\237\305\150\304\210\235\254\362\060  
\253\267\243\061\227\147\255\217\027\017\154\307\163\355\044\224  
\153\310\203\232\320\232\067\111\004\253\261\026\310\154\111\111  
\055\253\241\320\214\222\362\101\112\171\041\045\333\143\327\266  
\234\247\176\102\151\373\072\143\002\003\001\000\001\243\143\060  
\141\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\006\060\035\006\003\125\035\016\004\026\004\024\334\056\037  
\321\141\067\171\344\253\325\325\263\022\161\150\075\152\150\234  
\042\060\037\006\003\125\035\043\004\030\060\026\200\024\334\056  
\037\321\141\067\171\344\253\325\325\263\022\161\150\075\152\150  
\234\042\060\015\006\011\052\206\110\206\367\015\001\001\013\005  
\000\003\202\002\001\000\221\360\102\002\150\100\356\303\150\300  
\124\057\337\354\142\303\303\236\212\240\061\050\252\203\216\244  
\126\226\022\020\206\126\272\227\162\322\124\060\174\255\031\325  
\035\150\157\373\024\102\330\215\016\363\265\321\245\343\002\102  
\136\334\350\106\130\007\065\002\060\340\274\164\112\301\103\052  
\377\333\032\320\260\257\154\303\375\313\263\365\177\155\003\056  
\131\126\235\055\055\065\214\262\326\103\027\054\222\012\313\135  
\350\214\017\113\160\103\320\202\377\250\314\277\244\224\300\276  
\207\275\212\343\223\173\306\217\233\026\235\047\145\274\172\305  
\102\202\154\134\007\320\251\301\210\140\104\351\230\205\026\137  
\370\217\312\001\020\316\045\303\371\140\033\240\305\227\303\323  
\054\210\061\242\275\060\354\320\320\300\022\361\301\071\343\345  
\365\370\326\112\335\064\315\373\157\301\117\343\000\213\126\342  
\222\367\050\262\102\167\162\043\147\307\077\021\025\262\304\003  
\005\276\273\021\173\012\277\250\156\347\377\130\103\317\233\147  
\240\200\007\266\035\312\255\155\352\101\021\176\055\164\223\373  
\302\274\276\121\104\305\357\150\045\047\200\343\310\240\324\022  
\354\331\245\067\035\067\174\264\221\312\332\324\261\226\201\357  
\150\134\166\020\111\257\176\245\067\200\261\034\122\275\063\201  
\114\217\371\335\145\331\024\315\212\045\130\364\342\305\203\245  
\011\220\324\154\024\143\265\100\337\353\300\374\304\130\176\015  
\024\026\207\124\047\156\126\344\160\204\270\154\062\022\176\202  
\061\103\276\327\335\174\241\255\256\326\253\040\022\357\012\303  
\020\214\111\226\065\334\013\165\136\261\117\325\117\064\016\021  
\040\007\165\103\105\351\243\021\332\254\243\231\302\266\171\047  
\342\271\357\310\342\366\065\051\172\164\372\305\177\202\005\142  
\246\012\352\150\262\171\107\006\156\362\127\250\025\063\306\367  
\170\112\075\102\173\153\176\376\367\106\352\321\353\216\357\210

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\150\133\350\301\331\161\176\375\144\357\377\147\107\210\130\045
\057\076\206\007\275\373\250\345\202\250\254\245\323\151\103\315
\061\210\111\204\123\222\300\261\071\033\071\203\001\060\304\362
\251\372\320\003\275\162\067\140\126\037\066\174\275\071\221\365
\155\015\277\173\327\222
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GLOBALTRUST 2020"

# Issuer: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT

# Serial Number:5a:4b:bd:5a:fb:4f:8a:5b:fa:65:e5

# Subject: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT

# Not Valid Before: Mon Feb 10 00:00:00 2020

# Not Valid After : Sun Jun 10 00:00:00 2040

# Fingerprint (SHA-256):

9A:29:6A:51:82:D1:D4:51:A2:E3:7F:43:9B:74:DA:AF:A2:67:52:33:29:F9:0F:9A:0D:20:07:C3:34:E2:3C:9A

# Fingerprint (SHA1): D0:67:C1:13:51:01:0C:AA:D0:C7:6A:65:37:31:16:26:4F:53:71:A2

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE

CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GLOBALTRUST 2020"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\320\147\301\023\121\001\014\252\320\307\152\145\067\061\026\046
\117\123\161\242
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\212\307\157\313\155\343\314\242\361\174\203\372\016\170\327\350
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\115\061\013\060\011\006\003\125\004\006\023\002\101\124\061
\043\060\041\006\003\125\004\012\023\032\145\055\143\157\155\155
\145\162\143\145\040\155\157\156\151\164\157\162\151\156\147\040
\107\155\142\110\061\031\060\027\006\003\125\004\003\023\020\107
\114\117\102\101\114\124\122\125\123\124\040\062\060\062\060
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\013\132\113\275\132\373\117\212\133\372\145\345
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

```

#
Certificate "ANF
 Secure Server Root CA"
#
Issuer: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de
Certificacion,C=ES,serialNumber=G63287510
Serial Number:0d:d3:e3:bc:6c:f9:6b:b1
Subject: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de
Certificacion,C=ES,serialNumber=G63287510
Not Valid Before: Wed Sep 04 10:00:38 2019
Not Valid After : Tue Aug 30 10:00:38 2039
Fingerprint (SHA-256):
FB:8F:EC:75:91:69:B9:10:6B:1E:51:16:44:C6:18:C5:13:04:37:3F:6C:06:43:08:8D:8B:EF:FD:1B:99:75:99
Fingerprint (SHA1): 5B:6E:68:D0:CC:15:B6:A0:5F:1E:C1:5F:AE:02:FC:6B:2F:5D:6F:74
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ANF Secure Server Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\204\061\022\060\020\006\003\125\004\005\023\011\107\066
\063\062\070\067\065\061\060\061\013\060\011\006\003\125\004\006
\023\002\105\123\061\047\060\045\006\003\125\004\012\023\036\101
\116\106\040\101\165\164\157\162\151\144\141\144\040\144\145\040
\103\145\162\164\151\146\151\143\141\143\151\157\156\061\024\060
\022\006\003\125\004\013\023\013\101\116\106\040\103\101\040\122
\141\151\172\061\042\060\040\006\003\125\004\003\023\031\101\116
\106\040\123\145\143\165\162\145\040\123\145\162\166\145\162\040
\122\157\157\164\040\103\101
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\204\061\022\060\020\006\003\125\004\005\023\011\107\066
\063\062\070\067\065\061\060\061\013\060\011\006\003\125\004\006
\023\002\105\123\061\047\060\045\006\003\125\004\012\023\036\101
\116\106\040\101\165\164\157\162\151\144\141\144\040\144\145\040
\103\145\162\164\151\146\151\143\141\143\151\157\156\061\024\060
\022\006\003\125\004\013\023\013\101\116\106\040\103\101\040\122
\141\151\172\061\042\060\040\006\003\125\004\003\023\031\101\116
\106\040\123\145\143\165\162\145\040\123\145\162\166\145\162\040
\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\010\015\323\343\274\154\371\153\261
END

```

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\357\060\202\003\327\240\003\002\001\002\002\010\015  
\323\343\274\154\371\153\261\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\060\201\204\061\022\060\020\006\003\125  
\004\005\023\011\107\066\063\062\070\067\065\061\060\061\013\060  
\011\006\003\125\004\006\023\002\105\123\061\047\060\045\006\003  
\125\004\012\023\036\101\116\106\040\101\165\164\157\162\151\144  
\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141\143  
\151\157\156\061\024\060\022\006\003\125\004\013\023\013\101\116  
\106\040\103\101\040\122\141\151\172\061\042\060\040\006\003\125  
\004\003\023\031\101\116\106\040\123\145\143\165\162\145\040\123  
\145\162\166\145\162\040\122\157\157\164\040\103\101\060\036\027  
\015\061\071\060\071\060\064\061\060\060\060\063\070\132\027\015  
\063\071\060\070\063\060\061\060\060\060\063\070\132\060\201\204  
\061\022\060\020\006\003\125\004\005\023\011\107\066\063\062\070  
\067\065\061\060\061\013\060\011\006\003\125\004\006\023\002\105  
\123\061\047\060\045\006\003\125\004\012\023\036\101\116\106\040  
\101\165\164\157\162\151\144\141\144\040\144\145\040\103\145\162  
\164\151\146\151\143\141\143\151\157\156\061\024\060\022\006\003  
\125\004\013\023\013\101\116\106\040\103\101\040\122\141\151\172  
\061\042\060\040\006\003\125\004\003\023\031\101\116\106\040\123  
\145\143\165\162\145\040\123\145\162\166\145\162\040\122\157\157  
\164\040\103\101\060\202\002\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012  
\002\202\002\001\000\333\353\153\053\346\144\124\225\202\220\243  
\162\244\031\001\235\234\013\201\137\163\111\272\247\254\363\004  
\116\173\226\013\354\021\340\133\246\034\316\033\322\015\203\034  
\053\270\236\035\176\105\062\140\017\007\351\167\130\176\237\152  
\310\141\116\266\046\301\114\215\377\114\357\064\262\037\145\330  
\271\170\365\255\251\161\271\357\117\130\035\245\336\164\040\227  
\241\355\150\114\336\222\027\113\274\253\377\145\232\236\373\107  
\331\127\162\363\011\241\256\166\104\023\156\234\055\104\071\274  
\371\307\073\244\130\075\101\275\264\302\111\243\310\015\322\227  
\057\007\145\122\000\247\156\310\257\150\354\364\024\226\266\127  
\037\126\303\071\237\053\155\344\363\076\366\065\144\332\014\034  
\241\204\113\057\113\113\342\054\044\235\155\223\100\353\265\043  
\216\062\312\157\105\323\250\211\173\036\317\036\372\133\103\213  
\315\315\250\017\152\312\014\136\271\236\107\217\360\331\266\012  
\013\130\145\027\063\271\043\344\167\031\175\313\112\056\222\173  
\117\057\020\167\261\215\057\150\234\142\314\340\120\370\354\221  
\247\124\114\127\011\325\166\143\305\350\145\036\356\155\152\317  
\011\235\372\174\117\255\140\010\375\126\231\017\025\054\173\251  
\200\253\214\141\217\112\007\166\102\336\075\364\335\262\044\063  
\133\270\265\243\104\311\254\177\167\074\035\043\354\202\251\246  
\342\310\006\114\002\376\254\134\231\231\013\057\020\212\246\364  
\177\325\207\164\015\131\111\105\366\360\161\134\071\051\326\277  
\112\043\213\365\137\001\143\322\207\163\050\265\113\012\365\370  
\253\202\054\176\163\045\062\035\013\143\012\027\201\000\377\266

\166\136\347\264\261\100\312\041\273\325\200\121\345\110\122\147  
\054\322\141\211\007\015\017\316\102\167\300\104\163\234\104\120  
\240\333\020\012\055\225\034\201\257\344\034\345\024\036\361\066  
\101\001\002\057\175\163\247\336\102\314\114\351\211\015\126\367  
\237\221\324\003\306\154\311\217\333\330\034\340\100\230\135\146  
\231\230\200\156\055\377\001\305\316\313\106\037\254\002\306\103  
\346\256\242\204\074\305\116\036\075\155\311\024\114\343\056\101  
\273\312\071\277\066\074\052\031\252\101\207\116\245\316\113\062  
\171\335\220\111\177\002\003\001\000\001\243\143\060\141\060\037  
\006\003\125\035\043\004\030\060\026\200\024\234\137\320\154\143  
\243\137\223\312\223\230\010\255\214\207\245\054\134\301\067\060  
\035\006\003\125\035\016\004\026\004\024\234\137\320\154\143\243  
\137\223\312\223\230\010\255\214\207\245\054\134\301\067\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202  
\002\001\000\116\036\271\212\306\240\230\077\156\303\151\300\152  
\134\111\122\254\313\053\135\170\070\301\325\124\204\237\223\360  
\207\031\075\054\146\211\353\015\102\374\314\360\165\205\077\213  
\364\200\135\171\345\027\147\275\065\202\342\362\074\216\175\133  
\066\313\132\200\000\051\362\316\053\054\361\217\252\155\005\223  
\154\162\307\126\353\337\120\043\050\345\105\020\075\350\147\243  
\257\016\125\017\220\011\142\357\113\131\242\366\123\361\300\065  
\344\057\301\044\275\171\057\116\040\042\073\375\032\040\260\244  
\016\054\160\355\164\077\270\023\225\006\121\310\350\207\046\312  
\244\133\152\026\041\222\335\163\140\236\020\030\336\074\201\352  
\350\030\303\174\211\362\213\120\076\275\021\342\025\003\250\066  
\175\063\001\154\110\025\327\210\220\231\004\305\314\346\007\364  
\274\364\220\355\023\342\352\213\303\217\243\063\017\301\051\114  
\023\116\332\025\126\161\163\162\202\120\366\232\063\174\242\261  
\250\032\064\164\145\134\316\321\353\253\123\340\032\200\330\352  
\072\111\344\046\060\233\345\034\212\250\251\025\062\206\231\222  
\012\020\043\126\022\340\366\316\114\342\273\276\333\215\222\163  
\001\146\057\142\076\262\162\047\105\066\355\115\126\343\227\231  
\377\072\065\076\245\124\112\122\131\113\140\333\356\376\170\021  
\177\112\334\024\171\140\266\153\144\003\333\025\203\341\242\276  
\366\043\227\120\360\011\063\066\247\161\226\045\363\271\102\175  
\333\070\077\054\130\254\350\102\341\016\330\323\073\114\056\202  
\351\203\056\153\061\331\335\107\206\117\155\227\221\056\117\342  
\050\161\065\026\321\362\163\376\045\053\007\107\044\143\047\310  
\370\366\331\153\374\022\061\126\010\300\123\102\257\234\320\063  
\176\374\006\360\061\104\003\024\361\130\352\362\152\015\251\021  
\262\203\276\305\032\277\007\352\131\334\243\210\065\357\234\166  
\062\074\115\006\042\316\025\345\335\236\330\217\332\336\322\304  
\071\345\027\201\317\070\107\353\177\210\155\131\033\337\237\102  
\024\256\176\317\250\260\146\145\332\067\257\237\252\075\352\050  
\266\336\325\061\130\026\202\133\352\273\031\165\002\163\032\312  
\110\032\041\223\220\012\216\223\204\247\175\073\043\030\222\211

```

\240\215\254
END
CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "ANF Secure Server Root CA"
Issuer: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de
Certificacion,C=ES,serialNumber=G63287510
Serial Number:0d:d3:e3:bc:6c:f9:6b:b1
Subject: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de
Certificacion,C=ES,serialNumber=G63287510
Not Valid Before: Wed Sep 04 10:00:38 2019
Not Valid After : Tue Aug 30 10:00:38 2039
Fingerprint (SHA-256):
FB:8F:EC:75:91:69:B9:10:6B:1E:51:16:44:C6:18:C5:13:04:37:3F:6C:06:43:08:8D:8B:EF:FD:1B:99:75:99
Fingerprint (SHA1): 5B:6E:68:D0:CC:15:B6:A0:5F:1E:C1:5F:AE:02:FC:6B:2F:5D:6F:74
CKA_CLASS
CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ANF Secure Server Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\133\156\150\320\314\025\266\240\137\036\301\137\256\002\374\153
\057\135\157\164
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\046\246\104\132\331\257\116\057\262\035\266\145\260\116\350\226
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\204\061\022\060\020\006\003\125\004\005\023\011\107\066
\063\062\070\067\065\061\060\061\013\060\011\006\003\125\004\006
\023\002\105\123\061\047\060\045\006\003\125\004\012\023\036\101
\116\106\040\101\165\164\157\162\151\144\141\144\040\144\145\040
\103\145\162\164\151\146\151\143\141\143\151\157\156\061\024\060
\022\006\003\125\004\013\023\013\101\116\106\040\103\101\040\122
\141\151\172\061\042\060\040\006\003\125\004\003\023\031\101\116
\106\040\123\145\143\165\162\145\040\123\145\162\166\145\162\040
\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\010\015\323\343\274\154\371\153\261
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

```



CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Certum EC-384 CA"

#

# Issuer: CN=Certum EC-384 CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

# Serial Number:78:8f:27:5c:81:12:52:20:a5:04:d0:2d:dd:ba:73:f4

# Subject: CN=Certum EC-384 CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

# Not Valid Before: Mon Mar 26 07:24:54 2018

# Not Valid After : Thu Mar 26 07:24:54 2043

# Fingerprint (SHA-256):

6B:32:80:85:62:53:18:AA:50:D1:73:C9:8D:8B:DA:09:D5:7E:27:41:3D:11:4C:F7:87:A0:F5:D0:6C:03:0C:F6

# Fingerprint (SHA1): F3:3E:78:3C:AC:DF:F4:A2:CC:AC:67:55:69:56:D7:E5:16:3C:E1:ED

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE

CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certum EC-384 CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114\061  
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157  
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056  
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162  
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027\006  
\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103\055  
\063\070\064\040\103\101

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114\061  
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157  
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056  
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162  
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027\006  
\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103\055  
\063\070\064\040\103\101

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\170\217\047\134\201\022\122\040\245\004\320\055\335\272  
\163\364

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\145\060\202\001\353\240\003\002\001\002\002\020\170  
\217\047\134\201\022\122\040\245\004\320\055\335\272\163\364\060  
\012\006\010\052\206\110\316\075\004\003\003\060\164\061\013\060  
\011\006\003\125\004\006\023\002\120\114\061\041\060\037\006\003  
\125\004\012\023\030\101\163\163\145\143\157\040\104\141\164\141  
\040\123\171\163\164\145\155\163\040\123\056\101\056\061\047\060  
\045\006\003\125\004\013\023\036\103\145\162\164\165\155\040\103  
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164  
\150\157\162\151\164\171\061\031\060\027\006\003\125\004\003\023  
\020\103\145\162\164\165\155\040\105\103\055\063\070\064\040\103  
\101\060\036\027\015\061\070\060\063\062\066\060\067\062\064\065  
\064\132\027\015\064\063\060\063\062\066\060\067\062\064\065\064  
\132\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114  
\061\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143  
\157\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123  
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145  
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027  
\006\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103  
\055\063\070\064\040\103\101\060\166\060\020\006\007\052\206\110  
\316\075\002\001\006\005\053\201\004\000\042\003\142\000\004\304  
\050\216\253\030\133\152\276\156\144\067\143\344\315\354\253\072  
\367\314\241\270\016\202\111\327\206\051\237\241\224\362\343\140  
\170\230\201\170\006\115\362\354\232\016\127\140\203\237\264\346  
\027\057\032\263\135\002\133\211\043\074\302\021\005\052\247\210  
\023\030\363\120\204\327\275\064\054\047\211\125\377\316\114\347  
\337\246\037\050\304\360\124\303\271\174\267\123\255\353\302\243  
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\215  
\006\146\164\044\166\072\363\211\367\274\326\275\107\175\057\274  
\020\137\113\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\012\006\010\052\206\110\316\075\004\003\003\003  
\150\000\060\145\002\060\003\125\055\246\346\030\304\174\357\311  
\120\156\301\047\017\234\207\257\156\325\033\010\030\275\222\051  
\301\357\224\221\170\322\072\034\125\211\142\345\033\011\036\272  
\144\153\361\166\264\324\002\061\000\264\102\204\231\377\253\347  
\236\373\221\227\047\135\334\260\133\060\161\316\136\070\032\152  
\331\045\347\352\367\141\222\126\370\352\332\066\302\207\145\226  
\056\162\045\057\177\337\303\023\311

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certum EC-384 CA"

# Issuer: CN=Certum EC-384

```

CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL
Serial Number:78:8f:27:5c:81:12:52:20:a5:04:d0:2d:dd:ba:73:f4
Subject: CN=Certum EC-384 CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL
Not Valid Before: Mon Mar 26 07:24:54 2018
Not Valid After : Thu Mar 26 07:24:54 2043
Fingerprint (SHA-256):
6B:32:80:85:62:53:18:AA:50:D1:73:C9:8D:8B:DA:09:D5:7E:27:41:3D:11:4C:F7:87:A0:F5:D0:6C:03:0C:F6
Fingerprint (SHA1): F3:3E:78:3C:AC:DF:F4:A2:CC:AC:67:55:69:56:D7:E5:16:3C:E1:ED
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum EC-384 CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\363\076\170\074\254\337\364\242\314\254\147\125\151\126\327\345
\026\074\341\355
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\266\145\263\226\140\227\022\241\354\116\341\075\243\306\311\361
END
CKA_ISSUER MULTILINE_OCTAL
\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027\006
\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103\055
\063\070\064\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\170\217\047\134\201\022\122\040\245\004\320\055\335\272
\163\364
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Certum Trusted Root CA"
#
Issuer: CN=Certum Trusted Root CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL
Serial Number:1e:bf:59:50:b8:c9:80:37:4c:06:f7:eb:55:4f:b5:ed
Subject: CN=Certum Trusted Root
CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL
Not Valid Before: Fri Mar 16 12:10:13 2018

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Not Valid After : Mon Mar 16 12:10:13 2043
Fingerprint (SHA-256):
FE:76:96:57:38:55:77:3E:37:A9:5E:7A:D4:D9:CC:96:C3:01:57:C1:5D:31:76:5B:A9:B1:57:04:E1:AE:78:FD
Fingerprint (SHA1): C8:83:44:C0:18:AE:9F:CC:F1:87:B7:8F:22:D1:C5:D7:45:84:BA:E5
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Trusted Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\172\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\037\060\035\006
\003\125\004\003\023\026\103\145\162\164\165\155\040\124\162\165
\163\164\145\144\040\122\157\157\164\040\103\101
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\172\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\037\060\035\006
\003\125\004\003\023\026\103\145\162\164\165\155\040\124\162\165
\163\164\145\144\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\036\277\131\120\270\311\200\067\114\006\367\353\125\117
\265\355
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\300\060\202\003\250\240\003\002\001\002\002\020\036
\277\131\120\270\311\200\067\114\006\367\353\125\117\265\355\060
\015\006\011\052\206\110\206\367\015\001\001\015\005\000\060\172
\061\013\060\011\006\003\125\004\006\023\002\120\114\061\041\060
\037\006\003\125\004\012\023\030\101\163\163\145\143\157\040\104
\141\164\141\040\123\171\163\164\145\155\163\040\123\056\101\056
\061\047\060\045\006\003\125\004\013\023\036\103\145\162\164\165
\155\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\101\165\164\150\157\162\151\164\171\061\037\060\035\006\003\125
\004\003\023\026\103\145\162\164\165\155\040\124\162\165\163\164
\145\144\040\122\157\157\164\040\103\101\060\036\027\015\061\070
```

\060\063\061\066\061\062\061\060\061\063\132\027\015\064\063\060  
\063\061\066\061\062\061\060\061\063\132\060\172\061\013\060\011  
\006\003\125\004\006\023\002\120\114\061\041\060\037\006\003\125  
\004\012\023\030\101\163\163\145\143\157\040\104\141\164\141\040  
\123\171\163\164\145\155\163\040\123\056\101\056\061\047\060\045  
\006\003\125\004\013\023\036\103\145\162\164\165\155\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171\061\037\060\035\006\003\125\004\003\023\026  
\103\145\162\164\165\155\040\124\162\165\163\164\145\144\040\122  
\157\157\164\040\103\101\060\202\002\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202  
\002\012\002\202\002\001\000\321\055\216\273\267\066\352\155\067  
\221\237\116\223\247\005\344\051\003\045\316\034\202\367\174\231  
\237\101\006\315\355\243\272\300\333\011\054\301\174\337\051\176  
\113\145\057\223\247\324\001\153\003\050\030\243\330\235\005\301  
\052\330\105\361\221\336\337\073\320\200\002\214\317\070\017\352  
\247\134\170\021\244\301\310\205\134\045\323\323\262\347\045\317  
\021\124\227\253\065\300\036\166\034\357\000\123\237\071\334\024  
\245\054\042\045\263\162\162\374\215\263\345\076\010\036\024\052  
\067\013\210\074\312\260\364\310\302\241\256\274\301\276\051\147  
\125\342\374\255\131\134\376\275\127\054\260\220\215\302\355\067  
\266\174\231\210\265\325\003\232\075\025\015\075\072\250\250\105  
\360\225\116\045\131\035\315\230\151\273\323\314\062\311\215\357  
\201\376\255\175\211\273\272\140\023\312\145\225\147\240\363\031  
\366\003\126\324\152\323\047\342\241\255\203\360\112\022\042\167  
\034\005\163\342\031\161\102\300\354\165\106\232\220\130\340\152  
\216\053\245\106\060\004\216\031\262\027\343\276\251\272\177\126  
\361\044\003\327\262\041\050\166\016\066\060\114\171\325\101\232  
\232\250\270\065\272\014\072\362\104\033\040\210\367\305\045\327  
\075\306\343\076\103\335\207\376\304\352\365\123\076\114\145\377  
\073\112\313\170\132\153\027\137\015\307\303\117\116\232\052\242  
\355\127\115\042\342\106\232\077\017\221\064\044\175\125\343\214  
\225\067\323\032\360\011\053\054\322\311\215\264\015\000\253\147  
\051\050\330\001\365\031\004\266\035\276\166\376\162\134\304\205  
\312\322\200\101\337\005\250\243\325\204\220\117\013\363\340\077  
\233\031\322\067\211\077\362\173\122\034\214\366\341\367\074\007  
\227\214\016\242\131\201\014\262\220\075\323\343\131\106\355\017  
\251\247\336\200\153\132\252\007\266\031\313\274\127\363\227\041  
\172\014\261\053\164\076\353\332\247\147\055\114\304\230\236\066  
\011\166\146\146\374\032\077\352\110\124\034\276\060\275\200\120  
\277\174\265\316\000\366\014\141\331\347\044\003\340\343\001\201  
\016\275\330\205\064\210\275\262\066\250\173\134\010\345\104\200  
\214\157\370\057\325\041\312\035\034\320\373\304\265\207\321\072  
\116\307\166\265\065\110\265\002\003\001\000\001\243\102\060\100  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\035\006\003\125\035\016\004\026\004\024\214\373\034\165  
\274\002\323\237\116\056\110\331\371\140\124\252\304\263\117\372  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006

\060\015\006\011\052\206\110\206\367\015\001\001\015\005\000\003  
\202\002\001\000\110\242\325\000\013\056\320\077\274\034\325\265  
\124\111\036\132\153\364\344\362\340\100\067\340\314\024\173\271  
\311\372\065\265\165\027\223\152\005\151\205\234\315\117\031\170  
\133\031\201\363\143\076\303\316\133\217\365\057\136\001\166\023  
\077\054\000\271\315\226\122\071\111\155\004\116\305\351\017\206  
\015\341\372\263\137\202\022\361\072\316\146\006\044\064\053\350  
\314\312\347\151\334\207\235\302\064\327\171\321\323\167\270\252  
\131\130\376\235\046\372\070\206\076\235\212\207\144\127\345\027  
\072\342\371\215\271\343\063\170\301\220\330\270\335\267\203\121  
\344\304\314\043\325\006\174\346\121\323\315\064\061\300\366\106  
\273\013\255\374\075\020\005\052\073\112\221\045\356\214\324\204  
\207\200\052\274\011\214\252\072\023\137\350\064\171\120\301\020  
\031\371\323\050\036\324\321\121\060\051\263\256\220\147\326\037  
\012\143\261\305\251\306\102\061\143\027\224\357\151\313\057\372  
\214\024\175\304\103\030\211\331\360\062\100\346\200\342\106\137  
\345\343\301\000\131\250\371\350\040\274\211\054\016\107\064\013  
\352\127\302\123\066\374\247\324\257\061\315\376\002\345\165\372  
\271\047\011\371\363\365\073\312\175\237\251\042\313\210\311\252  
\321\107\075\066\167\250\131\144\153\047\317\357\047\301\343\044  
\265\206\367\256\176\062\115\260\171\150\321\071\350\220\130\303  
\203\274\017\054\326\227\353\316\014\341\040\307\332\267\076\303  
\077\277\057\334\064\244\373\053\041\315\147\217\113\364\343\352  
\324\077\347\117\272\271\245\223\105\034\146\037\041\372\144\136  
\157\340\166\224\062\313\165\365\156\345\366\217\307\270\244\314  
\250\226\175\144\373\044\132\112\003\154\153\070\306\350\003\103  
\232\367\127\271\263\051\151\223\070\364\003\362\273\373\202\153  
\007\040\321\122\037\232\144\002\173\230\146\333\134\115\132\017  
\320\204\225\240\074\024\103\006\312\312\333\270\101\066\332\152  
\104\147\207\257\257\343\105\021\025\151\010\262\276\026\071\227  
\044\157\022\105\321\147\135\011\250\311\025\332\372\322\246\137  
\023\141\037\277\205\254\264\255\255\005\224\010\203\036\165\027  
\323\161\073\223\120\043\131\240\355\074\221\124\235\166\000\305  
\303\270\070\333

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certum Trusted Root CA"

# Issuer: CN=Certum

Trusted Root CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

# Serial Number: 1e:bf:59:50:b8:c9:80:37:4c:06:f7:eb:55:4f:b5:ed

# Subject: CN=Certum Trusted Root CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

# Not Valid Before: Fri Mar 16 12:10:13 2018

# Not Valid After : Mon Mar 16 12:10:13 2043

# Fingerprint (SHA-256):

```
FE:76:96:57:38:55:77:3E:37:A9:5E:7A:D4:D9:CC:96:C3:01:57:C1:5D:31:76:5B:A9:B1:57:04:E1:AE:78:FD
Fingerprint (SHA1): C8:83:44:C0:18:AE:9F:CC:F1:87:B7:8F:22:D1:C5:D7:45:84:BA:E5
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Trusted Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\310\203\104\300\030\256\237\314\361\207\267\217\042\321\305\327
\105\204\272\345
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\121\341\302\347\376\114\204\257\131\016\057\364\124\157\352\051
END
CKA_ISSUER MULTILINE_OCTAL
\060\172\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\037\060\035\006
\003\125\004\003\023\026\103\145\162\164\165\155\040\124\162\165
\163\164\145\144\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\036\277\131\120\270\311\200\067\114\006\367\353\125\117
\265\355
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "TunTrust Root CA"
#
Issuer: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN
Serial Number:13:02:d5:e2:40:4c:92:46:86:16:67:5d:b4:bb:bb:b2:6b:3e:fc:13
#
Subject: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN
Not Valid Before: Fri Apr 26 08:57:56 2019
Not Valid After : Tue Apr 26 08:57:56 2044
Fingerprint (SHA-256):
2E:44:10:2A:B5:8C:B8:54:19:45:1C:8E:19:D9:AC:F3:66:2C:AF:BC:61:4B:6A:53:96:0A:30:F7:D0:E2:EB:41
Fingerprint (SHA1): CF:E9:70:84:0F:E0:73:0F:9D:F6:0C:7F:2C:4B:EE:20:46:34:9C:BB
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TunTrust Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\124\116\061
\067\060\065\006\003\125\004\012\014\056\101\147\145\156\143\145
\040\116\141\164\151\157\156\141\154\145\040\144\145\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\105\154\145\143
\164\162\157\156\151\161\165\145\061\031\060\027\006\003\125\004
\003\014\020\124\165\156\124\162\165\163\164\040\122\157\157\164
\040\103\101
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\124\116\061
\067\060\065\006\003\125\004\012\014\056\101\147\145\156\143\145
\040\116\141\164\151\157\156\141\154\145\040\144\145\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\105\154\145\143
\164\162\157\156\151\161\165\145\061\031\060\027\006\003\125\004
\003\014\020\124\165\156\124\162\165\163\164\040\122\157\157\164
\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\023\002\325\342\100\114\222\106\206\026\147\135\264\273
\273\262\153\076\374\023
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\263\060\202\003\233\240\003\002\001\002\002\024\023
\002\325\342\100\114\222\106\206\026\147\135\264\273\273\262\153
\076\374\023\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\141\061\013\060\011\006\003\125\004\006\023\002\124
\116\061\067\060\065\006\003\125\004\012\014\056\101\147\145\156
\143\145\040\116\141\164\151\157\156\141\154\145\040\144\145\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\105\154
\145\143\164\162\157\156\151\161\165\145\061\031\060\027\006\003
\125\004\003\014\020\124\165\156\124\162\165\163\164\040\122\157
\157\164\040\103\101\060\036\027\015\061\071\060\064\062\066\060
\070\065\067\065\066\132\027\015\064\064\060\064\062\066\060\070
\065\067\065\066\132\060\141\061\013\060\011\006\003\125\004\006
\023\002\124\116\061\067\060\065\006\003\125\004\012\014\056\101
\147\145\156\143\145\040\116\141\164\151\157\156\141\154\145\040
\144\145\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\105\154\145\143\164\162\157\156\151\161\165\145\061\031\060
\027\006\003\125\004\003\014\020\124\165\156\124\162\165\163\164
\040\122\157\157\164\040\103\101\060\202\002\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000
```



\060\202\002\012\002\202\002\001\000\303\315\323\374\275\004\123  
\335\014\040\072\325\210\056\005\113\101\365\203\202\176\367\131  
\237\236\236\143\350\163\332\366\006\251\117\037\264\371\013\037  
\071\214\232\040\320\176\006\324\354\064\331\206\274\165\133\207  
\210\360\322\331\324\243\012\262\154\033\353\111\054\076\254\135  
\330\224\003\240\354\064\345\060\304\065\175\373\046\115\033\156  
\060\124\330\365\200\105\234\071\255\234\311\045\004\115\232\220  
\076\116\100\156\212\153\315\051\147\306\314\055\340\164\350\005  
\127\012\110\120\372\172\103\332\176\354\133\232\016\142\166\376  
\352\235\035\205\162\354\021\273\065\350\037\047\277\301\241\307  
\273\110\026\335\126\327\314\116\240\341\271\254\333\325\203\031  
\032\205\321\224\227\327\312\243\145\013\363\070\371\002\256\335  
\366\147\317\311\077\365\212\054\107\032\231\157\005\015\375\320  
\035\202\061\374\051\314\000\130\227\221\114\200\000\034\063\205  
\226\057\313\101\302\213\020\204\303\011\044\211\037\265\017\331  
\331\167\107\030\222\224\140\134\307\231\003\074\376\367\225\247  
\175\120\241\200\302\251\203\255\130\226\125\041\333\206\131\324  
\257\306\274\335\201\156\007\333\140\142\376\354\020\156\332\150  
\001\364\203\033\251\076\242\133\043\327\144\306\337\334\242\175  
\330\113\272\202\322\121\370\146\277\006\106\344\171\052\046\066  
\171\217\037\116\231\035\262\217\014\016\034\377\311\135\300\375  
\220\020\246\261\067\363\315\072\044\156\264\205\220\277\200\271  
\014\214\325\233\326\310\361\126\077\032\200\211\172\251\342\033  
\062\121\054\076\362\337\173\366\135\172\051\031\216\345\310\275  
\066\161\213\135\114\302\035\077\255\130\242\317\075\160\115\246  
\120\230\045\334\043\371\270\130\101\010\161\277\117\270\204\240  
\217\000\124\025\374\221\155\130\247\226\073\353\113\226\047\315  
\153\242\241\206\254\015\174\124\346\146\114\146\137\220\276\041  
\232\002\106\055\344\203\302\200\271\317\113\076\350\177\074\001  
\354\217\136\315\177\322\050\102\001\225\212\342\227\075\020\041  
\175\366\235\034\305\064\241\354\054\016\012\122\054\022\125\160  
\044\075\313\302\024\065\103\135\047\116\276\300\275\252\174\226  
\347\374\236\141\255\104\323\000\227\002\003\001\000\001\243\143  
\060\141\060\035\006\003\125\035\016\004\026\004\024\006\232\233  
\037\123\175\361\365\244\310\323\206\076\241\163\131\264\367\104  
\041\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\037\006\003\125\035\043\004\030\060\026\200\024\006  
\232\233\037\123\175\361\365\244\310\323\206\076\241\163\131\264  
\367\104\041\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\002\001\000\252\005\156\266\335\025\311\277\263  
\306\040\366\006\107\260\206\223\045\323\215\271\310\000\077\227  
\365\122\047\210\161\311\164\375\353\312\144\333\133\357\036\135  
\272\277\321\353\356\134\151\272\026\310\363\271\217\323\066\056  
\100\111\007\015\131\336\213\020\260\111\005\342\377\221\077\113  
\267\335\002\216\370\201\050\134\314\334\155\257\137\024\234\175  
\130\170\015\366\200\011\271\351\016\227\051\031\270\267\353\370  
\026\313\125\022\344\306\175\273\304\354\370\265\034\116\076\147

```
\277\305\137\033\155\155\107\050\252\004\130\141\326\166\277\042
\177\320\007\152\247\144\123\360\227\215\235\200\077\273\301\007
\333\145\257\346\233\062\232\303\124\223\304\034\010\303\104\373
\173\143\021\103\321\152\032\141\152\171\155\220\117\051\216\107
\005\301\022\151\151\326\306\066\061\341\374\372\200\272\134\117
\304\353\267\062\254\370\165\141\027\327\020\031\271\361\322\011
\357\172\102\235\133\132\013\324\306\225\116\052\316\377\007\327
\117\176\030\006\210\361\031\265\331\230\273\256\161\304\034\347
\164\131\130\357\014\211\317\213\037\165\223\032\004\024\222\110
\120\251\353\127\051\000\026\343\066\034\310\370\277\360\063\325
\101\017\304\314\074\335\351\063\103\001\221\020\053\036\321\271
\135\315\062\031\213\217\214\040\167\327\042\304\102\334\204\026
\233\045\155\350\264\125\161\177\260\174\263\323\161\111\271\317
\122\244\004\077\334\075\240\273\257\063\236\012\060\140\216\333
\235\135\224\250\275\140\347\142\200\166\201\203\014\214\314\060
\106\111\342\014\322\250\257\353\141\161\357\347\042\142\251\367
\134\144\154\237\026\214\147\066\047\105\365\011\173\277\366\020
\012\361\260\215\124\103\214\004\272\243\077\357\342\065\307\371
\164\340\157\064\101\320\277\163\145\127\040\371\233\147\172\146
\150\044\116\200\145\275\020\231\006\131\362\145\257\270\306\107
\273\375\220\170\213\101\163\056\257\125\037\334\073\222\162\156
\204\323\320\141\114\015\314\166\127\342\055\205\042\025\066\015
\353\001\235\353\330\353\304\204\231\373\300\014\314\062\350\343
\167\332\203\104\213\236\125\050\300\213\130\323\220\076\116\033
\000\361\025\255\203\053\232
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "TunTrust Root CA"

# Issuer: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN

# Serial Number: 13:02:d5:e2:40:4c:92:46:86:16:67:5d:b4:bb:bb:b2:6b:3e:fc:13

# Subject: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN

#

Not Valid Before: Fri Apr 26 08:57:56 2019

# Not Valid After : Tue Apr 26 08:57:56 2044

# Fingerprint (SHA-256):

2E:44:10:2A:B5:8C:B8:54:19:45:1C:8E:19:D9:AC:F3:66:2C:AF:BC:61:4B:6A:53:96:0A:30:F7:D0:E2:EB:41

# Fingerprint (SHA1): CF:E9:70:84:0F:E0:73:0F:9D:F6:0C:7F:2C:4B:EE:20:46:34:9C:BB

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TunTrust Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\317\351\160\204\017\340\163\017\235\366\014\177\054\113\356\040
```

```

\106\064\234\273
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\205\023\271\220\133\066\134\266\136\270\132\370\340\061\127\264
END
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\124\116\061
\067\060\065\006\003\125\004\012\014\056\101\147\145\156\143\145
\040\116\141\164\151\157\156\141\154\145\040\144\145\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\105\154\145\143
\164\162\157\156\151\161\165\145\061\031\060\027\006\003\125\004
\003\014\020\124\165\156\124\162\165\163\164\040\122\157\157\164
\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\024\023\002\325\342\100\114\222\106\206\026\147\135\264\273
\273\262\153\076\374\023
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "HARICA TLS RSA Root CA 2021"
#
Issuer: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
Serial Number:39:ca:93:1c:ef:43:f3:c6:8e:93:c7:f4:64:89:38:7e
Subject: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
Not Valid Before: Fri Feb 19 10:55:38 2021
Not Valid After : Mon Feb 13 10:55:37 2045
Fingerprint (SHA-256):
D9:5D:0E:8E:DA:79:52:5B:F9:BE:B1:1B:14:D2:10:0D:32:94:98:5F:0C:62:D9:FA:BD:9C:D9:99:EC:CB:7B:1D
Fingerprint
(SHA1): 02:2D:05:82:FA:88:CE:14:0C:06:79:DE:7F:14:10:E9:45:D7:A5:6D
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA TLS RSA Root CA 2021"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004

```

```
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\122\123
\101\040\122\157\157\164\040\103\101\040\062\060\062\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\122\123
\101\040\122\157\157\164\040\103\101\040\062\060\062\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\071\312\223\034\357\103\363\306\216\223\307\364\144\211
\070\176
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\244\060\202\003\214\240\003\002\001\002\002\020\071
\312\223\034\357\103\363\306\216\223\307\364\144\211\070\176\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\154
\061\013\060\011\006\003\125\004\006\023\002\107\122\061\067\060
\065\006\003\125\004\012\014\056\110\145\154\154\145\156\151\143
\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122\145
\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164\151
\157\156\163\040\103\101\061\044\060\042\006\003\125\004\003\014
\033\110\101\122\111\103\101\040\124\114\123\040\122\123\101\040
\122\157\157\164\040\103\101\040\062\060\062\061\060\036\027\015
\062\061\060\062\061\071\061\060\065\065\063\070\132\027\015\064
\065\060\062\061\063\061\060\065\065\063\067\132\060\154\061\013
\060\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006
\003\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101
\143\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145
\141\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156
\163\040\103\101\061\044\060\042\006\003\125\004\003\014\033\110
\101\122\111\103\101\040\124\114\123\040\122\123\101\040\122\157
\157\164\040\103\101\040\062\060\062\061\060\202\002\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002
\017\000\060\202\002\012\002\202\002\001\000\213\302\347\257\145
\233\005\147\226\311\015\044\271\320\016\144\374\316\342\044\030
\054\204\177\167\121\313\004\021\066\270\136\355\151\161\247\236
\344\045\011\227\147\301\107\302\317\221\026\066\142\075\070\004
\341\121\202\377\254\322\264\151\335\056\354\021\243\105\356\153
\153\073\114\277\214\215\244\036\235\021\271\351\070\371\172\016
\014\230\342\043\035\321\116\143\324\347\270\101\104\373\153\257
\153\332\037\323\305\221\210\133\244\211\222\321\201\346\214\071
\130\240\326\151\103\251\255\230\122\130\156\333\012\373\153\317
```

\150\372\343\244\136\072\105\163\230\007\352\137\002\162\336\014  
\245\263\237\256\251\035\267\035\263\374\212\131\347\156\162\145  
\255\365\060\224\043\007\363\202\026\113\065\230\234\123\273\057  
\312\344\132\331\307\215\035\374\230\231\373\054\244\202\153\360  
\052\037\216\013\137\161\134\134\256\102\173\051\211\201\313\003  
\243\231\312\210\236\013\100\011\101\063\333\346\130\172\375\256  
\231\160\300\132\017\326\023\206\161\057\166\151\374\220\335\333  
\055\156\321\362\233\365\032\153\236\157\025\214\172\360\113\050  
\240\042\070\200\044\154\066\244\073\362\060\221\363\170\023\317  
\301\077\065\253\361\035\021\043\265\103\042\236\001\222\267\030  
\002\345\021\321\202\333\025\000\314\141\067\301\052\174\232\341  
\320\272\263\120\106\356\202\254\235\061\370\373\043\342\003\000  
\110\160\243\011\046\171\025\123\140\363\070\134\255\070\352\201  
\000\143\024\271\063\136\335\013\333\240\105\007\032\063\011\370  
\115\264\247\002\246\151\364\302\131\005\210\145\205\126\256\113  
\313\340\336\074\175\055\032\310\351\373\037\243\141\112\326\052  
\023\255\167\114\032\030\233\221\017\130\330\006\124\305\227\370  
\252\077\040\212\246\205\246\167\366\246\374\034\342\356\156\224  
\063\052\203\120\204\012\345\117\206\370\120\105\170\000\201\353  
\133\150\343\046\215\314\173\134\121\364\024\054\100\276\032\140  
\035\172\162\141\035\037\143\055\210\252\316\242\105\220\010\374  
\153\276\263\120\052\132\375\250\110\030\106\326\220\100\222\220  
\012\204\136\150\061\370\353\355\015\323\035\306\175\231\030\125  
\126\047\145\056\215\105\305\044\354\316\343\002\003\001\000\001  
\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024  
\012\110\043\246\140\244\222\012\063\352\223\133\305\127\352\045  
\115\275\022\356\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\206\060\015\006\011\052\206\110\206\367\015\001\001  
\013\005\000\003\202\002\001\000\076\220\110\252\156\142\025\045  
\146\173\014\325\214\213\211\235\327\355\116\007\357\234\320\024  
\137\136\120\275\150\226\220\244\024\021\252\150\155\011\065\071  
\100\011\332\364\011\054\064\245\173\131\204\111\051\227\164\310  
\007\036\107\155\362\316\034\120\046\343\236\075\100\123\077\367  
\177\226\166\020\305\106\245\320\040\113\120\364\065\073\030\364  
\125\152\101\033\107\006\150\074\273\011\010\142\331\137\125\102  
\252\254\123\205\254\225\126\066\126\253\344\005\214\305\250\332  
\037\243\151\275\123\017\304\377\334\312\343\176\362\114\210\206  
\107\106\032\363\000\365\200\221\242\334\103\102\224\233\040\360  
\321\315\262\353\054\123\302\123\170\112\117\004\224\101\232\217  
\047\062\301\345\111\031\277\361\362\302\213\250\012\071\061\050  
\264\175\142\066\054\115\354\037\063\266\176\167\155\176\120\360  
\237\016\327\021\217\317\030\305\343\047\376\046\357\005\235\317  
\317\067\305\320\173\332\073\260\026\204\014\072\223\326\276\027  
\333\017\076\016\031\170\011\307\251\002\162\042\113\367\067\166  
\272\165\304\205\003\132\143\325\261\165\005\302\271\275\224\255  
\214\025\231\247\223\175\366\305\363\252\164\317\004\205\224\230  
\000\364\342\371\312\044\145\277\340\142\257\310\305\372\262\311

```
\236\126\110\332\171\375\226\166\025\276\243\216\126\304\263\064
\374\276\107\364\301\264\250\374\325\060\210\150\356\313\256\311
\143\304\166\276\254\070\030\341\136\134\317\256\072\042\121\353
\321\213\263\363\053\063\007\124\207\372\264\262\023\173\272\123
\004\142\001\235\361\300\117\356\341\072\324\213\040\020\372\002
\127\346\357\301\013\267\220\106\234\031\051\214\334\157\240\112
\151\151\224\267\044\145\240\377\254\077\316\001\373\041\056\375
\150\370\233\362\245\317\061\070\134\025\252\346\227\000\301\337
\132\245\247\071\252\351\204\177\074\121\250\072\331\224\133\214
\277\117\010\161\345\333\250\134\324\322\246\376\000\243\306\026
\307\017\350\200\316\034\050\144\164\031\010\323\102\343\316\000
\135\177\261\334\023\260\341\005\313\321\040\252\206\164\236\071
\347\221\375\377\133\326\367\255\246\057\003\013\155\343\127\124
\353\166\123\030\215\021\230\272
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "HARICA TLS RSA Root CA 2021"

# Issuer: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Serial Number:39:ca:93:1c:ef:43:f3:c6:8e:93:c7:f4:64:89:38:7e

# Subject: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Not Valid Before: Fri Feb 19 10:55:38 2021

# Not Valid After : Mon Feb 13 10:55:37 2045

# Fingerprint (SHA-256):

D9:5D:0E:8E:DA:79:52:5B:F9:BE:B1:1B:14:D2:10:0D:32:94:98:5F:0C:62:D9:FA:BD:9C:D9:99:EC:CB:7B:1D

# Fingerprint (SHA1): 02:2D:05:82:FA:88:CE:14:0C:06:79:DE:7F:14:10:E9:45:D7:A5:6D

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "HARICA TLS RSA Root CA 2021"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\002\055\005\202\372\210\316\024\014\006\171\336\177\024\020\351
```

```
\105\327\245\155
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\145\107\233\130\206\335\054\360\374\242\204\037\036\226\304\221
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
```

```
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
```

```
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
```

```
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
```

```
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
```

```

\003\014\033\110\101\122\111\103\101\040\124\114\123\040\122\123
\101\040\122\157\157\164\040\103\101\040\062\060\062\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\071\312\223\034\357\103\363\306\216\223\307\364\144\211
\070\176
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "HARICA TLS ECC Root CA 2021"
#
Issuer: CN=HARICA TLS ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
Serial Number:67:74:9d:8d:77:d8:3b:6a:db:22:f4:ff:59:e2:bf:ce
Subject: CN=HARICA TLS ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
Not Valid Before: Fri Feb 19 11:01:10 2021
Not Valid After : Mon Feb 13 11:01:09 2045
Fingerprint (SHA-256):
3F:99:CC:47:4A:CF:CE:4D:FE:D5:87:94:66:5E:47:8D:15:47:73:9F:2E:78:0F:1B:B4:CA:9B:13:30:97:D4:01
Fingerprint (SHA1): BC:B0:C1:9D:E9:98:92:70:19:38:57:E9:8D:A7:B4:5D:6E:EE:01:48
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA TLS ECC Root
CA 2021"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\105\103
\103\040\122\157\157\164\040\103\101\040\062\060\062\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\105\103

```

```
\103\040\122\157\157\164\040\103\101\040\062\060\062\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\147\164\235\215\167\330\073\152\333\042\364\377\131\342
\277\316
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\124\060\202\001\333\240\003\002\001\002\002\020\147
\164\235\215\167\330\073\152\333\042\364\377\131\342\277\316\060
\012\006\010\052\206\110\316\075\004\003\003\060\154\061\013\060
\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006\003
\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101\143
\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145\141
\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156\163
\040\103\101\061\044\060\042\006\003\125\004\003\014\033\110\101
\122\111\103\101\040\124\114\123\040\105\103\103\040\122\157\157
\164\040\103\101\040\062\060\062\061\060\036\027\015\062\061\060
\062\061\071\061\061\060\061\061\060\132\027\015\064\065\060\062
\061\063\061\061\060\061\060\071\132\060\154\061\013\060\011\006
\003\125\004\006\023\002\107\122\061\067\060\065\006\003\125\004
\012\014\056\110\145\154\154\145\156\151\143\040\101\143\141\144
\145\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143
\150\040\111\156\163\164\151\164\165\164\151\157\156\163\040\103
\101\061\044\060\042\006\003\125\004\003\014\033\110\101\122\111
\103\101\040\124\114\123\040\105\103\103\040\122\157\157\164\040
\103\101\040\062\060\062\061\060\166\060\020\006\007\052\206\110
\316\075\002\001\006\005\053\201\004\000\042\003\142\000\004\070
\010\376\261\240\226\322\172\254\257\111\072\320\300\340\303\073
\050\252\361\162\155\145\000\107\210\204\374\232\046\153\252\113
\272\154\004\012\210\136\027\362\125\207\374\060\260\064\342\064
\130\127\032\204\123\351\060\331\251\362\226\164\303\121\037\130
\111\061\314\230\116\140\021\207\165\323\162\224\220\117\233\020
\045\052\250\170\055\276\220\101\130\220\025\162\247\241\267\243
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\311
\033\123\201\022\376\004\325\026\321\252\274\232\157\267\240\225
\031\156\312\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\206\060\012\006\010\052\206\110\316\075\004\003\003\003
\147\000\060\144\002\060\021\336\256\370\334\116\210\260\251\360
\042\255\302\121\100\357\140\161\055\356\217\002\304\135\003\160
\111\244\222\352\305\024\210\160\246\323\015\260\252\312\054\100
\234\373\351\202\156\232\002\060\053\107\232\007\306\321\302\201
\174\312\013\226\030\101\033\243\364\060\011\236\265\043\050\015
\237\024\266\074\123\242\114\006\151\175\372\154\221\306\052\111
\105\346\354\267\023\341\072\154
END
CKA_NSS_MOZILLA_CA_POLICY
```



```

CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "HARICA TLS ECC Root CA 2021"
Issuer: CN=HARICA TLS ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
Serial Number:67:74:9d:8d:77:d8:3b:6a:db:22:f4:ff:59:e2:bf:ce
Subject: CN=HARICA TLS ECC Root CA 2021,O=Hellenic
 Academic and Research Institutions CA,C=GR
Not Valid Before: Fri Feb 19 11:01:10 2021
Not Valid After : Mon Feb 13 11:01:09 2045
Fingerprint (SHA-256):
3F:99:CC:47:4A:CF:CE:4D:FE:D5:87:94:66:5E:47:8D:15:47:73:9F:2E:78:0F:1B:B4:CA:9B:13:30:97:D4:01
Fingerprint (SHA1): BC:B0:C1:9D:E9:98:92:70:19:38:57:E9:8D:A7:B4:5D:6E:EE:01:48
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA TLS ECC Root CA 2021"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\274\260\301\235\351\230\222\160\031\070\127\351\215\247\264\135
\156\356\001\110
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\256\367\114\345\146\065\321\267\233\214\042\223\164\323\113\260
END
CKA_ISSUER MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\105\103
\103\040\122\157\157\164\040\103\101\040\062\060\062\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\147\164\235\215\167\330\073\152\333\042\364\377\131\342
\277\316
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "HARICA Client RSA Root CA 2021"
#

```

```
Issuer: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
Serial Number:55:52:f8:1e:db:1b:24:2c:9e:bb:96:18:cd:02:28:3e
Subject: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
Not Valid Before: Fri Feb 19 10:58:46 2021
Not Valid After : Mon Feb 13 10:58:45 2045
Fingerprint (SHA-256):
1B:E7:AB:E3:06:86:B1:63:48:AF:D1:C6:1B:68:66:A0:EA:7F:48:21:E6:7D:5E:8A:F9:37:CF:80:11:BC:75:0D
#
Fingerprint (SHA1): 46:C6:90:0A:77:3A:B6:BC:F4:65:AD:AC:FC:E3:F7:07:00:6E:DE:6E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA Client RSA Root CA 2021"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062
\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062
\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\125\122\370\036\333\033\044\054\236\273\226\030\315\002
\050\076
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\252\060\202\003\222\240\003\002\001\002\002\020\125
\122\370\036\333\033\044\054\236\273\226\030\315\002\050\076\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\157
\061\013\060\011\006\003\125\004\006\023\002\107\122\061\067\060
\065\006\003\125\004\012\014\056\110\145\154\154\145\156\151\143
\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122\145
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\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164\151  
\157\156\163\040\103\101\061\047\060\045\006\003\125\004\003\014  
\036\110\101\122\111\103\101\040\103\154\151\145\156\164\040\122  
\123\101\040\122\157\157\164\040\103\101\040\062\060\062\061\060  
\036\027\015\062\061\060\062\061\071\061\060\065\070\064\066\132  
\027\015\064\065\060\062\061\063\061\060\065\070\064\065\132\060  
\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061\067  
\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156\151  
\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122  
\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164  
\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004\003  
\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164\040  
\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062\061  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\201\333\127\102\220\054\164\065\364\370\270\164\031\115\253  
\011\132\167\105\201\163\142\260\065\237\370\320\267\063\000\207  
\023\266\226\253\016\124\022\060\007\274\233\267\110\327\321\031  
\203\256\216\330\251\361\251\000\204\260\214\136\236\350\014\217  
\124\151\277\366\324\010\117\046\160\376\030\101\143\032\263\062  
\213\100\370\007\253\127\061\360\306\026\166\147\232\264\335\057  
\362\321\153\305\320\222\204\221\161\156\017\056\143\351\037\123  
\244\335\122\023\314\011\203\051\201\014\305\123\165\104\261\016  
\147\123\030\320\303\037\210\113\237\224\044\264\051\274\273\350  
\116\375\157\322\025\035\111\334\215\160\362\021\032\040\121\125  
\021\272\210\157\304\367\120\171\326\252\061\342\204\075\136\062  
\310\167\052\120\161\345\013\057\351\266\352\357\253\012\063\071  
\016\375\217\245\147\103\202\216\230\151\011\011\033\100\315\070  
\147\107\352\311\354\227\161\022\336\044\365\162\074\321\367\103  
\114\046\367\220\262\211\351\105\113\125\075\061\005\172\101\342  
\225\272\103\300\027\305\266\205\075\031\215\144\160\363\133\254  
\315\237\323\051\165\207\113\225\147\152\246\370\321\335\274\220  
\206\211\103\051\251\067\133\365\135\260\046\132\123\102\166\220  
\053\317\236\126\154\053\124\317\134\232\145\337\133\213\110\140  
\070\174\373\305\013\317\166\004\143\002\063\052\175\365\203\147  
\347\372\306\103\375\053\017\324\046\057\167\244\062\301\044\352  
\144\235\277\263\070\161\061\104\362\107\270\242\146\101\241\373  
\233\173\274\307\106\152\165\277\132\242\214\350\152\104\301\270  
\226\265\300\062\010\055\173\164\065\163\262\312\306\376\257\021  
\162\030\366\347\310\302\317\245\052\352\173\326\131\350\174\240  
\262\152\100\011\151\016\245\226\333\321\000\271\361\210\156\066  
\360\210\262\235\361\122\362\303\174\277\060\211\074\012\151\371  
\042\244\145\341\233\340\164\306\261\205\227\226\054\256\224\217  
\120\246\071\022\037\276\107\362\201\170\323\165\066\236\175\132  
\040\227\342\122\256\231\237\306\174\233\146\363\376\330\317\356  
\275\227\006\035\055\205\334\076\066\123\226\173\040\272\350\310  
\341\255\226\142\076\021\174\263\000\204\236\247\114\161\253\112  
\067\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035

\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125  
\035\016\004\026\004\024\240\326\007\075\136\044\367\173\240\104  
\056\044\122\015\031\252\053\004\221\247\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\206\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\015\107  
\371\011\146\061\122\354\171\356\302\250\362\150\076\355\226\105  
\313\072\246\230\143\077\352\053\115\116\003\320\034\202\341\313  
\323\345\326\253\133\147\050\274\235\376\014\231\012\200\125\247  
\316\033\043\141\015\260\127\360\376\340\312\276\346\220\333\203  
\054\276\203\216\364\171\266\376\320\015\102\247\130\037\151\352  
\201\365\005\245\376\106\150\353\154\170\311\340\352\347\346\336  
\061\305\322\325\054\202\143\050\235\135\250\032\176\210\346\347  
\053\361\054\325\320\005\236\334\055\275\067\146\324\004\242\247  
\255\277\072\302\250\073\255\377\215\235\063\340\271\232\204\241  
\207\037\166\364\202\164\327\016\371\060\110\076\133\210\076\252  
\134\153\326\057\014\350\216\163\302\030\221\203\071\266\146\132  
\320\037\140\047\135\115\343\366\072\015\146\120\234\170\173\253  
\363\023\020\256\017\057\253\350\144\263\030\040\235\106\065\144  
\045\163\352\233\020\134\130\065\211\261\106\110\247\364\254\324  
\035\236\133\314\251\245\032\023\117\044\120\252\331\033\155\261  
\100\373\235\335\130\164\304\302\157\024\162\354\333\065\237\270  
\124\165\105\303\246\310\032\050\065\072\256\145\362\251\230\316  
\257\133\311\070\214\061\073\177\314\334\226\375\342\133\326\320  
\131\364\166\272\013\313\117\203\020\307\100\320\035\140\351\052  
\345\110\130\167\014\105\151\276\031\161\004\044\342\343\044\037  
\112\310\301\076\231\365\226\230\070\110\045\241\025\260\033\327  
\342\204\030\133\366\161\065\232\150\173\100\314\030\134\014\044  
\235\324\225\365\231\252\106\352\256\254\277\364\024\031\044\350  
\214\354\343\365\274\006\150\212\052\014\005\137\012\227\165\247  
\334\176\300\375\327\172\030\337\060\321\070\113\037\260\230\160  
\277\314\174\163\360\156\304\061\245\244\227\035\254\277\316\154  
\041\112\276\047\043\147\363\006\126\201\012\221\216\266\341\003  
\005\063\054\332\064\010\115\116\120\043\255\037\245\305\324\172  
\376\352\011\354\247\050\140\213\106\174\265\352\233\335\117\371  
\347\153\025\306\210\317\103\333\345\047\334\004\126\156\157\106  
\025\361\126\055\350\134\014\163\303\043\201\070\040\313\311\014  
\151\317\054\253\073\204\140\063\031\122\375\151\024\063

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "HARICA Client RSA Root CA 2021"

# Issuer: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Serial Number:55:52:f8:1e:db:1b:24:2c:9e:bb:96:18:cd:02:28:3e

# Subject: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Not Valid Before: Fri Feb 19 10:58:46 2021

```

Not Valid After : Mon Feb 13 10:58:45 2045
Fingerprint (SHA-256):
1B:E7:AB:E3:06:86:B1:63:48:AF:D1:C6:1B:68:66:A0:EA:7F:48:21:E6:7D:5E:8A:F9:37:CF:80:11:BC:75:0D
#
Fingerprint (SHA1): 46:C6:90:0A:77:3A:B6:BC:F4:65:AD:AC:FC:E3:F7:07:00:6E:DE:6E
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA Client RSA Root CA 2021"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\106\306\220\012\167\072\266\274\364\145\255\254\374\343\367\007
\000\156\336\156
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\157\355\134\327\210\314\070\251\334\351\335\331\135\333\330\355
END
CKA_ISSUER MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062
\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\125\122\370\036\333\033\044\054\236\273\226\030\315\002
\050\076
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "HARICA Client ECC Root CA 2021"
#
Issuer: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
Serial Number:31:68:d9:d8:e1:62:57:1e:d2:19:44:88:e6:10:7d:f0
Subject: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
Not Valid Before: Fri Feb 19 11:03:34 2021
Not Valid After : Mon Feb 13 11:03:33 2045
Fingerprint (SHA-256):
8D:D4:B5:37:3C:B0:DE:36:76:9C:12:33:92:80:D8:27:46:B3:AA:6C:D4:26:E7:97:A3:1B:AB:E4:27:9C:F0:0B
Fingerprint (SHA1): BE:64:D3:DA:14:4B:D2:6B:CD:AF:8F:DB:A6:A6:72:F8:DE:26:F9:00

```

```
CKA_CLASS
CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA Client ECC Root CA 2021"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\105\103\103\040\122\157\157\164\040\103\101\040\062\060\062
\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\105\103\103\040\122\157\157\164\040\103\101\040\062\060\062
\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\061\150\331\330\341\142\127\036\322\031\104\210\346\020
\175\360
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\132\060\202\001\341\240\003\002\001\002\002\020\061
\150\331\330\341\142\127\036\322\031\104\210\346\020\175\360\060
\012\006\010\052\206\110\316\075\004\003\003\060\157\061\013\060
\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006\003
\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101\143
\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145\141
\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156\163
\040\103\101\061\047\060\045\006\003\125\004\003\014\036\110\101
\122\111\103\101\040\103\154\151\145\156\164\040\105\103\103\040
\122\157\157\164\040\103\101\040\062\060\062\061\060\036\027\015
\062\061\060\062\061\071\061\061\060\063\063\064\132\027\015\064
\065\060\062\061\063\061\061\060\063\063\063\132\060\157\061\013
\060\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006
\003\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101
```

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\143\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145
\141\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156
\163\040\103\101\061\047\060\045\006\003\125\004\003\014\036\110
\101\122\111\103\101\040\103\154\151\145\156\164\040\105\103\103
\040\122\157\157\164\040\103\101\040\062\060\062\061\060\166\060
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000
\042\003\142\000\004\007\030\255\225\226\224\320\134\017\202\367
\052\100\372\002\311\311\075\066\246\243\004\152\301\155\225\001
\210\140\022\124\154\134\242\053\156\023\072\210\225\014\034\046
\206\066\112\211\031\267\030\336\073\350\250\120\037\312\337\133
\277\111\200\025\333\343\060\341\035\132\307\052\212\001\007\376
\155\054\064\357\050\050\227\274\301\371\127\206\225\213\065\317
\236\132\321\150\225\243\102\060\100\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035
\016\004\026\004\024\122\010\322\276\062\201\045\375\365\032\227
\354\116\137\032\273\123\315\220\255\060\016\006\003\125\035\017
\001\001\377\004\004\003\002\001\206\060\012\006\010\052\206\110
\316\075\004\003\003\003\147\000\060\144\002\060\114\061\105\106
\117\250\346\276\303\167\262\032\030\113\055\210\173\130\346\253
\224\153\104\003\260\027\377\337\202\163\104\121\054\375\223\035
\006\173\024\322\211\354\100\014\357\041\001\056\002\060\057\311
\056\132\154\054\035\331\225\340\236\260\271\134\122\174\366\370
\070\312\056\361\324\035\362\242\111\242\225\370\301\130\136\117
\376\163\012\357\061\260\253\043\130\023\214\213\336\073
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "HARICA

Client ECC Root CA 2021"

# Issuer: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Serial Number:31:68:d9:d8:e1:62:57:1e:d2:19:44:88:e6:10:7d:f0

# Subject: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Not Valid Before: Fri Feb 19 11:03:34 2021

# Not Valid After : Mon Feb 13 11:03:33 2045

# Fingerprint (SHA-256):

8D:D4:B5:37:3C:B0:DE:36:76:9C:12:33:92:80:D8:27:46:B3:AA:6C:D4:26:E7:97:A3:1B:AB:E4:27:9C:F0:0B

# Fingerprint (SHA1): BE:64:D3:DA:14:4B:D2:6B:CD:AF:8F:DB:A6:A6:72:F8:DE:26:F9:00

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "HARICA Client ECC Root CA 2021"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\276\144\323\332\024\113\322\153\315\257\217\333\246\246\162\370
```

```
\336\046\371\000
```

```

END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\255\270\120\246\251\202\172\154\075\032\252\244\322\143\244\104
END
CKA_ISSUER MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\105\103\103\040\122\157\157\164\040\103\101\040\062\060\062
\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\061\150\331\330\341\142\127\036\322\031\104\210\346\020
\175\360
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Autoridad de Certificacion Firmaprofesional CIF A62634068"
#
Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
Serial Number:1b:70:e9:d2:ff:ae:6c:71
#
Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
Not Valid Before: Tue Sep 23 15:22:07 2014
Not Valid After : Mon May 05 15:22:07 2036
Fingerprint (SHA-256):
57:DE:05:83:EF:D2:B2:6E:03:61:DA:99:DA:9D:F4:64:8D:EF:7E:E8:44:1C:3B:72:8A:FA:9B:CD:E0:F9:B2:6A
Fingerprint (SHA1): 0B:BE:C2:27:22:49:CB:39:AA:DB:35:5C:53:E3:8C:AE:78:FF:B6:FE
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Autoridad de Certificacion Firmaprofesional CIF A62634068"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064

```



```
\060\066\070
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\033\160\351\322\377\256\154\161
END
CKA_VALUE MULTILINE_OCTAL
\060\202\006\024\060\202\003\374\240\003\002\001\002\002\010\033
\160\351\322\377\256\154\161\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\121\061\013\060\011\006\003\125\004
\006\023\002\105\123\061\102\060\100\006\003\125\004\003\014\071
\101\165\164\157\162\151\144\141\144\040\144\145\040\103\145\162
\164\151\146\151\143\141\143\151\157\156\040\106\151\162\155\141
\160\162\157\146\145\163\151\157\156\141\154\040\103\111\106\040
\101\066\062\066\063\064\060\066\070\060\036\027\015\061\064\060
\071\062\063\061\065\062\062\060\067\132\027\015\063\066\060\065
\060\065\061\065\062\062\060\067\132\060\121\061\013\060\011\006
\003\125\004\006\023\002\105\123\061\102\060\100\006\003\125\004
\003\014\071\101\165\164\157\162\151\144\141\144\040\144\145\040
\103\145\162\164\151\146\151\143\141\143\151\157\156\040\106\151
\162\155\141\160\162\157\146\145\163\151\157\156\141\154\040\103
\111\106\040\101\066\062\066\063\064\060\066\070\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\312\226\153
\216\352\370\373\361\242\065\340\177\114\332\340\303\122\327\175
\266\020\310\002\136\263\103\052\304\117\152\262\312\034\135\050
\232\170\021\032\151\131\127\257\265\040\102\344\213\017\346\337
\133\246\003\222\057\365\021\344\142\327\062\161\070\331\004\014
\161\253\075\121\176\017\007\337\143\005\134\351\277\224\157\301
\051\202\300\264\332\121\260\301\074\273\255\067\112\134\312\361
\113\066\016\044\253\277\303\204\167\375\250\120\364\261\347\306
\057\322\055\131\215\172\012\116\226\151\122\002\252\066\230\354
\374\372\024\203\014\067\037\311\222\067\177\327\201\055\345\304
\271\340\076\064\376\147\364\076\146\321\323\364\100\317\136\142
\064\017\160\006\076\040\030\132\316\367\162\033\045\154\223\164
\024\223\243\163\261\016\252\207\020\043\131\137\040\005\031\107
\355\150\216\222\022\312\135\374\326\053\262\222\074\040\317\341
\137\257\040\276\240\166\177\166\345\354\032\206\141\063\076\347
\173\264\077\240\017\216\242\271\152\157\271\207\046\157\101\154
```

\210\246\120\375\152\143\013\365\223\026\033\031\217\262\355\233  
\233\311\220\365\001\014\337\031\075\017\076\070\043\311\057\217  
\014\321\002\376\033\125\326\116\320\215\074\257\117\244\363\376  
\257\052\323\005\235\171\010\241\313\127\061\264\234\310\220\262  
\147\364\030\026\223\072\374\107\330\321\170\226\061\037\272\053  
\014\137\135\231\255\143\211\132\044\040\166\330\337\375\253\116  
\246\042\252\235\136\346\047\212\175\150\051\243\347\212\270\332  
\021\273\027\055\231\235\023\044\106\367\305\342\330\237\216\177  
\307\217\164\155\132\262\350\162\365\254\356\044\020\255\057\024  
\332\377\055\232\106\161\107\276\102\337\273\001\333\364\177\323  
\050\217\061\131\133\323\311\002\246\264\122\312\156\227\373\103  
\305\010\046\157\212\364\273\375\237\050\252\015\325\105\363\023  
\072\035\330\300\170\217\101\147\074\036\224\144\256\173\013\305  
\350\331\001\210\071\032\227\206\144\101\325\073\207\014\156\372  
\017\306\275\110\024\277\071\115\324\236\101\266\217\226\035\143  
\226\223\331\225\006\170\061\150\236\067\006\073\200\211\105\141  
\071\043\307\033\104\243\025\345\034\370\222\060\273\002\003\001  
\000\001\243\201\357\060\201\354\060\035\006\003\125\035\016\004  
\026\004\024\145\315\353\253\065\036\000\076\176\325\164\300\034  
\264\163\107\016\032\144\057\060\022\006\003\125\035\023\001\001  
\377\004\010\060\006\001\001\377\002\001\001\060\201\246\006\003  
\125\035\040\004\201\236\060\201\233\060\201\230\006\004\125\035  
\040\000\060\201\217\060\057\006\010\053\006\001\005\005\007\002  
\001\026\043\150\164\164\160\072\057\057\167\167\167\056\146\151  
\162\155\141\160\162\157\146\145\163\151\157\156\141\154\056\143  
\157\155\057\143\160\163\060\134\006\010\053\006\001\005\005\007  
\002\002\060\120\036\116\000\120\000\141\000\163\000\145\000\157  
\000\040\000\144\000\145\000\040\000\154\000\141\000\040\000\102  
\000\157\000\156\000\141\000\156\000\157\000\166\000\141\000\040  
\000\064\000\067\000\040\000\102\000\141\000\162\000\143\000\145  
\000\154\000\157\000\156\000\141\000\040\000\060\000\070\000\060  
\000\061\000\067\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\015\006\011\052\206\110\206\367\015\001\001  
\013\005\000\003\202\002\001\000\164\207\050\002\053\167\037\146  
\211\144\355\217\164\056\106\034\273\250\370\370\013\035\203\266  
\072\247\350\105\212\007\267\340\076\040\313\341\010\333\023\010  
\370\050\241\065\262\200\263\013\121\300\323\126\232\215\063\105  
\111\257\111\360\340\075\007\172\105\023\132\377\310\227\330\323  
\030\054\175\226\370\335\242\145\103\160\223\220\025\272\220\337  
\350\031\260\333\054\212\140\017\267\157\224\007\036\035\246\311  
\205\366\275\064\370\100\170\142\020\160\072\276\175\113\071\201  
\251\020\324\226\101\273\370\137\034\013\035\010\362\261\260\211  
\172\362\367\240\340\304\217\213\170\265\073\130\245\043\216\117  
\125\376\066\073\340\014\267\312\052\060\101\040\264\200\315\256  
\374\166\146\163\250\256\156\341\174\332\003\350\224\040\346\042  
\243\320\037\220\135\040\123\024\046\127\332\124\227\337\026\104  
\020\001\036\210\146\217\162\070\223\335\040\267\064\276\327\361  
\356\143\216\107\171\050\006\374\363\131\105\045\140\042\063\033

```
\243\137\250\272\052\332\032\075\315\100\352\214\356\005\025\225
\325\245\054\040\057\247\230\050\356\105\374\361\270\210\000\054
\217\102\332\121\325\234\345\023\150\161\105\103\213\236\013\041
\074\113\134\005\334\032\237\230\216\332\275\042\236\162\315\255
\012\313\314\243\147\233\050\164\304\233\327\032\074\004\130\246
\202\235\255\307\173\157\377\200\226\351\370\215\152\275\030\220
\035\377\111\032\220\122\067\223\057\074\002\135\202\166\013\121
\347\026\307\127\370\070\371\247\315\233\042\124\357\143\260\025
\155\123\145\003\112\136\112\240\262\247\216\111\000\131\070\325
\307\364\200\144\365\156\225\120\270\021\176\025\160\070\112\260
\177\320\304\062\160\300\031\377\311\070\055\024\054\146\364\102
\104\346\125\166\033\200\025\127\377\300\247\247\252\071\252\330
\323\160\320\056\272\353\224\152\372\137\064\206\347\142\265\375
\212\360\060\205\224\311\257\044\002\057\157\326\335\147\376\343
\260\125\117\004\230\117\244\101\126\342\223\320\152\350\326\363
\373\145\340\316\165\304\061\131\014\356\202\310\014\140\063\112
\031\272\204\147\047\017\274\102\135\275\044\124\015\354\035\160
\006\137\244\274\372\040\174\125
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Autoridad de Certificacion

Firmaprofesional CIF A62634068"

# Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES

# Serial Number:1b:70:e9:d2:ff:ae:6c:71

# Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES

# Not Valid Before: Tue Sep 23 15:22:07 2014

# Not Valid After : Mon May 05 15:22:07 2036

# Fingerprint (SHA-256):

57:DE:05:83:EF:D2:B2:6E:03:61:DA:99:DA:9D:F4:64:8D:EF:7E:E8:44:1C:3B:72:8A:FA:9B:CD:E0:F9:B2:6A

# Fingerprint (SHA1): 0B:BE:C2:27:22:49:CB:39:AA:DB:35:5C:53:E3:8C:AE:78:FF:B6:FE

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Autoridad de Certificacion Firmaprofesional CIF A62634068"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\013\276\302\047\042\111\313\071\252\333\065\134\123\343\214\256
\170\377\266\376
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\116\156\233\124\114\312\267\372\110\344\220\261\025\113\034\243
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
```

```
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\010\033\160\351\322\377\256\154\161
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "vTrus ECC Root CA"

#

# Issuer: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN

# Serial Number:6e:6a:bc:59:aa:53:be:98:39:67:a2:d2:6b:a4:3b:e6:6d:1c:d6:da

# Subject: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN

# Not Valid Before: Tue Jul 31 07:26:44 2018

# Not Valid After : Fri Jul 31 07:26:44 2043

# Fingerprint (SHA-256):

30:FB:BA:2C:32:23:8E:2A:98:54:7A:F9:79:31:E5:50:42:8B:9B:3F:1C:8E:EB:66:33:DC:FA:86:C5:B2:7D:D3

#

Fingerprint (SHA1): F6:9C:DB:B0:FC:F6:02:13:B6:52:32:A6:A3:91:3F:16:70:DA:C3:E1

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "vTrus ECC Root CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060
\030\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103
\103\040\122\157\157\164\040\103\101
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060
\030\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103
\103\040\122\157\157\164\040\103\101
```

END

```
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\024\156\152\274\131\252\123\276\230\071\147\242\322\153\244
\073\346\155\034\326\332
```

```
END
```

```
CKA_VALUE MULTILINE_OCTAL
\060\202\002\017\060\202\001\225\240\003\002\001\002\002\024\156
\152\274\131\252\123\276\230\071\147\242\322\153\244\073\346\155
\034\326\332\060\012\006\010\052\206\110\316\075\004\003\003\060
\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061\034
\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103\150
\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060\030
\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103\103
\040\122\157\157\164\040\103\101\060\036\027\015\061\070\060\067
\063\061\060\067\062\066\064\064\132\027\015\064\063\060\067\063
\061\060\067\062\066\064\064\132\060\107\061\013\060\011\006\003
\125\004\006\023\002\103\116\061\034\060\032\006\003\125\004\012
\023\023\151\124\162\165\163\103\150\151\156\141\040\103\157\056
\054\114\164\144\056\061\032\060\030\006\003\125\004\003\023\021
\166\124\162\165\163\040\105\103\103\040\122\157\157\164\040\103
\101\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005
\053\201\004\000\042\003\142\000\004\145\120\112\256\214\171\226
\112\252\034\010\303\243\242\315\376\131\126\101\167\375\046\224
\102\273\035\315\010\333\163\262\133\165\363\317\234\116\202\364
\277\370\141\046\205\154\326\205\133\162\160\322\375\333\142\264
\337\123\213\275\261\104\130\142\102\011\307\372\177\133\020\347
\376\100\375\300\330\303\053\062\347\160\246\267\246\040\125\035
\173\200\135\113\217\147\114\361\020\243\102\060\100\060\035\006
\003\125\035\016\004\026\004\024\230\071\315\276\330\262\214\367
\262\253\341\255\044\257\173\174\241\333\037\317\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\012\006
\010\052\206\110\316\075\004\003\003\003\150\000\060\145\002\060
\127\235\335\126\361\307\343\351\270\111\120\153\233\151\303\157
\354\303\175\045\344\127\225\023\100\233\122\323\073\363\100\031
\274\046\307\055\006\236\265\173\066\237\365\045\324\143\153\000
\002\061\000\351\323\306\236\126\232\052\314\241\332\077\310\146
\053\323\130\234\040\205\372\253\221\212\160\160\021\070\140\144
\013\142\011\221\130\000\371\115\373\064\150\332\011\255\041\006
\030\224\316
```

```
END
```

```
CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
Trust for "vTrus ECC Root CA"
Issuer: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN
```

```

Serial Number:6e:6a:bc:59:aa:53:be:98:39:67:a2:d2:6b:a4:3b:e6:6d:1c:d6:da
Subject: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN
Not Valid Before: Tue Jul 31 07:26:44 2018
Not Valid After : Fri Jul 31 07:26:44 2043
Fingerprint (SHA-256):
30:FB:BA:2C:32:23:8E:2A:98:54:7A:F9:79:31:E5:50:42:8B:9B:3F:1C:8E:EB:66:33:DC:FA:86:C5:B2:7D:D3
Fingerprint (SHA1): F6:9C:DB:B0:FC:F6:02:13:B6:52:32:A6:A3:91:3F:16:70:DA:C3:E1
CKA_CLASS
CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "vTrus ECC Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\366\234\333\260\374\366\002\023\266\122\062\246\243\221\077\026
\160\332\303\341
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\336\113\301\365\122\214\233\103\341\076\217\125\124\027\215\205
END
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060
\030\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103
\103\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\156\152\274\131\252\123\276\230\071\147\242\322\153\244
\073\346\155\034\326\332
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING
CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "vTrus Root CA"
#
Issuer: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN
Serial Number:43:e3:71:13:d8:b3:59:14:5d:b7:ce:8c:fd:35:fd:6f:bc:05:8d:45
Subject: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN
Not Valid Before: Tue Jul 31 07:24:05 2018
Not Valid After : Fri Jul 31 07:24:05 2043
Fingerprint (SHA-256):
8A:71:DE:65:59:33:6F:42:6C:26:E5:38:80:D0:0D:88:A1:8D:A4:C6:A9:1F:0D:CB:61:94:E2:06:C5:C9:63:87
Fingerprint (SHA1): 84:1A:69:FB:F5:CD:1A:25:34:13:3D:E3:F8:FC:B8:99:D0:C9:14:B7

```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "vTrus Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\103\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\026\060
\024\006\003\125\004\003\023\015\166\124\162\165\163\040\122\157
\157\164\040\103\101
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\103\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\026\060
\024\006\003\125\004\003\023\015\166\124\162\165\163\040\122\157
\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\103\343\161\023\330\263\131\024\135\267\316\214\375\065
\375\157\274\005\215\105
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\126\060\202\003\076\240\003\002\001\002\002\024\103
\343\161\023\330\263\131\024\135\267\316\214\375\065\375\157\274
\005\215\105\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\103\061\013\060\011\006\003\125\004\006\023\002\103
\116\061\034\060\032\006\003\125\004\012\023\023\151\124\162\165
\163\103\150\151\156\141\040\103\157\056\054\114\164\144\056\061
\026\060\024\006\003\125\004\003\023\015\166\124\162\165\163\040
\122\157\157\164\040\103\101\060\036\027\015\061\070\060\067\063
\061\060\067\062\064\060\065\132\027\015\064\063\060\067\063\061
\060\067\062\064\060\065\132\060\103\061\013\060\011\006\003\125
\004\006\023\002\103\116\061\034\060\032\006\003\125\004\012\023
\023\151\124\162\165\163\103\150\151\156\141\040\103\157\056\054
\114\164\144\056\061\026\060\024\006\003\125\004\003\023\015\166
\124\162\165\163\040\122\157\157\164\040\103\101\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\275\125\174
\141\323\270\035\004\142\005\240\256\154\267\160\264\101\352\113
\003\136\020\077\220\132\034\213\073\260\146\213\154\110\246\034
\042\272\325\100\222\356\063\262\043\131\311\216\274\130\332\213
\236\320\031\362\057\131\306\214\143\132\272\237\243\013\260\263
\232\134\272\021\270\022\351\014\273\317\156\154\200\207\051\024
```

\003\054\215\044\232\310\144\203\265\152\254\023\054\063\361\237  
\334\054\141\074\032\077\160\125\233\255\000\122\177\317\004\271  
\376\066\372\234\300\026\256\142\376\226\114\103\176\125\024\276  
\032\263\322\155\302\257\166\146\225\153\052\260\224\167\205\136  
\004\017\142\035\143\165\367\153\347\313\133\232\160\354\076\147  
\005\360\376\007\010\200\317\050\333\005\306\024\047\057\206\175  
\360\047\336\377\346\176\063\110\347\013\036\130\321\047\053\123  
\016\127\112\145\327\373\242\200\140\374\114\274\065\123\001\152  
\227\162\202\257\361\035\160\350\234\365\357\136\302\154\307\107  
\176\132\224\205\046\115\073\272\353\114\350\260\011\302\145\302  
\235\235\011\233\116\265\227\005\254\365\006\240\367\066\005\176  
\364\220\262\153\304\264\371\144\352\351\032\012\310\015\250\355  
\047\311\324\347\263\271\253\202\042\220\047\075\052\350\174\220  
\357\274\117\375\342\012\044\247\336\145\044\244\135\352\300\166  
\060\323\167\120\370\015\004\233\224\066\001\163\312\006\130\246  
\323\073\334\372\004\106\023\125\212\311\104\107\270\121\071\032  
\056\350\064\342\171\313\131\112\012\177\274\246\357\037\003\147  
\152\131\053\045\142\223\331\123\031\146\074\047\142\051\206\115  
\244\153\356\377\324\116\272\325\264\342\216\110\132\000\031\011  
\361\005\331\316\221\261\367\353\351\071\117\366\157\004\103\232  
\125\365\076\005\024\275\277\263\131\264\330\216\063\204\243\220  
\122\252\263\002\225\140\371\014\114\150\371\356\325\027\015\370  
\161\127\265\045\344\051\356\145\135\257\321\356\074\027\013\132  
\103\305\245\206\352\044\236\342\005\007\334\064\102\022\221\326  
\071\164\256\114\101\202\333\362\246\110\321\263\233\363\063\252  
\363\246\300\305\116\365\364\235\166\143\346\002\306\042\113\301  
\225\077\120\144\054\124\345\266\360\074\051\317\127\002\003\001  
\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026\004  
\024\124\142\160\143\361\165\204\103\130\216\321\026\040\261\306  
\254\032\274\366\211\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\015\006\011\052\206\110\206\367\015  
\001\001\013\005\000\003\202\002\001\000\051\272\222\111\247\255  
\360\361\160\303\344\227\360\237\251\045\325\153\236\064\376\346  
\032\144\366\072\153\122\262\020\170\032\237\114\332\212\332\354  
\034\067\122\340\102\113\373\154\166\312\044\013\071\022\025\235  
\237\021\055\374\171\144\334\340\340\365\335\340\127\311\245\262  
\166\160\120\244\376\267\012\160\325\240\064\361\165\327\115\111  
\272\021\321\263\330\354\202\377\353\016\304\277\144\055\175\143  
\156\027\170\354\135\174\210\310\353\216\127\166\331\131\004\372  
\274\122\037\105\254\360\172\200\354\354\157\166\256\221\333\020  
\216\004\334\222\337\240\366\346\256\111\323\301\154\022\033\314  
\051\252\371\010\245\342\067\024\312\261\270\146\357\032\202\344  
\360\370\361\247\026\151\267\333\251\141\074\237\365\061\313\344  
\000\106\302\057\164\261\261\327\201\356\250\046\225\274\210\257  
\114\065\007\052\002\312\170\024\155\107\053\100\126\351\313\052  
\140\241\147\003\240\316\214\274\260\162\147\304\061\316\333\064  
\345\045\003\140\045\173\161\230\344\300\033\053\137\164\102\322



```
\113\305\131\010\007\207\276\305\303\177\347\226\331\341\334\050
\227\326\217\005\343\365\233\116\312\035\120\107\005\123\260\312
\071\347\205\240\211\301\005\073\001\067\323\077\111\342\167\353
\043\310\210\146\073\075\071\166\041\106\361\354\137\043\270\353
\242\146\165\164\301\100\367\330\150\232\223\342\055\251\056\275
\034\243\036\310\164\306\244\055\172\040\253\073\270\260\106\375
\157\335\137\122\125\165\142\360\227\240\174\327\070\375\045\337
\315\240\233\020\317\213\270\070\136\136\305\264\246\002\066\241
\036\137\034\317\342\226\235\051\252\375\230\256\122\341\363\101
\122\373\251\056\162\226\237\047\343\252\163\175\370\032\043\146
\173\073\253\145\260\062\001\113\025\076\075\242\117\014\053\065
\242\306\331\147\022\065\060\315\166\056\026\263\231\236\115\117
\116\055\073\064\103\341\232\016\015\244\146\227\272\322\034\112
\114\054\052\213\213\201\117\161\032\251\335\134\173\173\010\305
\000\015\067\100\343\174\173\124\137\057\205\137\166\366\367\247
\260\034\127\126\301\162\350\255\242\257\215\063\111\272\037\212
\334\346\164\174\140\206\157\207\227\173
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "vTrus Root CA"

# Issuer: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN

# Serial Number:43:e3:71:13:d8:b3:59:14:5d:b7:ce:8c:fd:35:fd:6f:bc:05:8d:45

# Subject: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN

# Not Valid Before: Tue Jul 31 07:24:05 2018

# Not Valid After : Fri Jul 31 07:24:05 2043

# Fingerprint (SHA-256):

8A:71:DE:65:59:33:6F:42:6C:26:E5:38:80:D0:0D:88:A1:8D:A4:C6:A9:1F:0D:CB:61:94:E2:06:C5:C9:63:87

# Fingerprint (SHA1): 84:1A:69:FB:F5:CD:1A:25:34:13:3D:E3:F8:FC:B8:99:D0:C9:14:B7

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "vTrus Root CA"

CKA\_CERT\_SHA1\_HASH

MULTILINE\_OCTAL

```
\204\032\151\373\365\315\032\045\064\023\075\343\370\374\270\231
\320\311\024\267
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\270\311\067\337\372\153\061\204\144\305\352\021\152\033\165\374
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\103\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
```

```
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\026\060
\024\006\003\125\004\003\023\015\166\124\162\165\163\040\122\157
\157\164\040\103\101
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\024\103\343\161\023\330\263\131\024\135\267\316\214\375\065
\375\157\274\005\215\105
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "ISRG Root X2"

#

# Issuer: CN=ISRG Root X2,O=Internet Security Research Group,C=US

# Serial Number:41:d2:9d:d1:72:ea:ee:a7:80:c1:2c:6c:e9:2f:87:52

#

Subject: CN=ISRG Root X2,O=Internet Security Research Group,C=US

# Not Valid Before: Fri Sep 04 00:00:00 2020

# Not Valid After : Mon Sep 17 16:00:00 2040

# Fingerprint (SHA-256):

69:72:9B:8E:15:A8:6E:FC:17:7A:57:AF:B7:17:1D:FC:64:AD:D2:8C:2F:CA:8C:F1:50:7E:34:45:3C:CB:14:70

# Fingerprint (SHA1): BD:B1:B9:3C:D5:97:8D:45:C6:26:14:55:F8:DB:95:C7:5A:D1:53:AF

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "ISRG Root X2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\062
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER

MULTILINE\_OCTAL

```
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\062
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\101\322\235\321\162\352\356\247\200\301\054\154\351\057  
\207\122

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\033\060\202\001\241\240\003\002\001\002\002\020\101  
\322\235\321\162\352\356\247\200\301\054\154\351\057\207\122\060  
\012\006\010\052\206\110\316\075\004\003\003\060\117\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\051\060\047\006\003  
\125\004\012\023\040\111\156\164\145\162\156\145\164\040\123\145  
\143\165\162\151\164\171\040\122\145\163\145\141\162\143\150\040  
\107\162\157\165\160\061\025\060\023\006\003\125\004\003\023\014  
\111\123\122\107\040\122\157\157\164\040\130\062\060\036\027\015  
\062\060\060\071\060\064\060\060\060\060\060\132\027\015\064  
\060\060\071\061\067\061\066\060\060\060\060\132\060\117\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\051\060\047\006  
\003\125\004\012\023\040\111\156\164\145\162\156\145\164\040\123  
\145\143\165\162\151\164\171\040\122\145\163\145\141\162\143\150  
\040\107\162\157\165\160\061\025\060\023\006\003\125\004\003\023  
\014\111\123\122\107\040\122\157\157\164\040\130\062\060\166\060  
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000  
\042\003\142\000\004\315\233\325\237\200\203\012\354\011\112\363  
\026\112\076\134\317\167\254\336\147\005\015\035\007\266\334\026  
\373\132\213\024\333\342\161\140\304\272\105\225\021\211\216\352  
\006\337\367\052\026\034\244\271\305\305\062\340\003\340\036\202  
\030\070\213\327\105\330\012\152\156\346\000\167\373\002\121\175  
\042\330\012\156\232\133\167\337\360\372\101\354\071\334\165\312  
\150\007\014\037\352\243\102\060\100\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035  
\016\004\026\004\024\174\102\226\256\336\113\110\073\372\222\370  
\236\214\317\155\213\251\162\067\225\060\012\006\010\052\206\110  
\316\075\004\003\003\003\150\000\060\145\002\060\173\171\116\106  
\120\204\302\104\207\106\033\105\160\377\130\231\336\364\375\244  
\322\125\246\040\055\164\326\064\274\101\243\120\137\001\047\126  
\264\276\047\165\006\257\022\056\165\230\215\374\002\061\000\213  
\365\167\154\324\310\145\252\340\013\054\356\024\235\047\067\244  
\371\123\245\121\344\051\203\327\370\220\061\133\102\237\012\365  
\376\256\000\150\347\214\111\017\266\157\133\133\025\362\347

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "ISRG Root X2"

# Issuer: CN=ISRG Root X2,O=Internet Security Research Group,C=US

```
Serial Number:41:d2:9d:d1:72:ea:ee:a7:80:c1:2c:6c:e9:2f:87:52
#
Subject: CN=ISRG Root X2,O=Internet Security Research Group,C=US
Not Valid Before: Fri Sep 04 00:00:00 2020
Not Valid After : Mon Sep 17 16:00:00 2040
Fingerprint (SHA-256):
69:72:9B:8E:15:A8:6E:FC:17:7A:57:AF:B7:17:1D:FC:64:AD:D2:8C:2F:CA:8C:F1:50:7E:34:45:3C:CB:14:70
Fingerprint (SHA1): BD:B1:B9:3C:D5:97:8D:45:C6:26:14:55:F8:DB:95:C7:5A:D1:53:AF
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ISRG Root X2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\275\261\271\074\325\227\215\105\306\046\024\125\370\333\225\307
\132\321\123\257
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\323\236\304\036\043\074\246\337\317\243\176\155\340\024\346\345
END
CKA_ISSUER MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\101\322\235\321\162\352\356\247\200\301\054\154\351\057
\207\122
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "HiPKI Root CA - G1"
#
Issuer: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW
Serial Number:2d:dd:ac:ce:62:97:94:a1:43:e8:b0:cd:76:6a:5e:60
Subject: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW
Not Valid Before: Fri Feb 22 09:46:04 2019
Not Valid After : Thu Dec 31 15:59:59 2037
Fingerprint (SHA-256):
F0:15:CE:3C:C2:39:BF:EF:06:4B:E9:F1:D2:C4:17:E1:A0:26:4A:0A:94:BE:1F:0C:8D:12:18:64:EB:69:49:CC
```

# Fingerprint (SHA1): 6A:92:E4:A8:EE:1B:EC:96:45:37:E3:29:57:49:CD:96:E3:E5:D2:60

```
CKA_CLASS CK_OBJECT_CLASS
CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HiPKI Root CA - G1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110
\151\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107
\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110
\151\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107
\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\055\335\254\316\142\227\224\241\103\350\260\315\166\152
\136\140
END
CKA_VALUE
MULTILINE_OCTAL
\060\202\005\152\060\202\003\122\240\003\002\001\002\002\020\055
\335\254\316\142\227\224\241\103\350\260\315\166\152\136\140\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\117
\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043\060
\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167\141
\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114\164
\144\056\061\033\060\031\006\003\125\004\003\014\022\110\151\120
\113\111\040\122\157\157\164\040\103\101\040\055\040\107\061\060
\036\027\015\061\071\060\062\062\062\060\071\064\066\060\064\132
\027\015\063\067\061\062\063\061\061\065\065\071\065\071\132\060
\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043
\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167
\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114
\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110\151
\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107\061
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
```

\000\364\036\177\122\163\062\014\163\344\275\023\164\243\324\060  
\250\320\256\113\330\266\337\165\107\146\364\174\347\071\004\036  
\152\160\040\322\132\107\162\147\125\364\245\350\235\325\036\041  
\241\360\147\272\314\041\150\276\104\123\277\215\371\342\334\057  
\125\310\067\077\037\244\300\234\263\344\167\134\240\106\376\167  
\372\032\240\070\352\355\232\162\336\053\275\224\127\072\272\354  
\171\347\137\175\102\144\071\172\046\066\367\044\360\325\057\272  
\225\230\021\146\255\227\065\326\165\001\200\340\257\364\204\141  
\214\015\036\137\174\207\226\136\101\257\353\207\352\370\135\361  
\056\210\005\076\114\042\273\332\037\052\335\122\106\144\071\363  
\102\316\331\236\014\263\260\167\227\144\234\300\364\243\056\037  
\225\007\260\027\337\060\333\000\030\226\114\241\201\113\335\004  
\155\123\243\075\374\007\254\324\305\067\202\353\344\225\010\031  
\050\202\322\102\072\243\330\123\354\171\211\140\110\140\310\162  
\222\120\334\003\217\203\077\262\102\127\132\333\152\351\021\227  
\335\205\050\274\060\114\253\343\302\261\105\104\107\037\340\212  
\026\007\226\322\041\017\123\300\355\251\176\324\116\354\233\011  
\354\257\102\254\060\326\277\321\020\105\340\246\026\262\245\305  
\323\117\163\224\063\161\002\241\152\243\326\063\227\117\041\143  
\036\133\217\331\301\136\105\161\167\017\201\135\137\041\232\255  
\203\314\372\136\326\215\043\137\033\075\101\257\040\165\146\132  
\112\366\237\373\253\030\367\161\300\266\035\061\354\073\040\353  
\313\342\270\365\256\222\262\367\341\204\113\362\242\362\223\232  
\042\236\323\024\157\066\124\275\037\136\131\025\271\163\250\301  
\174\157\173\142\351\026\154\107\132\145\363\016\021\233\106\331  
\375\155\334\326\234\300\264\175\245\260\335\077\126\157\241\371  
\366\344\022\110\375\006\177\022\127\266\251\043\117\133\003\303  
\340\161\052\043\267\367\260\261\073\274\230\275\326\230\250\014  
\153\366\216\022\147\246\362\262\130\344\002\011\023\074\251\273  
\020\264\322\060\105\361\354\367\000\021\337\145\370\334\053\103  
\125\277\026\227\304\017\325\054\141\204\252\162\206\376\346\072  
\176\302\077\175\356\374\057\024\076\346\205\335\120\157\267\111  
\355\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125  
\035\016\004\026\004\024\362\167\027\372\136\250\376\366\075\161  
\325\150\272\311\106\014\070\330\257\260\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\206\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\120\121  
\360\165\334\160\004\343\377\252\165\324\161\242\313\236\217\250  
\251\323\257\165\307\124\317\072\034\004\231\042\254\304\021\342  
\357\063\112\246\043\035\016\015\107\330\067\307\157\257\064\177  
\117\201\153\065\117\351\162\245\061\342\170\347\367\116\224\030  
\133\100\175\317\153\041\124\206\346\225\172\373\306\312\352\234  
\110\116\127\011\135\057\254\364\245\264\227\063\130\325\254\171  
\251\314\137\371\205\372\122\305\215\370\221\024\353\072\015\027  
\320\122\302\173\343\302\163\216\106\170\006\070\054\350\134\332  
\146\304\364\244\360\126\031\063\051\132\145\222\005\107\106\112  
\253\204\303\036\047\241\037\021\222\231\047\165\223\017\274\066

\073\227\127\217\046\133\014\273\234\017\324\156\060\007\324\334  
\137\066\150\146\071\203\226\047\046\212\310\304\071\376\232\041  
\157\325\162\206\351\177\142\345\227\116\320\044\320\100\260\320  
\165\010\216\275\150\356\010\327\156\174\020\160\106\033\174\340  
\210\262\236\162\206\231\001\343\277\237\111\031\264\045\276\126  
\145\256\027\143\345\036\337\350\377\107\245\277\341\046\005\204  
\344\260\300\257\347\010\231\250\014\136\046\200\105\324\370\150  
\057\226\217\256\342\112\034\234\026\014\023\157\070\207\366\273  
\310\064\137\222\003\121\171\160\246\337\313\365\231\115\171\315  
\116\274\127\237\103\116\153\056\053\030\370\152\163\214\272\305  
\065\357\071\152\101\036\317\161\250\242\262\206\007\133\072\311  
\341\357\077\145\004\200\107\062\104\160\225\116\061\147\152\164  
\133\020\105\165\352\260\237\320\346\065\376\116\237\213\314\053  
\222\105\133\156\045\140\205\106\315\321\252\260\166\146\223\167  
\226\276\203\276\070\266\044\116\046\013\314\355\172\126\032\340  
\351\132\306\144\255\114\172\000\110\104\057\271\100\273\023\076  
\276\025\170\235\205\201\112\052\127\336\325\031\103\332\333\312  
\133\107\206\203\013\077\266\015\166\170\163\171\042\136\261\200  
\037\317\276\321\077\126\020\230\053\225\207\241\037\235\144\024  
\140\071\054\263\000\125\056\344\365\263\016\127\304\221\101\000  
\234\077\350\245\337\352\366\377\310\360\255\155\122\250\027\253  
\233\141\374\022\121\065\344\045\375\257\252\152\206\071

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "HiPKI Root CA - G1"

# Issuer: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW

# Serial Number:2d:dd:ac:ce:62:97:94:a1:43:e8:b0:cd:76:6a:5e:60

#

Subject: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW

# Not Valid Before: Fri Feb 22 09:46:04 2019

# Not Valid After : Thu Dec 31 15:59:59 2037

# Fingerprint (SHA-256):

F0:15:CE:3C:C2:39:BF:EF:06:4B:E9:F1:D2:C4:17:E1:A0:26:4A:0A:94:BE:1F:0C:8D:12:18:64:EB:69:49:CC

# Fingerprint (SHA1): 6A:92:E4:A8:EE:1B:EC:96:45:37:E3:29:57:49:CD:96:E3:E5:D2:60

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "HiPKI Root CA - G1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\152\222\344\250\356\033\354\226\105\067\343\051\127\111\315\226

\343\345\322\140

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```

\151\105\337\026\145\113\350\150\232\217\166\137\377\200\236\323
END
CKA_ISSUER MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110
\151\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107
\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\055\335\254\316\142\227\224\241\103\350\260\315\166\152
\136\140
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GlobalSign ECC Root CA - R4"
#
Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4
Serial Number:02:03:e5:7e:f5:3f:93:fd:a5:09:21:b2:a6
Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4
Not Valid Before: Tue Nov 13 00:00:00 2012
Not Valid After : Tue Jan 19 03:14:07 2038
Fingerprint (SHA-256):
B0:85:D7:0B:96:4F:19:1A:73:E4:AF:0D:54:AE:7A:0E:07:AA:FD:AF:9B:71:DD:08:62:13:8A:B7:32:5A:24:A2
Fingerprint (SHA1): 6B:A0:B0:98:E1:71:EF:5A:AD:FE:48:15:80:77:10:F4:BD:6F:0B:28
CKA_CLASS
CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign ECC Root CA - R4"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\064\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL

```



\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157  
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164  
\040\103\101\040\055\040\122\064\061\023\060\021\006\003\125\004  
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060  
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151  
\147\156

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\015\002\003\345\176\365\077\223\375\245\011\041\262\246

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\001\334\060\202\001\203\240\003\002\001\002\002\015\002  
\003\345\176\365\077\223\375\245\011\041\262\246\060\012\006\010  
\052\206\110\316\075\004\003\002\060\120\061\044\060\042\006\003  
\125\004\013\023\033\107\154\157\142\141\154\123\151\147\156\040  
\105\103\103\040\122\157\157\164\040\103\101\040\055\040\122\064  
\061\023\060\021\006\003\125\004\012\023\012\107\154\157\142\141  
\154\123\151\147\156\061\023\060\021\006\003\125\004\003\023\012  
\107\154\157\142\141\154\123\151\147\156\060\036\027\015\061\062  
\061\061\061\063\060\060\060\060\060\060\132\027\015\063\070\060  
\061\061\071\060\063\061\064\060\067\132\060\120\061\044\060\042  
\006\003\125\004\013\023\033\107\154\157\142\141\154\123\151\147  
\156\040\105\103\103\040\122\157\157\164\040\103\101\040\055\040  
\122\064\061\023\060\021\006\003\125\004\012\023\012\107\154\157  
\142\141\154\123\151\147\156\061\023\060\021\006\003\125\004\003  
\023\012\107\154\157\142\141\154\123\151\147\156\060\131\060\023  
\006\007\052\206\110\316\075\002\001\006\010\052\206\110\316\075  
\003\001\007\003\102\000\004\270\306\171\323\217\154\045\016\237  
\056\071\031\034\003\244\256\232\345\071\007\011\026\312\143\261  
\271\206\370\212\127\301\127\316\102\372\163\241\367\145\102\377  
\036\301\000\262\156\163\016\377\307\041\345\030\244\252\331\161  
\077\250\324\271\316\214\035\243\102\060\100\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\206\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003  
\125\035\016\004\026\004\024\124\260\173\255\105\270\342\100\177  
\373\012\156\373\276\063\311\074\243\204\325\060\012\006\010\052  
\206\110\316\075\004\003\002\003\107\000\060\104\002\040\042\117  
\164\162\271\140\257\361\346\234\240\026\005\120\137\303\136\073  
\156\141\164\357\276\001\304\276\030\110\131\141\202\062\002\040  
\046\235\124\143\100\336\067\140\120\317\310\330\355\235\202\256  
\067\230\274\243\217\114\114\251\064\053\154\357\373\225\233\046

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

```

Trust for "GlobalSign ECC Root CA - R4"
Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4
Serial Number:02:03:e5:7e:f5:3f:93:fd:a5:09:21:b2:a6
Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4
Not Valid Before: Tue Nov 13 00:00:00 2012
Not Valid After : Tue Jan 19 03:14:07 2038
Fingerprint (SHA-256):
B0:85:D7:0B:96:4F:19:1A:73:E4:AF:0D:54:AE:7A:0E:07:AA:FD:AF:9B:71:DD:08:62:13:8A:B7:32:5A:24:A2
Fingerprint (SHA1): 6B:A0:B0:98:E1:71:EF:5A:AD:FE:48:15:80:77:10:F4:BD:6F:0B:28
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign ECC Root CA - R4"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\153\240\260\230\341\161\357\132\255\376\110\025\200\167\020\364
\275\157\013\050
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\046\051\370\155\341\210\277\242\145\177\252\304\315\017\177\374
END
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\064\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\002\003\345\176\365\077\223\375\245\011\041\262\246
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GTS Root R1"
#
Issuer: CN=GTS Root R1,O=Google Trust Services LLC,C=US
Serial Number:02:03:e5:93:6f:31:b0:13:49:88:6b:a2:17
Subject: CN=GTS Root R1,O=Google Trust
Services LLC,C=US
Not Valid Before: Wed Jun 22 00:00:00 2016
Not Valid After : Sun Jun 22 00:00:00 2036
Fingerprint (SHA-256):

```

D9:47:43:2A:BD:E7:B7:FA:90:FC:2E:6B:59:10:1B:12:80:E0:E1:C7:E4:E4:0F:A3:C6:88:7F:FF:57:A7:F4:CF  
# Fingerprint (SHA1): E5:8C:1C:C4:91:3B:38:63:4B:E9:10:6E:E3:AD:8E:6B:9D:D9:81:4A  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "GTS Root R1"  
CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509  
CKA\_SUBJECT MULTILINE\_OCTAL  
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145  
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040  
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124  
\123\040\122\157\157\164\040\122\061  
END  
CKA\_ID UTF8 "0"  
CKA\_ISSUER MULTILINE\_OCTAL  
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\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145  
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040  
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124  
\123\040\122\157\157\164\040\122\061  
END  
CKA\_SERIAL\_NUMBER  
MULTILINE\_OCTAL  
\002\015\002\003\345\223\157\061\260\023\111\210\153\242\027  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\005\127\060\202\003\077\240\003\002\001\002\002\015\002  
\003\345\223\157\061\260\023\111\210\153\242\027\060\015\006\011  
\052\206\110\206\367\015\001\001\014\005\000\060\107\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\042\060\040\006\003  
\125\004\012\023\031\107\157\157\147\154\145\040\124\162\165\163  
\164\040\123\145\162\166\151\143\145\163\040\114\114\103\061\024  
\060\022\006\003\125\004\003\023\013\107\124\123\040\122\157\157  
\164\040\122\061\060\036\027\015\061\066\060\066\062\062\060\060  
\060\060\060\060\132\027\015\063\066\060\066\062\062\060\060\060  
\060\060\060\132\060\107\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\042\060\040\006\003\125\004\012\023\031\107\157  
\157\147\154\145\040\124\162\165\163\164\040\123\145\162\166\151  
\143\145\163\040\114\114\103\061\024\060\022\006\003\125\004\003  
\023\013\107\124\123\040\122\157\157\164\040\122\061\060\202\002  
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000  
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\266\021  
\002\213\036\343\241\167\233\073\334\277\224\076\267\225\247\100  
\074\241\375\202\371\175\062\006\202\161\366\366\214\177\373\350  
\333\274\152\056\227\227\243\214\113\371\053\366\261\371\316\204  
\035\261\371\305\227\336\357\271\362\243\351\274\022\211\136\247

\252\122\253\370\043\047\313\244\261\234\143\333\327\231\176\360  
\012\136\353\150\246\364\306\132\107\015\115\020\063\343\116\261  
\023\243\310\030\154\113\354\374\011\220\337\235\144\051\045\043  
\007\241\264\322\075\056\140\340\317\322\011\207\273\315\110\360  
\115\302\302\172\210\212\273\272\317\131\031\326\257\217\260\007  
\260\236\061\361\202\301\300\337\056\246\155\154\031\016\265\330  
\176\046\032\105\003\075\260\171\244\224\050\255\017\177\046\345  
\250\010\376\226\350\074\150\224\123\356\203\072\210\053\025\226  
\011\262\340\172\214\056\165\326\234\353\247\126\144\217\226\117  
\150\256\075\227\302\204\217\300\274\100\300\013\134\275\366\207  
\263\065\154\254\030\120\177\204\340\114\315\222\323\040\351\063  
\274\122\231\257\062\265\051\263\045\052\264\110\371\162\341\312  
\144\367\346\202\020\215\350\235\302\212\210\372\070\146\212\374  
\143\371\001\371\170\375\173\134\167\372\166\207\372\354\337\261  
\016\171\225\127\264\275\046\357\326\001\321\353\026\012\273\216  
\013\265\305\305\212\125\253\323\254\352\221\113\051\314\031\244  
\062\045\116\052\361\145\104\320\002\316\252\316\111\264\352\237  
\174\203\260\100\173\347\103\253\247\154\243\217\175\211\201\372  
\114\245\377\325\216\303\316\113\340\265\330\263\216\105\317\166  
\300\355\100\053\375\123\017\260\247\325\073\015\261\212\242\003  
\336\061\255\314\167\352\157\173\076\326\337\221\042\022\346\276  
\372\330\062\374\020\143\024\121\162\336\135\326\026\223\275\051  
\150\063\357\072\146\354\007\212\046\337\023\327\127\145\170\047  
\336\136\111\024\000\242\000\177\232\250\041\266\251\261\225\260  
\245\271\015\026\021\332\307\154\110\074\100\340\176\015\132\315  
\126\074\321\227\005\271\313\113\355\071\113\234\304\077\322\125  
\023\156\044\260\326\161\372\364\301\272\314\355\033\365\376\201  
\101\330\000\230\075\072\310\256\172\230\067\030\005\225\002\003  
\001\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001  
\377\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001  
\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004  
\026\004\024\344\257\053\046\161\032\053\110\047\205\057\122\146  
\054\357\360\211\023\161\076\060\015\006\011\052\206\110\206\367  
\015\001\001\014\005\000\003\202\002\001\000\237\252\102\046\333  
\013\233\276\377\036\226\222\056\076\242\145\112\152\230\272\042  
\313\175\301\072\330\202\012\006\306\366\245\336\300\116\207\146  
\171\241\371\246\130\234\252\371\265\346\140\347\340\350\261\036  
\102\101\063\013\067\075\316\211\160\025\312\265\044\250\317\153  
\265\322\100\041\230\317\042\064\317\073\305\042\204\340\305\016  
\212\174\135\210\344\065\044\316\233\076\032\124\036\156\333\262  
\207\247\374\363\372\201\125\024\142\012\131\251\042\005\061\076  
\202\326\356\333\127\064\274\063\225\323\027\033\350\047\242\213  
\173\116\046\032\172\132\144\266\321\254\067\361\375\240\363\070  
\354\162\360\021\165\235\313\064\122\215\346\166\153\027\306\337  
\206\253\047\216\111\053\165\146\201\020\041\246\352\076\364\256  
\045\377\174\025\336\316\214\045\077\312\142\160\012\367\057\011  
\146\007\310\077\034\374\360\333\105\060\337\142\210\301\265\017  
\235\303\237\112\336\131\131\107\305\207\042\066\346\202\247\355

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\012\271\342\007\240\215\173\172\112\074\161\322\342\003\241\037
\062\007\335\033\344\102\316\014\000\105\141\200\265\013\040\131
\051\170\275\371\125\313\143\305\074\114\364\266\377\333\152\137
\061\153\231\236\054\301\153\120\244\327\346\030\024\275\205\077
\147\253\106\237\240\377\102\247\072\177\134\313\135\260\160\035
\053\064\365\324\166\011\014\353\170\114\131\005\363\063\102\303
\141\025\020\033\167\115\316\042\214\324\205\362\105\175\267\123
\352\357\100\132\224\012\134\040\137\116\100\135\142\042\166\337
\377\316\141\275\214\043\170\322\067\002\340\216\336\321\021\067
\211\366\277\355\111\007\142\256\222\354\100\032\257\024\011\331
\320\116\262\242\367\276\356\356\330\377\334\032\055\336\270\066
\161\342\374\171\267\224\045\321\110\163\133\241\065\347\263\231
\147\165\301\031\072\053\107\116\323\102\216\375\061\310\026\146
\332\322\014\074\333\263\216\311\241\015\200\017\173\026\167\024
\277\377\333\011\224\262\223\274\040\130\025\351\333\161\103\363
\336\020\303\000\334\250\052\225\266\302\326\077\220\153\166\333
\154\376\214\274\362\160\065\014\334\231\031\065\334\327\310\106
\143\325\066\161\256\127\373\267\202\155\334
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END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

# Trust for "GTS Root R1"

# Issuer: CN=GTS Root R1,O=Google Trust Services LLC,C=US

# Serial Number:02:03:e5:93:6f:31:b0:13:49:88:6b:a2:17

# Subject: CN=GTS Root R1,O=Google Trust Services LLC,C=US

# Not Valid Before: Wed Jun 22 00:00:00 2016

# Not Valid After : Sun Jun 22 00:00:00 2036

# Fingerprint (SHA-256):

D9:47:43:2A:BD:E7:B7:FA:90:FC:2E:6B:59:10:1B:12:80:E0:E1:C7:E4:E4:0F:A3:C6:88:7F:FF:57:A7:F4:CF

# Fingerprint (SHA1): E5:8C:1C:C4:91:3B:38:63:4B:E9:10:6E:E3:AD:8E:6B:9D:D9:81:4A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GTS Root R1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\345\214\034\304\221\073\070\143\113\351\020\156\343\255\216\153
\235\331\201\112
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\005\376\320\277\161\250\243\166\143\332\001\340\330\122\334\100
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
```

```
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\061
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\015\002\003\345\223\157\061\260\023\111\210\153\242\027
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "GTS Root R2"

#

# Issuer: CN=GTS Root R2,O=Google Trust Services LLC,C=US

# Serial Number:02:03:e5:ae:c5:8d:04:25:1a:ab:11:25:aa

# Subject: CN=GTS Root R2,O=Google Trust Services LLC,C=US

# Not Valid Before: Wed Jun 22 00:00:00 2016

# Not Valid After : Sun Jun 22 00:00:00 2036

# Fingerprint (SHA-256):

8D:25:CD:97:22:9D:BF:70:35:6B:DA:4E:B3:CC:73:40:31:E2:4C:F0:0F:AF:CF:D3:2D:C7:6E:B5:84:1C:7E:A8

# Fingerprint (SHA1): 9A:44:49:76:32:DB:DE:FA:D0:BC:FB:5A:7B:17:BD:9E:56:09:24:94

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GTS Root R2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\062
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\062
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\015\002\003\345\256\305\215\004\045\032\253\021\045\252  
END  
CKA\_VALUE  
MULTILINE\_OCTAL  
\060\202\005\127\060\202\003\077\240\003\002\001\002\002\015\002  
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\011\006\003\125\004\006\023\002\125\123\061\042\060\040\006\003  
\125\004\012\023\031\107\157\157\147\154\145\040\124\162\165\163  
\164\040\123\145\162\166\151\143\145\163\040\114\114\103\061\024  
\060\022\006\003\125\004\003\023\013\107\124\123\040\122\157\157  
\164\040\122\062\060\036\027\015\061\066\060\066\062\062\060\060  
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\157\147\154\145\040\124\162\165\163\164\040\123\145\162\166\151  
\143\145\163\040\114\114\103\061\024\060\022\006\003\125\004\003  
\023\013\107\124\123\040\122\157\157\164\040\122\062\060\202\002  
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\350\071\150\354\225\045\173\166\241\346\151\271\205\031\275\211  
\214\376\255\355\066\352\163\274\377\203\342\313\175\301\322\316  
\112\263\215\005\236\213\111\223\337\301\133\320\156\136\360\056  
\060\056\202\374\372\274\264\027\012\110\345\210\233\305\233\153  
\336\260\312\264\003\360\332\364\220\270\145\144\367\134\114\255  
\350\176\146\136\231\327\270\302\076\310\320\023\235\255\356\344  
\105\173\211\125\367\212\037\142\122\204\022\263\302\100\227\343  
\212\037\107\221\246\164\132\322\370\261\143\050\020\270\263\011  
\270\126\167\100\242\046\230\171\306\376\337\045\356\076\345\240  
\177\324\141\017\121\113\074\077\214\332\341\160\164\330\302\150  
\241\371\301\014\351\241\342\177\273\125\074\166\006\356\152\116  
\314\222\210\060\115\232\275\117\013\110\232\204\265\230\243\325  
\373\163\301\127\141\335\050\126\165\023\256\207\216\347\014\121  
\011\020\165\210\114\274\215\371\173\074\324\042\110\037\052\334  
\353\153\273\104\261\313\063\161\062\106\257\255\112\361\214\350  
\164\072\254\347\032\042\163\200\322\060\367\045\102\307\042\073  
\073\022\255\226\056\306\303\166\007\252\040\267\065\111\127\351  
\222\111\350\166\026\162\061\147\053\226\176\212\243\307\224\126  
\042\277\152\113\176\001\041\262\043\062\337\344\232\104\155\131  
\133\135\365\000\240\034\233\306\170\227\215\220\377\233\310\252  
\264\257\021\121\071\136\331\373\147\255\325\133\021\235\062\232  
\033\275\325\272\133\245\311\313\045\151\123\125\047\134\340\312  
\066\313\210\141\373\036\267\320\313\356\026\373\323\246\114\336

\222\245\324\342\337\365\006\124\336\056\235\113\264\223\060\252  
\201\316\335\032\334\121\163\015\117\160\351\345\266\026\041\031  
\171\262\346\211\013\165\144\312\325\253\274\011\301\030\241\377  
\324\124\241\205\074\375\024\044\003\262\207\323\244\267\002\003  
\001\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001  
\377\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001  
\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004  
\026\004\024\273\377\312\216\043\237\117\231\312\333\342\150\246  
\245\025\047\027\036\331\016\060\015\006\011\052\206\110\206\367  
\015\001\001\014\005\000\003\202\002\001\000\037\312\316\335\307  
\276\241\237\331\047\114\013\334\027\230\021\152\210\336\075\346  
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\260\063\202\011\275\337\045\106\352\230\236\266\033\376\203\074  
\322\142\141\301\004\355\316\340\305\311\310\023\023\125\347\250  
\143\255\214\173\001\376\167\060\341\316\150\233\005\370\022\356  
\171\061\240\101\105\065\050\012\161\244\044\117\214\334\074\202  
\007\137\146\334\175\020\376\014\141\263\005\225\356\341\256\201  
\017\250\370\307\217\115\250\043\002\046\153\035\203\122\125\316  
\265\057\000\312\200\100\340\341\164\254\140\365\207\200\235\256  
\066\144\221\135\260\150\030\352\212\141\311\167\250\227\304\311  
\307\245\374\125\113\363\360\177\271\145\075\047\150\320\314\153  
\372\123\235\341\221\032\311\135\032\226\155\062\207\355\003\040  
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\236\303\202\272\052\055\351\036\264\340\110\006\242\374\147\257  
\037\042\002\163\373\040\012\257\235\124\113\241\315\377\140\107  
\260\077\135\357\033\126\275\227\041\226\055\012\321\136\235\070  
\002\107\154\271\364\366\043\045\270\240\152\232\053\167\010\372  
\304\261\050\220\046\130\010\074\342\176\252\327\075\157\272\061  
\210\012\005\353\047\265\241\111\356\240\105\124\173\346\047\145  
\231\040\041\250\243\274\373\030\226\273\122\157\014\355\203\121  
\114\351\131\342\040\140\305\302\145\222\202\214\363\020\037\016  
\212\227\276\167\202\155\077\217\035\135\274\111\047\275\314\117  
\017\341\316\166\206\004\043\305\300\214\022\133\375\333\204\240  
\044\361\110\377\144\174\320\276\134\026\321\357\231\255\300\037  
\373\313\256\274\070\042\006\046\144\332\332\227\016\077\050\025  
\104\250\117\000\312\360\232\314\317\164\152\264\076\074\353\225  
\354\265\323\132\330\201\231\351\103\030\067\353\263\273\321\130  
\142\101\363\146\322\217\252\170\225\124\040\303\132\056\164\053  
\325\321\276\030\151\300\254\325\244\317\071\272\121\204\003\145  
\351\142\300\142\376\330\115\125\226\342\320\021\372\110\064\021  
\354\236\355\005\035\344\310\326\035\206\313

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE



```

Trust for "GTS Root R2"
Issuer: CN=GTS Root R2,O=Google Trust Services LLC,C=US
Serial Number:02:03:e5:ae:c5:8d:04:25:1a:ab:11:25:aa
Subject: CN=GTS Root R2,O=Google Trust Services LLC,C=US
Not Valid Before: Wed
Jun 22 00:00:00 2016
Not Valid After : Sun Jun 22 00:00:00 2036
Fingerprint (SHA-256):
8D:25:CD:97:22:9D:BF:70:35:6B:DA:4E:B3:CC:73:40:31:E2:4C:F0:0F:AF:CF:D3:2D:C7:6E:B5:84:1C:7E:A8
Fingerprint (SHA1): 9A:44:49:76:32:DB:DE:FA:D0:BC:FB:5A:7B:17:BD:9E:56:09:24:94
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\232\104\111\166\062\333\336\372\320\274\373\132\173\027\275\236
\126\011\044\224
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\036\071\300\123\346\036\051\202\013\312\122\125\066\135\127\334
END
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\015\002\003\345\256\305\215\004\045\032\253\021\045\252
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GTS Root R3"
#
Issuer: CN=GTS Root R3,O=Google Trust Services LLC,C=US
Serial Number:02:03:e5:b8:82:eb:20:f8:25:27:6d:3d:66
Subject: CN=GTS Root R3,O=Google Trust Services LLC,C=US
Not Valid Before: Wed Jun 22 00:00:00 2016
Not Valid After : Sun Jun 22 00:00:00 2036
Fingerprint (SHA-256):
34:D8:A7:3E:E2:08:D9:BC:DB:0D:95:65:20:93:4B:4E:40:E6:94:82:59:6E:8B:6F:73:C8:42:6B:01:0A:6F:48

```

# Fingerprint (SHA1): ED:E5:71:80:2B:C8:92:B9:5B:83:3C:D2:32:68:3F:09:CD:A0:1E:46

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GTS Root R3"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE

CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145  
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040  
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124  
\123\040\122\157\157\164\040\122\063

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145  
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040  
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124  
\123\040\122\157\157\164\040\122\063

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\015\002\003\345\270\202\353\040\370\045\047\155\075\146

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\011\060\202\001\216\240\003\002\001\002\002\015\002  
\003\345\270\202\353\040\370\045\047\155\075\146\060\012\006\010  
\052\206\110\316\075\004\003\003\060\107\061\013\060\011\006\003  
\125\004\006\023\002\125\123\061\042\060\040\006\003\125\004\012  
\023\031\107\157\157\147\154\145\040\124\162\165\163\164\040\123  
\145\162\166\151\143\145\163\040\114\114\103\061\024\060\022\006  
\003\125\004\003\023\013\107\124\123\040\122\157\157\164\040\122  
\063\060\036\027\015\061\066\060\066\062\062\060\060\060\060\060  
\060\132\027\015\063\066\060\066\062\062\060\060\060\060\060\060  
\132\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154  
\145\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163  
\040\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107  
\124\123\040\122\157\157\164\040\122\063\060\166\060\020\006\007  
\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142  
\000\004\037\117\063\207\063\051\212\241\204\336\313\307\041\130  
\101\211\352\126\235\053\113\205\306\035\114\047\274\177\046\121  
\162\157\342\237\326\243\312\314\105\024\106\213\255\357\176\206  
\214\354\261\176\057\377\251\161\235\030\204\105\004\101\125\156  
\053\352\046\177\273\220\001\343\113\031\272\344\124\226\105\011  
\261\325\154\221\104\255\204\023\216\232\214\015\200\014\062\366

```
\340\047\243\102\060\100\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\301\361\046\272\240\055\256\205\201\317\323\361\052\022
\275\270\012\147\375\274\060\012\006\010\052\206\110\316\075\004
\003\003\003\151\000\060\146\002\061\000\366\341\040\225\024\173
\124\243\220\026\021\277\204\310\352\157\153\027\236\036\106\230
\040\233\237\323\015\331\254\323\057\315\174\370\133\056\125\273
\277\335\222\367\244\014\334\061\341\242\002\061\000\374\227\146
\146\345\103\026\023\203\335\307\337\057\276\024\070\355\001\316
\261\027\032\021\165\351\275\003\217\046\176\204\345\311\140\246
\225\327\124\131\267\347\021\054\211\324\271\356\027
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GTS Root R3"

# Issuer: CN=GTS Root R3,O=Google Trust Services LLC,C=US

# Serial Number:02:03:e5:b8:82:eb:20:f8:25:27:6d:3d:66

# Subject: CN=GTS Root R3,O=Google Trust Services LLC,C=US

# Not Valid Before: Wed Jun 22 00:00:00 2016

# Not Valid After : Sun Jun 22 00:00:00 2036

# Fingerprint (SHA-256):

34:D8:A7:3E:E2:08:D9:BC:DB:0D:95:65:20:93:4B:4E:40:E6:94:82:59:6E:8B:6F:73:C8:42:6B:01:0A:6F:48

# Fingerprint (SHA1): ED:E5:71:80:2B:C8:92:B9:5B:83:3C:D2:32:68:3F:09:CD:A0:1E:46

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GTS Root R3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\355\345\161\200\053\310\222\271\133\203\074\322\062\150\077\011
\315\240\036\106
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\076\347\235\130\002\224\106\121\224\345\340\042\112\213\347\163
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\063
```

END

CKA\_SERIAL\_NUMBER

```

MULTILINE_OCTAL
\002\015\002\003\345\270\202\353\040\370\045\047\155\075\146
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GTS Root R4"
#
Issuer: CN=GTS Root R4,O=Google Trust Services LLC,C=US
Serial Number:02:03:e5:c0:68:ef:63:1a:9c:72:90:50:52
Subject: CN=GTS Root R4,O=Google Trust Services LLC,C=US
Not Valid Before: Wed Jun 22 00:00:00 2016
Not Valid After : Sun Jun 22 00:00:00 2036
Fingerprint (SHA-256):
34:9D:FA:40:58:C5:E2:63:12:3B:39:8A:E7:95:57:3C:4E:13:13:C8:3F:E6:8F:93:55:6C:D5:E8:03:1B:3C:7D
#
Fingerprint (SHA1): 77:D3:03:67:B5:E0:0C:15:F6:0C:38:61:DF:7C:E1:3B:92:46:4D:47
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R4"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\064
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\064
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\015\002\003\345\300\150\357\143\032\234\162\220\120\122
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\011\060\202\001\216\240\003\002\001\002\002\015\002
\003\345\300\150\357\143\032\234\162\220\120\122\060\012\006\010

```

\052\206\110\316\075\004\003\003\060\107\061\013\060\011\006\003  
\125\004\006\023\002\125\123\061\042\060\040\006\003\125\004\012  
\023\031\107\157\157\147\154\145\040\124\162\165\163\164\040\123  
\145\162\166\151\143\145\163\040\114\114\103\061\024\060\022\006  
\003\125\004\003\023\013\107\124\123\040\122\157\157\164\040\122  
\064\060\036\027\015\061\066\060\066\062\062\060\060\060\060\060  
\060\132\027\015\063\066\060\066\062\062\060\060\060\060\060\060  
\132\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154  
\145\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163  
\040\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107  
\124\123\040\122\157\157\164\040\122\064\060\166\060\020\006\007  
\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142  
\000\004\363\164\163\247\150\213\140\256\103\270\065\305\201\060  
\173\113\111\235\373\301\141\316\346\336\106\275\153\325\141\030  
\065\256\100\335\163\367\211\221\060\132\353\074\356\205\174\242  
\100\166\073\251\306\270\107\330\052\347\222\221\152\163\351\261  
\162\071\237\051\237\242\230\323\137\136\130\206\145\017\241\204  
\145\006\321\334\213\311\307\163\310\214\152\057\345\304\253\321  
\035\212\243\102\060\100\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\200\114\326\353\164\377\111\066\243\325\330\374\265\076  
\305\152\360\224\035\214\060\012\006\010\052\206\110\316\075\004  
\003\003\003\151\000\060\146\002\061\000\350\100\377\203\336\003  
\364\237\256\035\172\247\056\271\257\117\366\203\035\016\055\205  
\001\035\321\331\152\354\017\302\257\307\136\126\136\134\325\034  
\130\042\050\013\367\060\266\057\261\174\002\061\000\360\141\074  
\247\364\240\202\343\041\325\204\035\163\206\234\055\257\312\064  
\233\361\237\271\043\066\342\274\140\003\235\200\263\232\126\310  
\341\342\273\024\171\312\315\041\324\224\265\111\103

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GTS Root R4"

# Issuer: CN=GTS Root R4,O=Google Trust Services LLC,C=US

# Serial Number:02:03:e5:c0:68:ef:63:1a:9c:72:90:50:52

# Subject: CN=GTS Root R4,O=Google Trust Services LLC,C=US

# Not Valid Before: Wed Jun 22 00:00:00 2016

# Not Valid After : Sun Jun 22 00:00:00 2036

# Fingerprint (SHA-256):

34:9D:FA:40:58:C5:E2:63:12:3B:39:8A:E7:95:57:3C:4E:13:13:C8:3F:E6:8F:93:55:6C:D5:E8:03:1B:3C:7D

# Fingerprint (SHA1): 77:D3:03:67:B5:E0:0C:15:F6:0C:38:61:DF:7C:E1:3B:92:46:4D:47

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL
CK_FALSE
CKA_LABEL UTF8 "GTS Root R4"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\167\323\003\147\265\340\014\025\366\014\070\141\337\174\341\073
\222\106\115\107
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\103\226\203\167\031\115\166\263\235\145\122\344\035\042\245\350
END
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\064
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\002\003\345\300\150\357\143\032\234\162\220\120\122
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Telia Root CA v2"
#
Issuer: CN=Telia Root CA v2,O=Telia Finland
Oyj,C=FI
Serial Number:01:67:5f:27:d6:fe:7a:e3:e4:ac:be:09:5b:05:9e
Subject: CN=Telia Root CA v2,O=Telia Finland Oyj,C=FI
Not Valid Before: Thu Nov 29 11:55:54 2018
Not Valid After : Sun Nov 29 11:55:54 2043
Fingerprint (SHA-256):
24:2B:69:74:2F:CB:1E:5B:2A:BF:98:89:8B:94:57:21:87:54:4E:5B:4D:99:11:78:65:73:62:1F:6A:74:B8:2C
Fingerprint (SHA1): B9:99:CD:D1:73:50:8A:C4:47:05:08:9C:8C:88:FB:BE:A0:2B:40:CD
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Telia Root CA v2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\106\111\061
\032\060\030\006\003\125\004\012\014\021\124\145\154\151\141\040
\106\151\156\154\141\156\144\040\117\171\152\061\031\060\027\006

```

```
\003\125\004\003\014\020\124\145\154\151\141\040\122\157\157\164
\040\103\101\040\166\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\106\111\061
\032\060\030\006\003\125\004\012\014\021\124\145\154\151\141\040
\106\151\156\154\141\156\144\040\117\171\152\061\031\060\027\006
\003\125\004\003\014\020\124\145\154\151\141\040\122\157\157\164
\040\103\101\040\166\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\017\001\147\137\047\326\376\172\343\344\254\276\011\133\005
\236
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\164\060\202\003\134\240\003\002\001\002\002\017\001
\147\137\047\326\376\172\343\344\254\276\011\133\005\236\060\015
\006\011\052\206\110\206\367\015\001\001\013\005\000\060\104\061
\013\060\011\006\003\125\004\006\023\002\106\111\061\032\060\030
\006\003\125\004\012\014\021\124\145\154\151\141\040\106\151\156
\154\141\156\144\040\117\171\152\061\031\060\027\006\003\125\004
\003\014\020\124\145\154\151\141\040\122\157\157\164\040\103\101
\040\166\062\060\036\027\015\061\070\061\061\062\071\061\061\065
\065\065\064\132\027\015\064\063\061\061\062\071\061\061\065\065
\065\064\132\060\104\061\013\060\011\006\003\125\004\006\023\002
\106\111\061\032\060\030\006\003\125\004\012\014\021\124\145\154
\151\141\040\106\151\156\154\141\156\144\040\117\171\152\061\031
\060\027\006\003\125\004\003\014\020\124\145\154\151\141\040\122
\157\157\164\040\103\101\040\166\062\060\202\002\042\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017
\000\060\202\002\012\002\202\002\001\000\262\320\077\007\274\342
\173\320\153\231\370\342\167\151\347\316\235\244\003\274\202\155
\241\376\201\145\037\114\047\254\216\000\272\026\173\353\060\152
\000\300\263\164\150\176\262\257\307\325\142\263\172\077\120\312
\214\066\104\044\143\322\066\351\014\205\366\103\166\325\114\241
\140\162\147\342\050\063\245\313\061\270\072\042\043\064\270\175
\275\126\042\100\235\352\364\173\003\255\150\374\262\201\117\230
\320\164\352\215\345\175\315\143\303\243\366\336\222\302\130\031
\340\226\273\305\304\251\075\245\164\226\376\257\371\211\252\275
\225\027\124\330\170\104\361\014\167\025\222\340\230\102\247\244
\326\252\040\222\315\301\240\263\226\262\072\204\102\215\175\325
\225\344\326\333\351\142\304\130\263\171\305\214\323\065\063\203
\237\165\241\122\047\141\070\361\131\075\216\120\340\275\171\074
\347\154\226\376\136\331\002\145\264\216\134\320\021\064\337\135
\277\122\247\201\000\303\177\231\105\231\025\325\027\310\012\123
\354\143\363\231\175\314\151\022\206\302\027\360\001\236\277\204
```

\274\321\122\313\033\222\146\316\244\123\345\241\277\304\333\011  
\326\346\211\126\053\310\343\174\336\343\377\211\345\065\156\050  
\350\154\013\043\121\251\045\005\353\110\370\335\261\312\372\154  
\010\121\357\267\030\154\104\312\046\341\163\306\211\006\201\345  
\212\254\260\342\051\306\271\044\263\153\104\021\364\245\103\302  
\114\103\345\160\066\214\266\063\127\172\225\056\202\240\364\134  
\020\263\141\203\366\002\005\206\056\174\055\154\334\003\106\156  
\065\223\325\172\225\057\336\040\330\133\176\224\220\004\152\272  
\131\075\004\005\165\235\067\242\016\056\075\353\301\244\122\203  
\376\320\153\324\146\216\334\306\351\022\116\035\052\127\252\020  
\274\174\136\202\175\246\246\311\362\055\271\365\027\047\255\321  
\016\211\124\053\225\372\300\255\035\230\024\170\063\102\206\012  
\251\163\265\373\164\015\267\033\060\031\304\132\016\034\047\267  
\332\030\320\377\212\310\005\272\361\252\034\242\067\267\346\110  
\244\106\054\224\352\250\166\142\107\213\020\123\007\110\127\154  
\342\222\115\266\256\005\313\334\301\112\136\217\254\075\031\116  
\302\355\140\165\053\333\301\312\102\325\002\003\001\000\001\243  
\143\060\141\060\037\006\003\125\035\043\004\030\060\026\200\024  
\162\254\344\063\171\252\105\207\366\375\254\035\236\326\307\057  
\206\330\044\071\060\035\006\003\125\035\016\004\026\004\024\162  
\254\344\063\171\252\105\207\366\375\254\035\236\326\307\057\206  
\330\044\071\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001  
\013\005\000\003\202\002\001\000\240\073\131\247\011\224\076\066  
\204\322\176\057\071\245\226\227\372\021\255\374\147\363\161\011  
\362\262\211\204\147\104\257\271\357\355\226\354\234\144\333\062  
\060\157\147\232\254\176\137\262\253\001\066\176\201\372\344\204  
\136\322\254\066\340\153\142\305\175\113\016\202\155\322\166\142  
\321\376\227\370\237\060\174\030\371\264\122\167\202\035\166\333  
\323\035\251\360\301\232\000\275\155\165\330\175\347\372\307\070  
\243\234\160\350\106\171\003\257\056\164\333\165\370\156\123\014  
\003\310\231\032\211\065\031\074\323\311\124\174\250\360\054\346  
\156\007\171\157\152\341\346\352\221\202\151\012\035\303\176\131  
\242\236\153\106\025\230\133\323\257\106\035\142\310\316\200\122  
\111\021\077\311\004\022\303\023\174\077\073\212\226\333\074\240  
\036\012\264\213\124\262\044\147\015\357\202\313\276\074\175\321  
\342\177\256\026\326\126\130\271\332\040\261\203\025\241\357\212  
\115\062\157\101\057\023\122\202\224\327\032\301\170\242\121\335  
\053\160\155\267\032\371\367\260\340\147\227\126\333\174\141\123  
\011\003\050\002\100\307\263\330\375\234\160\152\306\050\303\205  
\351\342\355\032\223\240\336\113\230\242\204\076\005\167\001\226  
\075\373\264\040\017\234\162\002\172\022\057\325\243\272\121\170  
\257\052\053\104\145\116\265\375\012\350\301\315\171\207\141\053  
\336\200\127\105\277\147\361\233\221\136\245\244\354\131\110\020  
\015\070\307\260\372\303\104\155\004\365\170\120\034\222\226\133  
\332\365\270\056\272\133\317\345\360\152\235\113\057\130\163\055  
\117\055\304\034\076\364\263\077\253\025\016\073\031\101\212\244



```
\301\127\022\146\161\114\372\123\343\127\353\142\225\011\236\124
\335\321\302\074\127\074\275\070\255\230\144\267\270\003\232\123
\126\140\135\263\330\102\033\134\113\022\212\034\353\353\175\306
\172\151\307\047\177\244\370\213\362\344\224\146\207\113\351\224
\007\011\022\171\212\262\353\164\004\334\316\364\104\131\340\026
\312\305\054\130\327\074\173\317\142\206\152\120\175\065\066\146
\247\373\067\347\050\307\330\320\255\245\151\224\217\350\301\337
\044\370\033\007\061\207\201\330\135\366\350\050\330\112\122\200
\254\023\356\120\024\036\230\307
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Telia Root CA v2"

# Issuer: CN=Telia Root CA v2,O=Telia Finland Oyj,C=FI

# Serial Number:01:67:5f:27:d6:fe:7a:e3:e4:ac:be:09:5b:05:9e

# Subject: CN=Telia Root CA v2,O=Telia Finland Oyj,C=FI

# Not Valid Before: Thu Nov 29 11:55:54 2018

# Not Valid After : Sun Nov 29 11:55:54 2043

# Fingerprint (SHA-256):

24:2B:69:74:2F:CB:1E:5B:2A:BF:98:89:8B:94:57:21:87:54:4E:5B:4D:99:11:78:65:73:62:1F:6A:74:B8:2C

# Fingerprint (SHA1): B9:99:CD:D1:73:50:8A:C4:47:05:08:9C:8C:88:FB:BE:A0:2B:40:CD

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Telia Root CA v2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\271\231\315\321\163\120\212\304\107\005\010\234\214\210\373\276
\240\053\100\315
```

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

```
\016\217\254\252\202\337\205\261\364\334\020\034\374\231\331\110
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\104\061\013\060\011\006\003\125\004\006\023\002\106\111\061
\032\060\030\006\003\125\004\012\014\021\124\145\154\151\141\040
\106\151\156\154\141\156\144\040\117\171\152\061\031\060\027\006
\003\125\004\003\014\020\124\145\154\151\141\040\122\157\157\164
\040\103\101\040\166\062
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\017\001\147\137\047\326\376\172\343\344\254\276\011\133\005
\236
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "D-TRUST BR Root CA 1 2020"

#

# Issuer: CN=D-TRUST BR Root CA 1 2020,O=D-Trust GmbH,C=DE

# Serial Number:7c:c9:8f:2b:84:d7:df:ea:0f:c9:65:9a:d3:4b:4d:96

# Subject: CN=D-TRUST BR Root CA 1 2020,O=D-Trust

GmbH,C=DE

# Not Valid Before: Tue Feb 11 09:45:00 2020

# Not Valid After : Sun Feb 11 09:44:59 2035

# Fingerprint (SHA-256):

E5:9A:AA:81:60:09:C2:2B:FF:5B:25:BA:D3:7D:F3:06:F0:49:79:7C:1F:81:D8:5A:B0:89:E6:57:BD:8F:00:44

# Fingerprint (SHA1): 1F:5B:98:F0:E3:B5:F7:74:3C:ED:E6:B0:36:7D:32:CD:F4:09:41:67

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "D-TRUST BR Root CA 1 2020"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163  
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023  
\031\104\055\124\122\125\123\124\040\102\122\040\122\157\157\164  
\040\103\101\040\061\040\062\060\062\060

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163  
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023  
\031\104\055\124\122\125\123\124\040\102\122\040\122\157\157\164  
\040\103\101\040\061\040\062\060\062\060

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\174\311\217\053\204\327\337\352\017\311\145\232\323\113  
\115\226

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\333\060\202\002\140\240\003\002\001\002\002\020\174  
\311\217\053\204\327\337\352\017\311\145\232\323\113\115\226\060  
\012\006\010\052\206\110\316\075\004\003\003\060\110\061\013\060  
\011\006\003\125\004\006\023\002\104\105\061\025\060\023\006\003

\125\004\012\023\014\104\055\124\162\165\163\164\040\107\155\142  
\110\061\042\060\040\006\003\125\004\003\023\031\104\055\124\122  
\125\123\124\040\102\122\040\122\157\157\164\040\103\101\040\061  
\040\062\060\062\060\060\036\027\015\062\060\060\062\061\061\060  
\071\064\065\060\060\132\027\015\063\065\060\062\061\061\060\071  
\064\064\065\071\132\060\110\061\013\060\011\006\003\125\004\006  
\023\002\104\105\061\025\060\023\006\003\125\004\012\023\014\104  
\055\124\162\165\163\164\040\107\155\142\110\061\042\060\040\006  
\003\125\004\003\023\031\104\055\124\122\125\123\124\040\102\122  
\040\122\157\157\164\040\103\101\040\061\040\062\060\062\060\060  
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201  
\004\000\042\003\142\000\004\306\313\307\050\321\373\204\365\232  
\357\102\024\040\341\103\153\156\165\255\374\053\003\204\324\166  
\223\045\327\131\073\101\145\153\036\346\064\052\273\164\366\022  
\316\350\155\347\253\344\074\116\077\104\010\213\315\026\161\313  
\277\222\231\364\244\327\074\120\124\122\220\205\203\170\224\147  
\147\243\034\011\031\075\165\064\205\336\355\140\175\307\014\264  
\101\122\271\156\345\356\102\243\202\001\015\060\202\001\011\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\035\006\003\125\035\016\004\026\004\024\163\221\020\253\377  
\125\263\132\174\011\045\325\262\272\010\240\153\253\037\155\060  
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060  
\201\306\006\003\125\035\037\004\201\276\060\201\273\060\076\240  
\074\240\072\206\070\150\164\164\160\072\057\057\143\162\154\056  
\144\055\164\162\165\163\164\056\156\145\164\057\143\162\154\057  
\144\055\164\162\165\163\164\137\142\162\137\162\157\157\164\137  
\143\141\137\061\137\062\060\062\060\056\143\162\154\060\171\240  
\167\240\165\206\163\154\144\141\160\072\057\057\144\151\162\145  
\143\164\157\162\171\056\144\055\164\162\165\163\164\056\156\145  
\164\057\103\116\075\104\055\124\122\125\123\124\045\062\060\102  
\122\045\062\060\122\157\157\164\045\062\060\103\101\045\062\060  
\061\045\062\060\062\060\062\060\054\117\075\104\055\124\162\165  
\163\164\045\062\060\107\155\142\110\054\103\075\104\105\077\143  
\145\162\164\151\146\151\143\141\164\145\162\145\166\157\143\141  
\164\151\157\156\154\151\163\164\060\012\006\010\052\206\110\316  
\075\004\003\003\003\151\000\060\146\002\061\000\224\220\055\023  
\372\341\143\370\141\143\350\255\205\170\124\221\234\270\223\070  
\076\032\101\332\100\026\123\102\010\312\057\216\361\076\201\126  
\300\252\330\355\030\304\260\256\364\076\372\046\002\061\000\363  
\050\342\306\333\053\231\373\267\121\270\044\243\244\224\172\032  
\077\346\066\342\003\127\063\212\060\313\202\307\326\024\021\325  
\165\143\133\024\225\234\037\001\317\330\325\162\247\017\073

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

```

Trust for "D-TRUST BR Root CA 1 2020"
Issuer: CN=D-TRUST BR Root CA 1 2020,O=D-Trust GmbH,C=DE
Serial Number:7c:c9:8f:2b:84:d7:df:ea:0f:c9:65:9a:d3:4b:4d:96
Subject: CN=D-TRUST BR Root CA 1 2020,O=D-Trust GmbH,C=DE
Not Valid Before: Tue Feb 11 09:45:00 2020
Not Valid After : Sun Feb 11 09:44:59 2035
Fingerprint (SHA-256):
E5:9A:AA:81:60:09:C2:2B:FF:5B:25:BA:D3:7D:F3:06:F0:49:79:7C:1F:81:D8:5A:B0:89:E6:57:BD:8F:00:44
Fingerprint (SHA1): 1F:5B:98:F0:E3:B5:F7:74:3C:ED:E6:B0:36:7D:32:CD:F4:09:41:67
CKA_CLASS
CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST BR Root CA 1 2020"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\037\133\230\360\343\265\367\164\074\355\346\260\066\175\062\315
\364\011\101\147
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\265\252\113\325\355\367\343\125\056\217\162\012\363\165\270\355
END
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\102\122\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\174\311\217\053\204\327\337\352\017\311\145\232\323\113
\115\226
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

#
Certificate "D-TRUST EV Root CA 1 2020"
#
Issuer: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE
Serial Number:5f:02:41:d7:7a:87:7c:4c:03:a3:ac:96:8d:fb:ff:d0
Subject: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE
Not Valid Before: Tue Feb 11 10:00:00 2020
Not Valid After : Sun Feb 11 09:59:59 2035
Fingerprint (SHA-256):

```

08:17:0D:1A:A3:64:53:90:1A:2F:95:92:45:E3:47:DB:0C:8D:37:AB:AA:BC:56:B8:1A:A1:00:DC:95:89:70:DB

# Fingerprint (SHA1): 61:DB:8C:21:59:69:03:90:D8:7C:9C:12:86:54:CF:9D:3D:F4:DD:07

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "D-TRUST EV Root CA 1 2020"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163  
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023  
\031\104\055\124\122\125\123\124\040\105\126\040\122\157\157\164  
\040\103\101\040\061\040\062\060\062\060

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163  
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023  
\031\104\055\124\122\125\123\124\040\105\126\040\122\157\157\164  
\040\103\101\040\061\040\062\060\062\060

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\137\002\101\327\172\207\174\114\003\243\254\226\215\373  
\377\320

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\333\060\202\002\140\240\003\002\001\002\002\020\137  
\002\101\327\172\207\174\114\003\243\254\226\215\373\377\320\060  
\012\006\010\052\206\110\316\075\004\003\003\060\110\061\013\060  
\011\006\003\125\004\006\023\002\104\105\061\025\060\023\006\003  
\125\004\012\023\014\104\055\124\162\165\163\164\040\107\155\142  
\110\061\042\060\040\006\003\125\004\003\023\031\104\055\124\122  
\125\123\124\040\105\126\040\122\157\157\164\040\103\101\040\061  
\040\062\060\062\060\060\036\027\015\062\060\060\062\061\061\061  
\060\060\060\060\060\132\027\015\063\065\060\062\061\061\060\071  
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\040\122\157\157\164\040\103\101\040\061\040\062\060\062\060\060  
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\322\217\305\236\170\173\061\211\251\211\255\047\074\145\020\202  
\374\337\303\235\116\360\063\043\304\322\062\365\034\260\337\063

\027\135\305\360\261\212\371\357\271\267\024\312\051\112\302\017  
\251\177\165\145\111\052\060\147\364\144\367\326\032\167\332\303  
\302\227\141\102\173\111\255\243\202\001\015\060\202\001\011\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\035\006\003\125\035\016\004\026\004\024\177\020\001\026\067  
\072\244\050\344\120\370\244\367\354\153\062\266\376\351\213\060  
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060  
\201\306\006\003\125\035\037\004\201\276\060\201\273\060\076\240  
\074\240\072\206\070\150\164\164\160\072\057\057\143\162\154\056  
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\144\055\164\162\165\163\164\137\145\166\137\162\157\157\164\137  
\143\141\137\061\137\062\060\062\060\056\143\162\154\060\171\240  
\167\240\165\206\163\154\144\141\160\072\057\057\144\151\162\145  
\143\164\157\162\171\056\144\055\164\162\165\163\164\056\156\145  
\164\057\103\116\075\104\055\124\122\125\123\124\045\062\060\105  
\126\045\062\060\122\157\157\164\045\062\060\103\101\045\062\060  
\061\045\062\060\062\060\062\060\054\117\075\104\055\124\162\165  
\163\164\045\062\060\107\155\142\110\054\103\075\104\105\077\143  
\145\162\164\151\146\151\143\141\164\145\162\145\166\157\143\141  
\164\151\157\156\154\151\163\164\060\012\006\010\052\206\110\316  
\075\004\003\003\003\151\000\060\146\002\061\000\312\074\306\052  
\165\302\136\165\142\071\066\000\140\132\213\301\223\231\314\331  
\333\101\073\073\207\231\027\073\325\314\117\312\042\367\240\200  
\313\371\264\261\033\126\365\162\322\374\031\321\002\061\000\221  
\367\060\223\077\020\106\053\161\244\320\073\104\233\300\051\002  
\005\262\101\167\121\363\171\132\236\216\024\240\116\102\322\133  
\201\363\064\152\003\347\042\070\120\133\355\031\117\103\026

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "D-TRUST EV Root CA 1 2020"

# Issuer: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE

# Serial Number:5f:02:41:d7:7a:87:7c:4c:03:a3:ac:96:8d:fb:ff:d0

# Subject: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE

# Not Valid Before: Tue

Feb 11 10:00:00 2020

# Not Valid After : Sun Feb 11 09:59:59 2035

# Fingerprint (SHA-256):

08:17:0D:1A:A3:64:53:90:1A:2F:95:92:45:E3:47:DB:0C:8D:37:AB:AA:BC:56:B8:1A:A1:00:DC:95:89:70:DB

# Fingerprint (SHA1): 61:DB:8C:21:59:69:03:90:D8:7C:9C:12:86:54:CF:9D:3D:F4:DD:07

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "D-TRUST EV Root CA 1 2020"

```

CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\141\333\214\041\131\151\003\220\330\174\234\022\206\124\317\235
\075\364\335\007
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\214\055\235\160\237\110\231\021\006\021\373\351\313\060\300\156
END
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\105\126\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\137\002\101\327\172\207\174\114\003\243\254\226\215\373
\377\320
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DigiCert TLS ECC P384 Root G5"
#
Issuer: CN=DigiCert TLS ECC P384 Root G5,O="DigiCert, Inc.",C=US
Serial Number:09:e0:93:65:ac:f7:d9:c8:b9:3e:1c:0b:04:2a:2e:f3
Subject: CN=DigiCert TLS ECC P384 Root G5,O="DigiCert, Inc.",C=US
Not Valid Before: Fri Jan 15 00:00:00 2021
Not Valid After : Sun Jan 14 23:59:59 2046
Fingerprint (SHA-256):
01:8E:13:F0:77:25:32:CF:80:9B:D1:B1:72:81:86:72:83:FC:48:C6:E1:3B:E9:C6:98:12:85:4A:49:0C:1B:05
Fingerprint (SHA1): 17:F3:DE:5E:9F:0F:19:E9:8E:F6:1F:32:26:6E:20:C4:07:AE:30:EE
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL
CK_FALSE
CKA_LABEL UTF8 "DigiCert TLS ECC P384 Root G5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\046\060\044\006\003\125\004
\003\023\035\104\151\147\151\103\145\162\164\040\124\114\123\040
\105\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065

```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\116\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145  
\162\164\054\040\111\156\143\056\061\046\060\044\006\003\125\004  
\003\023\035\104\151\147\151\103\145\162\164\040\124\114\123\040  
\105\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\011\340\223\145\254\367\331\310\271\076\034\013\004\052  
\056\363

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\031\060\202\001\237\240\003\002\001\002\002\020\011  
\340\223\145\254\367\331\310\271\076\034\013\004\052\056\363\060  
\012\006\010\052\206\110\316\075\004\003\003\060\116\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003  
\125\004\012\023\016\104\151\147\151\103\145\162\164\054\040\111  
\156\143\056\061\046\060\044\006\003\125\004\003\023\035\104\151  
\147\151\103\145\162\164\040\124\114\123\040\105\103\103\040\120  
\063\070\064\040\122\157\157\164\040\107\065\060\036\027\015\062  
\061\060\061\061\065\060\060\060\060\060\060\132\027\015\064\066  
\060\061\061\064\062\063\065\071\065\071\132\060\116\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003  
\125\004\012\023\016\104\151\147\151\103\145\162\164\054\040\111  
\156\143\056\061\046\060\044\006\003\125\004\003\023\035\104\151  
\147\151\103\145\162\164\040\124\114\123\040\105\103\103\040\120  
\063\070\064\040\122\157\157\164\040\107\065\060\166\060\020\006  
\007\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003  
\142\000\004\301\104\241\317\021\227\120\232\336\043\202\065\007  
\315\320\313\030\235\322\361\177\167\065\117\073\335\224\162\122  
\355\302\073\370\354\372\173\153\130\040\354\231\256\311\374\150  
\263\165\271\333\011\354\310\023\365\116\306\012\035\146\060\114  
\273\037\107\012\074\141\020\102\051\174\245\010\016\340\042\351  
\323\065\150\316\233\143\237\204\265\231\115\130\240\216\365\124  
\347\225\311\243\102\060\100\060\035\006\003\125\035\016\004\026  
\004\024\301\121\105\120\131\253\076\347\054\132\372\040\042\022  
\007\200\210\174\021\152\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\012\006\010\052\206\110\316\075  
\004\003\003\003\150\000\060\145\002\061\000\211\152\215\107\347  
\354\374\156\125\003\331\147\154\046\116\203\306\375\311\373\053  
\023\274\267\172\214\264\145\322\151\151\143\023\143\073\046\120  
\056\001\241\171\006\221\235\110\277\302\276\002\060\107\303\025  
\173\261\240\221\231\111\223\250\074\174\350\106\006\213\054\362  
\061\000\224\235\142\310\211\275\031\204\024\351\245\373\001\270  
\015\166\103\214\056\123\313\174\337\014\027\226\120



```

END
CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "DigiCert TLS ECC P384 Root G5"
Issuer: CN=DigiCert TLS ECC P384 Root G5,O="DigiCert, Inc.",C=US
Serial Number:09:e0:93:65:ac:f7:d9:c8:b9:3e:1c:0b:04:2a:2e:f3
Subject: CN=DigiCert TLS ECC P384 Root G5,O="DigiCert, Inc.",C=US
Not Valid Before: Fri Jan 15 00:00:00 2021
Not Valid After : Sun Jan 14 23:59:59 2046
Fingerprint (SHA-256):
01:8E:13:F0:77:25:32:CF:80:9B:D1:B1:72:81:86:72:83:FC:48:C6:E1:3B:E9:C6:98:12:85:4A:49:0C:1B:05
Fingerprint (SHA1): 17:F3:DE:5E:9F:0F:19:E9:8E:F6:1F:32:26:6E:20:C4:07:AE:30:EE
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert
 TLS ECC P384 Root G5"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\027\363\336\136\237\017\031\351\216\366\037\062\046\156\040\304
\007\256\060\356
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\323\161\004\152\103\034\333\246\131\341\250\243\252\305\161\355
END
CKA_ISSUER MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\046\060\044\006\003\125\004
\003\023\035\104\151\147\151\103\145\162\164\040\124\114\123\040
\105\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\011\340\223\145\254\367\331\310\271\076\034\013\004\052
\056\363
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DigiCert TLS RSA4096 Root G5"
#
Issuer:

```

```
CN=DigiCert TLS RSA4096 Root G5,O="DigiCert, Inc.",C=US
Serial Number:08:f9:b4:78:a8:fa:7e:da:6a:33:37:89:de:7c:cf:8a
Subject: CN=DigiCert TLS RSA4096 Root G5,O="DigiCert, Inc.",C=US
Not Valid Before: Fri Jan 15 00:00:00 2021
Not Valid After : Sun Jan 14 23:59:59 2046
Fingerprint (SHA-256):
37:1A:00:DC:05:33:B3:72:1A:7E:EB:40:E8:41:9E:70:79:9D:2B:0A:0F:2C:1D:80:69:31:65:F7:CE:C4:AD:75
Fingerprint (SHA1): A7:88:49:DC:5D:7C:75:8C:8C:DE:39:98:56:B3:AA:D0:B2:A5:71:35
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert TLS RSA4096 Root G5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\045\060\043\006\003\125\004
\003\023\034\104\151\147\151\103\145\162\164\040\124\114\123\040
\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\045\060\043\006\003\125\004
\003\023\034\104\151\147\151\103\145\162\164\040\124\114\123\040
\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\010\371\264\170\250\372\176\332\152\063\067\211\336\174
\317\212
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\146\060\202\003\116\240\003\002\001\002\002\020\010
\371\264\170\250\372\176\332\152\063\067\211\336\174\317\212\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\115
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060
\025\006\003\125\004\012\023\016\104\151\147\151\103\145\162\164
\054\040\111\156\143\056\061\045\060\043\006\003\125\004\003\023
\034\104\151\147\151\103\145\162\164\040\124\114\123\040\122\123
\101\064\060\071\066\040\122\157\157\164\040\107\065\060\036\027
\015\062\061\060\061\061\065\060\060\060\060\060\060\132\027\015
\064\066\060\061\061\064\062\063\065\071\065\071\132\060\115\061
\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060\025
\006\003\125\004\012\023\016\104\151\147\151\103\145\162\164\054
\040\111\156\143\056\061\045\060\043\006\003\125\004\003\023\034
```

\104\151\147\151\103\145\162\164\040\124\114\123\040\122\123\101  
\064\060\071\066\040\122\157\157\164\040\107\065\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\263\320\364  
\311\171\021\235\375\374\146\201\347\314\325\344\274\354\201\076  
\152\065\216\056\267\347\336\257\371\007\115\317\060\235\352\011  
\013\231\275\154\127\332\030\112\270\170\254\072\071\250\246\110  
\254\056\162\345\275\353\361\032\315\347\244\003\251\077\021\264  
\330\057\211\026\373\224\001\075\273\057\370\023\005\241\170\034  
\216\050\340\105\340\203\364\131\033\225\263\256\176\003\105\345  
\276\302\102\376\356\362\074\266\205\023\230\062\235\026\250\051  
\302\013\034\070\334\237\061\167\134\277\047\243\374\047\254\267  
\053\275\164\233\027\055\362\201\332\135\260\341\043\027\076\210  
\112\022\043\320\352\317\235\336\003\027\261\102\112\240\026\114  
\244\155\223\351\077\072\356\072\174\235\130\235\364\116\217\374  
\073\043\310\155\270\342\005\332\314\353\354\303\061\364\327\247  
\051\124\200\317\104\133\114\157\060\236\363\314\335\037\224\103  
\235\115\177\160\160\015\324\072\321\067\360\154\235\233\300\024  
\223\130\357\315\101\070\165\274\023\003\225\174\177\343\134\351  
\325\015\325\342\174\020\142\252\153\360\075\166\363\077\243\350  
\260\301\375\357\252\127\115\254\206\247\030\264\051\301\054\016  
\277\144\276\051\214\330\002\055\315\134\057\362\177\357\025\364  
\014\025\254\012\260\361\323\015\117\152\115\167\227\001\240\361  
\146\267\267\316\357\316\354\354\245\165\312\254\343\341\143\367  
\270\241\004\310\274\173\077\135\055\026\042\126\355\110\111\376  
\247\057\171\060\045\233\272\153\055\077\235\073\304\027\347\035  
\056\373\362\317\246\374\343\024\054\226\230\041\214\264\221\351  
\031\140\203\362\060\053\006\163\120\325\230\073\006\351\307\212  
\014\140\214\050\370\122\233\156\341\366\115\273\006\044\233\327  
\053\046\077\375\052\057\161\365\326\044\276\177\061\236\017\155  
\350\217\117\115\243\077\377\065\352\337\111\136\101\217\206\371  
\361\167\171\113\033\264\243\136\057\373\106\002\320\146\023\136  
\136\205\117\316\330\160\210\173\316\001\265\226\227\327\315\175  
\375\202\370\302\044\301\312\001\071\117\215\242\301\024\100\037  
\234\146\325\014\011\106\326\362\320\321\110\166\126\072\103\313  
\266\012\021\071\272\214\023\154\006\265\236\317\353\002\003\001  
\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026\004  
\024\121\063\034\355\066\100\257\027\323\045\315\151\150\362\257  
\116\043\076\263\101\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\015\006\011\052\206\110\206\367\015  
\001\001\014\005\000\003\202\002\001\000\140\246\257\133\137\127  
\332\211\333\113\120\251\304\043\065\041\377\320\141\060\204\221  
\267\077\020\317\045\216\311\277\106\064\331\301\041\046\034\160  
\031\162\036\243\311\207\376\251\103\144\226\072\310\123\004\012  
\266\101\273\304\107\000\331\237\030\030\073\262\016\363\064\352  
\044\367\335\257\040\140\256\222\050\137\066\347\135\344\336\307  
\074\333\120\071\255\273\075\050\115\226\174\166\306\133\364\301

\333\024\245\253\031\142\007\030\100\137\227\221\334\234\307\253  
\265\121\015\346\151\123\125\314\071\175\332\305\021\125\162\305  
\073\213\211\370\064\055\244\027\345\027\346\231\175\060\210\041  
\067\315\060\027\075\270\362\274\250\165\240\103\334\076\211\113  
\220\256\155\003\340\034\243\240\226\011\273\175\243\267\052\020  
\104\113\106\007\064\143\355\061\271\004\356\243\233\232\256\346  
\061\170\364\352\044\141\073\253\130\144\377\273\207\047\142\045  
\201\337\334\241\057\366\355\247\377\172\217\121\056\060\370\244  
\001\322\205\071\137\001\231\226\157\132\133\160\031\106\376\206  
\140\076\255\200\020\011\335\071\045\057\130\177\273\322\164\360  
\367\106\037\106\071\112\330\123\320\363\056\073\161\245\324\157  
\374\363\147\344\007\217\335\046\031\341\215\133\372\243\223\021  
\233\351\310\072\303\125\150\232\222\341\122\166\070\350\341\272  
\275\373\117\325\357\263\347\110\203\061\360\202\041\343\266\276  
\247\253\157\357\237\337\114\317\001\270\142\152\043\075\347\011  
\115\200\033\173\060\244\303\335\007\177\064\276\244\046\262\366  
\101\350\011\035\343\040\230\252\067\117\377\367\361\342\051\160  
\061\107\077\164\320\024\026\372\041\212\002\325\212\011\224\167  
\056\362\131\050\213\174\120\222\012\146\170\070\203\165\304\265  
\132\250\021\306\345\301\235\146\125\317\123\304\257\327\165\205  
\251\102\023\126\354\041\167\201\223\132\014\352\226\331\111\312  
\241\010\362\227\073\155\233\004\030\044\104\216\174\001\362\334  
\045\330\136\206\232\261\071\333\365\221\062\152\321\246\160\212  
\242\367\336\244\105\205\046\250\036\214\135\051\133\310\113\330  
\232\152\003\136\160\362\205\117\154\113\150\057\312\124\366\214  
\332\062\376\303\153\203\077\070\306\176

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert TLS RSA4096 Root G5"

# Issuer: CN=DigiCert TLS RSA4096 Root G5,O="DigiCert, Inc.",C=US

# Serial Number:08:f9:b4:78:a8:fa:7e:da:6a:33:37:89:de:7c:cf:8a

# Subject: CN=DigiCert TLS RSA4096 Root G5,O="DigiCert, Inc.",C=US

# Not Valid Before: Fri Jan 15 00:00:00 2021

# Not Valid After : Sun Jan 14 23:59:59 2046

# Fingerprint (SHA-256):

37:1A:00:DC:05:33:B3:72:1A:7E:EB:40:E8:41:9E:70:79:9D:2B:0A:0F:2C:1D:80:69:31:65:F7:CE:C4:AD:75

# Fingerprint (SHA1): A7:88:49:DC:5D:7C:75:8C:8C:DE:39:98:56:B3:AA:D0:B2:A5:71:35

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL

UTF8 "DigiCert TLS RSA4096 Root G5"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\247\210\111\334\135\174\165\214\214\336\071\230\126\263\252\320
\262\245\161\065
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\254\376\367\064\226\251\362\263\264\022\113\344\047\101\157\341
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\045\060\043\006\003\125\004
\003\023\034\104\151\147\151\103\145\162\164\040\124\114\123\040
\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\010\371\264\170\250\372\176\332\152\063\067\211\336\174
\317\212
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "DigiCert SMIME ECC

P384 Root G5"

#

# Issuer: CN=DigiCert SMIME ECC P384 Root G5,O="DigiCert, Inc.",C=US

# Serial Number:05:3f:6e:a0:06:01:72:7d:ed:3f:c3:a3:b6:a3:d6:ef

# Subject: CN=DigiCert SMIME ECC P384 Root G5,O="DigiCert, Inc.",C=US

# Not Valid Before: Fri Jan 15 00:00:00 2021

# Not Valid After : Sun Jan 14 23:59:59 2046

# Fingerprint (SHA-256):

E8:E8:17:65:36:A6:0C:C2:C4:E1:01:87:C3:BE:FC:A2:0E:F2:63:49:70:18:F5:66:D5:BE:A0:F9:4D:0C:11:1B

# Fingerprint (SHA1): 1C:B8:A7:08:C9:0D:20:79:01:A0:B2:36:7F:F0:95:65:E4:53:24:FE

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert SMIME ECC P384 Root G5"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\120\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\003\023\037\104\151\147\151\103\145\162\164\040\123\115\111\115
\105\040\105\103\103\040\120\063\070\064\040\122\157\157\164\040
\107\065
```

END

```
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\003\023\037\104\151\147\151\103\145\162\164\040\123\115\111\115
\105\040\105\103\103\040\120\063\070\064\040\122\157\157\164\040
\107\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\005\077\156\240\006\001\162\175\355\077\303\243\266\243
\326\357
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\034\060\202\001\243\240\003\002\001\002\002\020\005
\077\156\240\006\001\162\175\355\077\303\243\266\243\326\357\060
\012\006\010\052\206\110\316\075\004\003\003\060\120\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003
\125\004\012\023\016\104\151\147\151\103\145\162\164\054\040\111
\156\143\056\061\050\060\046\006\003\125\004\003\023\037\104\151
\147\151\103\145\162\164\040\123\115\111\115\105\040\105\103\103
\040\120\063\070\064\040\122\157\157\164\040\107\065\060\036\027
\015\062\061\060\061\061\065\060\060\060\060\060\060\132\027\015
\064\066\060\061\061\064\062\063\065\071\065\071\132\060\120\061
\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060\025
\006\003\125\004\012\023\016\104\151\147\151\103\145\162\164\054
\040\111\156\143\056\061\050\060\046\006\003\125\004\003\023\037
\104\151\147\151\103\145\162\164\040\123\115\111\115\105\040\105
\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065\060
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201
\004\000\042\003\142\000\004\026\235\125\345\266\324\373\373\147
\153\032\324\241\252\322\167\225\076\210\345\007\237\266\160\146
\040\050\244\210\354\160\065\257\263\062\377\067\023\112\236\274
\001\003\336\204\301\270\306\346\145\107\211\362\023\125\277\315
\245\036\010\140\177\255\177\350\141\222\051\317\011\107\136\013
\034\300\037\244\277\362\133\274\230\357\231\114\314\160\153\266
\272\320\050\035\277\276\004\243\102\060\100\060\035\006\003\125
\035\016\004\026\004\024\163\172\153\226\333\102\007\213\122\146
\302\144\062\027\376\340\147\220\056\255\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\012\006\010\052
\206\110\316\075\004\003\003\003\147\000\060\144\002\060\067\104
\365\062\200\343\161\353\364\155\317\174\314\221\232\303\156\161
\330\322\043\135\222\115\202\102\155\134\141\225\366\221\365\247
\010\366\152\227\351\234\224\055\230\160\375\063\266\011\002\060
\007\074\057\271\130\202\136\017\243\142\250\223\147\360\040\303
\151\277\003\054\073\120\247\073\257\101\070\311\122\110\221\326
```

```

\016\373\274\140\060\174\144\077\022\036\105\177\121\076\364\246
END
CKA_NSS_Mozilla_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "DigiCert
SMIME ECC P384 Root G5"
Issuer: CN=DigiCert SMIME ECC P384 Root G5,O="DigiCert, Inc.",C=US
Serial Number:05:3f:6e:a0:06:01:72:7d:ed:3f:c3:a3:b6:a3:d6:ef
Subject: CN=DigiCert SMIME ECC P384 Root G5,O="DigiCert, Inc.",C=US
Not Valid Before: Fri Jan 15 00:00:00 2021
Not Valid After : Sun Jan 14 23:59:59 2046
Fingerprint (SHA-256):
E8:E8:17:65:36:A6:0C:C2:C4:E1:01:87:C3:BE:FC:A2:0E:F2:63:49:70:18:F5:66:D5:BE:A0:F9:4D:0C:11:1B
Fingerprint (SHA1): 1C:B8:A7:08:C9:0D:20:79:01:A0:B2:36:7F:F0:95:65:E4:53:24:FE
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert SMIME ECC P384 Root G5"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\034\270\247\010\311\015\040\171\001\240\262\066\177\360\225\145
\344\123\044\376
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\246\376\364\122\066\104\330\356\015\267\003\013\357\164\263\003
END
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\003\023\037\104\151\147\151\103\145\162\164\040\123\115\111\115
\105\040\105\103\103\040\120\063\070\064\040\122\157\157\164\040
\107\065
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\005\077\156\240\006\001\162\175\355\077\303\243\266\243
\326\357
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

```

```

Certificate "DigiCert SMIME RSA4096 Root G5"
#
Issuer: CN=DigiCert SMIME RSA4096 Root G5,O="DigiCert, Inc.",C=US
Serial Number:05:f6:ba:04:23:83:46:cb:7d:5c:e6:b9:5b:ba:1c:55
Subject: CN=DigiCert SMIME RSA4096 Root G5,O="DigiCert, Inc.",C=US
Not Valid Before: Fri Jan 15 00:00:00 2021
Not Valid After : Sun Jan 14 23:59:59 2046
Fingerprint (SHA-256):
90:37:0D:3E:FA:88:BF:58:C3:01:05:BA:25:10:4A:35:84:60:A7:FA:52:DF:C2:01:1D:F2:33:A0:F4:17:91:2A
#
Fingerprint (SHA1): 5B:C5:AD:E2:9A:A7:54:DA:84:89:53:A5:FE:D7:5B:46:86:D0:57:08
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert SMIME RSA4096 Root G5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\047\060\045\006\003\125\004
\003\023\036\104\151\147\151\103\145\162\164\040\123\115\111\115
\105\040\122\123\101\064\060\071\066\040\122\157\157\164\040\107
\065
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\047\060\045\006\003\125\004
\003\023\036\104\151\147\151\103\145\162\164\040\123\115\111\115
\105\040\122\123\101\064\060\071\066\040\122\157\157\164\040\107
\065
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\005\366\272\004\043\203\106\313\175\134\346\271\133\272
\034\125
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\152\060\202\003\122\240\003\002\001\002\002\020\005
\366\272\004\043\203\106\313\175\134\346\271\133\272\034\125\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\117
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060
\025\006\003\125\004\012\023\016\104\151\147\151\103\145\162\164
\054\040\111\156\143\056\061\047\060\045\006\003\125\004\003\023
\036\104\151\147\151\103\145\162\164\040\123\115\111\115\105\040
\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065\060

```



\036\027\015\062\061\060\061\061\065\060\060\060\060\060\060\132  
\027\015\064\066\060\061\061\064\062\063\065\071\065\071\132\060  
\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027  
\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145\162  
\164\054\040\111\156\143\056\061\047\060\045\006\003\125\004\003  
\023\036\104\151\147\151\103\145\162\164\040\123\115\111\115\105  
\040\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\340\152\133\331\370\371\175\354\265\173\357\137\335\134\064  
\330\332\135\321\313\145\165\253\041\174\133\000\324\202\157\105  
\205\101\212\251\022\002\162\062\360\024\365\003\165\273\143\227  
\111\017\100\231\013\032\036\126\247\322\320\341\253\335\345\004  
\033\343\037\024\022\002\210\365\240\200\011\366\047\232\120\360  
\272\343\242\340\254\152\024\221\265\153\070\020\172\242\061\341  
\221\033\267\271\360\053\133\310\167\011\166\267\121\304\066\012  
\231\123\124\104\045\267\011\065\206\027\005\126\223\075\101\267  
\002\327\142\037\212\222\021\207\352\021\155\352\010\021\334\261  
\170\110\111\222\366\264\121\200\170\043\330\376\341\126\032\072  
\220\023\126\064\211\325\342\225\213\137\336\262\314\373\077\070  
\267\205\367\352\236\277\056\241\056\057\115\175\152\021\056\066  
\240\377\021\010\004\225\125\340\033\073\147\223\251\224\125\352  
\062\355\006\072\177\302\177\343\255\023\047\321\064\101\263\060  
\303\277\264\210\370\003\202\244\337\076\253\170\167\240\131\223  
\161\347\335\353\000\004\173\314\110\071\050\340\036\243\025\151  
\310\066\262\241\013\227\337\125\326\357\221\234\244\366\026\367  
\121\012\356\003\043\221\334\004\377\340\335\070\366\042\003\000  
\302\007\161\032\022\311\327\106\052\224\033\315\326\273\033\356  
\277\276\115\120\130\260\013\315\060\166\051\365\317\345\266\152  
\057\166\260\260\151\152\320\155\145\030\065\176\223\274\162\027  
\301\125\102\315\057\302\045\273\364\375\035\241\144\042\124\135  
\342\236\162\101\204\156\161\226\352\105\007\266\136\172\112\206  
\235\163\144\167\070\003\322\017\123\245\125\040\304\115\377\150  
\157\125\251\352\335\161\344\117\331\205\243\174\116\051\002\236  
\013\011\362\032\123\314\000\246\335\321\064\366\015\301\060\261  
\234\002\144\254\065\355\245\260\051\261\322\225\063\017\322\040  
\063\275\354\043\113\362\031\371\332\230\144\344\054\061\037\056  
\341\215\034\004\225\050\115\214\130\315\113\345\163\202\206\214  
\354\250\326\171\134\373\144\273\334\014\114\050\366\027\257\342  
\150\326\026\206\230\333\374\001\334\061\272\370\234\016\371\050  
\106\112\341\375\226\006\105\171\021\150\027\145\134\213\046\207  
\133\002\003\001\000\001\243\102\060\100\060\035\006\003\125\035  
\016\004\026\004\024\321\243\324\127\035\117\125\333\165\114\134  
\102\236\143\026\316\264\306\073\037\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\015\006\011\052\206  
\110\206\367\015\001\001\014\005\000\003\202\002\001\000\007\247  
\012\336\123\273\232\353\160\277\262\066\220\315\344\247\270\361

\014\344\135\132\035\170\145\374\311\270\036\043\021\127\174\151  
\065\155\001\377\123\120\277\007\016\272\307\001\077\130\052\224  
\165\003\253\034\013\043\334\033\212\036\067\075\035\130\217\163  
\331\263\052\157\337\020\240\133\014\247\312\260\177\271\044\242  
\001\065\062\345\136\106\101\353\330\177\163\347\102\351\244\121  
\046\167\201\012\250\353\017\012\120\235\176\212\040\147\374\013  
\216\072\021\323\305\214\140\030\331\113\261\374\324\361\264\111  
\116\256\207\341\321\373\166\241\137\363\006\317\227\226\014\351  
\236\165\201\134\123\015\042\374\066\346\111\156\164\333\000\205  
\215\174\042\240\216\373\020\114\324\142\023\133\357\113\162\046  
\213\374\116\212\217\376\227\020\123\305\170\213\102\144\033\137  
\340\211\375\273\011\177\120\340\124\205\046\021\152\035\145\371  
\111\051\334\174\066\337\373\075\367\322\254\356\062\215\156\246  
\175\071\234\105\304\312\015\365\073\264\171\123\245\057\126\307  
\121\305\212\114\144\135\220\103\043\216\153\114\027\170\314\350  
\277\365\073\344\250\110\317\255\233\014\337\062\112\323\331\022  
\216\043\170\015\055\257\237\257\236\074\011\302\227\000\355\072  
\151\034\161\077\071\337\323\217\304\146\365\357\066\224\017\363  
\335\222\266\226\137\220\246\335\163\252\246\040\224\224\045\152  
\011\014\162\344\023\043\140\114\243\312\027\056\173\147\000\333  
\320\315\352\172\037\071\046\127\211\060\167\313\116\345\225\105  
\117\137\373\066\134\075\371\040\265\072\020\045\117\223\062\132  
\356\301\226\350\351\126\004\260\111\141\115\354\170\250\235\030  
\301\377\330\352\057\126\357\225\053\173\004\136\147\343\125\100  
\355\071\004\371\013\171\365\152\214\134\017\211\232\220\307\315  
\213\336\333\046\065\241\156\315\263\102\362\242\017\073\014\216  
\223\377\024\317\374\367\223\367\344\101\010\156\031\122\021\017  
\123\031\163\170\014\317\330\205\201\370\255\125\310\260\236\106  
\143\257\234\122\356\134\277\360\300\133\067\036\011\040\322\076  
\043\306\241\025\112\016\066\176\060\305\171\152\274\042\210\331  
\014\122\100\037\335\116\017\147\046\026\322\255\027\034

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert SMIME RSA4096 Root G5"

# Issuer: CN=DigiCert SMIME RSA4096 Root G5,O="DigiCert, Inc.",C=US

# Serial Number:05:f6:ba:04:23:83:46:cb:7d:5c:e6:b9:5b:ba:1c:55

# Subject: CN=DigiCert SMIME RSA4096 Root G5,O="DigiCert, Inc.",C=US

# Not Valid Before: Fri Jan 15 00:00:00 2021

# Not Valid After : Sun Jan 14 23:59:59 2046

# Fingerprint (SHA-256):

90:37:0D:3E:FA:88:BF:58:C3:01:05:BA:25:10:4A:35:84:60:A7:FA:52:DF:C2:01:1D:F2:33:A0:F4:17:91:2A

# Fingerprint (SHA1): 5B:C5:AD:E2:9A:A7:54:DA:84:89:53:A5:FE:D7:5B:46:86:D0:57:08

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

```

CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert SMIME RSA4096 Root G5"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\133\305\255\342\232\247\124\332\204\211\123\245\376\327\133\106
\206\320\127\010
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\321\173\340\265\077\065\162\237\175\276\013\245\244\035\251\156
END
CKA_ISSUER
MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\047\060\045\006\003\125\004
\003\023\036\104\151\147\151\103\145\162\164\040\123\115\111\115
\105\040\122\123\101\064\060\071\066\040\122\157\157\164\040\107
\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\005\366\272\004\043\203\106\313\175\134\346\271\133\272
\034\125
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Certainly Root R1"
#
Issuer: CN=Certainly Root R1,O=Certainly,C=US
Serial Number:00:8e:0f:f9:4b:90:71:68:65:33:54:f4:d4:44:39:b7:e0
Subject: CN=Certainly Root R1,O=Certainly,C=US
Not Valid Before: Thu Apr 01 00:00:00 2021
Not Valid After : Sun Apr 01 00:00:00 2046
#
Fingerprint (SHA-256):
77:B8:2C:D8:64:4C:43:05:F7:AC:C5:CB:15:6B:45:67:50:04:03:3D:51:C6:0C:62:02:A8:E0:C3:34:67:D3:A0
Fingerprint (SHA1): A0:50:EE:0F:28:71:F4:27:B2:12:6D:6F:50:96:25:BA:CC:86:42:AF
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certainly Root R1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL

```

```
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145
\162\164\141\151\156\154\171\040\122\157\157\164\040\122\061
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145
\162\164\141\151\156\154\171\040\122\157\157\164\040\122\061
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\021\000\216\017\371\113\220\161\150\145\063\124\364\324\104
\071\267\340
```

END

CKA\_VALUE MULTILINE\_OCTAL

```
\060\202\005\107\060\202\003\057\240\003\002\001\002\002\021\000
\216\017\371\113\220\161\150\145\063\124\364\324\104\071\267\340
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061\022
\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151\156
\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145\162
\164\141\151\156\154\171\040\122\157\157\164\040\122\061\060\036
\027\015\062\061\060\064\060\061\060\060\060\060\060\060\132\027
\015\064\066\060\064\060\061\060\060\060\060\060\060\132\060\075
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060
\020\006\003\125\004\012\023\011\103\145\162\164\141\151\156\154
\171\061\032\060\030\006\003\125\004\003\023\021\103\145\162\164
\141\151\156\154\171\040\122\157\157\164\040\122\061\060\202\002
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\320\066
\324\037\352\335\253\344\321\266\346\373\042\300\335\023\015\152
\173\042\023\034\227\074\150\143\146\062\234\003\265\215\244\201
\203\332\170\060\021\317\334\262\053\276\222\277\216\344\304\023
\276\244\150\114\332\002\150\026\164\276\262\335\004\344\153\052
\335\067\037\140\054\333\365\367\241\174\225\267\014\160\206\056
\361\072\357\122\367\314\323\233\371\213\276\016\337\061\267\235
\150\134\222\246\365\345\363\012\064\265\377\173\242\344\207\241
\306\257\027\000\357\003\221\355\251\034\116\161\075\322\213\154
\211\364\170\206\346\152\111\240\316\265\322\260\253\233\366\364
\324\056\343\162\371\066\306\353\025\267\045\214\072\374\045\015
\263\042\163\041\164\310\112\226\141\222\365\057\013\030\245\364
\255\342\356\101\275\001\171\372\226\214\215\027\002\060\264\371
\257\170\032\214\264\066\020\020\007\005\160\320\364\061\220\212
\121\305\206\046\171\262\021\210\136\305\360\012\124\315\111\246
\277\002\234\322\104\247\355\343\170\357\106\136\155\161\321\171
```

\160\034\106\137\121\351\311\067\334\137\176\151\173\101\337\064  
\105\340\073\204\364\241\212\012\066\236\067\314\142\122\341\211  
\015\050\371\172\043\261\015\075\075\232\375\235\201\357\054\220  
\300\173\104\116\273\111\340\016\112\126\222\274\313\265\335\171  
\027\211\221\336\141\211\164\222\250\343\062\205\276\116\205\244  
\113\131\313\053\305\170\216\161\124\320\002\067\231\214\345\111  
\352\340\124\162\244\021\006\057\013\214\301\133\276\265\241\260  
\123\156\234\270\140\221\037\131\153\371\055\364\224\012\227\265  
\354\305\166\003\124\033\145\122\272\114\222\126\121\065\240\100  
\330\051\333\256\122\166\073\055\060\100\233\212\320\102\126\264  
\267\210\001\244\207\073\123\226\315\243\026\217\363\146\252\027  
\261\307\140\340\301\103\005\014\356\233\133\140\157\006\134\207  
\133\047\371\100\021\236\234\063\301\267\345\065\127\005\177\047  
\316\027\040\214\034\374\361\373\332\061\051\111\355\365\013\204  
\247\117\301\366\116\302\050\234\372\356\340\257\007\373\063\021  
\172\041\117\013\041\020\266\100\072\253\042\072\004\234\213\233  
\204\206\162\232\322\247\245\304\264\165\221\251\053\043\002\003  
\001\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001  
\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001  
\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004  
\026\004\024\340\252\077\045\215\237\104\134\301\072\350\056\256  
\167\114\204\076\147\014\364\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\003\202\002\001\000\271\127\257\270\022  
\332\127\203\217\150\013\063\035\003\123\125\364\225\160\344\053  
\075\260\071\353\372\211\142\375\367\326\030\004\057\041\064\335  
\361\150\360\325\226\132\336\302\200\243\301\215\306\152\367\131  
\167\256\025\144\317\133\171\005\167\146\352\214\323\153\015\335  
\361\131\054\301\063\245\060\200\025\105\007\105\032\061\042\266  
\222\000\253\231\115\072\217\167\257\251\042\312\057\143\312\025  
\326\307\306\360\075\154\374\034\015\230\020\141\236\021\242\042  
\327\012\362\221\172\153\071\016\057\060\303\066\111\237\340\351  
\017\002\104\120\067\224\125\175\352\237\366\073\272\224\245\114  
\351\274\076\121\264\350\312\222\066\124\155\134\045\050\332\335  
\255\024\375\323\356\342\042\005\353\320\362\267\150\022\327\132  
\212\101\032\306\222\245\132\073\143\105\117\277\341\072\167\042  
\057\134\277\106\371\132\003\205\023\102\137\312\336\123\327\142  
\265\246\065\004\302\107\377\231\375\204\337\134\316\351\136\200  
\050\101\362\175\347\036\220\330\117\166\076\202\074\015\374\245  
\003\372\173\032\331\105\036\140\332\304\216\371\374\053\311\173  
\225\305\052\377\252\211\337\202\061\017\162\377\014\047\327\012  
\036\126\000\120\036\014\220\301\226\265\330\024\205\273\247\015  
\026\301\370\007\044\033\272\205\241\032\005\011\200\272\225\143  
\311\072\354\045\237\177\235\272\244\107\025\233\104\160\361\152  
\113\326\070\136\103\363\030\176\120\156\351\132\050\346\145\346  
\167\033\072\375\035\276\003\046\243\333\324\341\273\176\226\047  
\053\035\356\244\373\332\045\124\023\003\336\071\306\303\037\115  
\220\354\217\033\112\322\034\355\205\225\070\120\171\106\326\301  
\220\120\061\251\134\232\156\035\365\063\126\213\247\231\322\362

```
\310\054\063\223\222\060\307\116\214\145\063\020\144\027\375\044
\027\226\321\215\302\072\152\053\353\023\213\104\362\041\363\112
\032\267\167\137\327\355\210\244\162\345\071\037\225\235\276\147
\301\160\021\075\273\364\370\111\267\343\046\227\072\237\322\137
\174\373\300\231\174\071\051\340\173\035\277\015\247\217\322\051
\064\156\044\025\313\336\220\136\277\032\304\146\352\302\346\272
\071\137\212\231\251\101\131\007\260\054\257
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certainly Root R1"

# Issuer: CN=Certainly Root R1,O=Certainly,C=US

# Serial Number:00:8e:0f:f9:4b:90:71:68:65:33:54:f4:d4:44:39:b7:e0

# Subject: CN=Certainly Root R1,O=Certainly,C=US

# Not

Valid Before: Thu Apr 01 00:00:00 2021

# Not Valid After : Sun Apr 01 00:00:00 2046

# Fingerprint (SHA-256):

77:B8:2C:D8:64:4C:43:05:F7:AC:C5:CB:15:6B:45:67:50:04:03:3D:51:C6:0C:62:02:A8:E0:C3:34:67:D3:A0

# Fingerprint (SHA1): A0:50:EE:0F:28:71:F4:27:B2:12:6D:6F:50:96:25:BA:CC:86:42:AF

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certainly Root R1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\240\120\356\017\050\161\364\047\262\022\155\157\120\226\045\272
\314\206\102\257
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\007\160\324\076\202\207\240\372\063\066\023\364\372\063\347\022
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145
\162\164\141\151\156\154\171\040\122\157\157\164\040\122\061
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\021\000\216\017\371\113\220\161\150\145\063\124\364\324\104
\071\267\340
```

END

CKA\_TRUST\_SERVER\_AUTH

CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Certainly Root E1"

#

# Issuer: CN=Certainly Root E1,O=Certainly,C=US

# Serial Number:06:25:33:b1:47:03:33:27:5c:f9:8d:9a:b9:bf:cc:f8

# Subject: CN=Certainly Root E1,O=Certainly,C=US

# Not Valid Before: Thu Apr 01 00:00:00 2021

# Not Valid After : Sun Apr 01 00:00:00 2046

# Fingerprint (SHA-256):

B4:58:5F:22:E4:AC:75:6A:4E:86:12:A1:36:1C:5D:9D:03:1A:93:FD:84:FE:BB:77:8F:A3:06:8B:0F:C4:2D:C2

# Fingerprint (SHA1): F9:E1:6D:DC:01:89:CF:D5:82:45:63:3E:C5:37:7D:C2:EB:93:6F:2B

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certainly Root E1"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE

CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\06\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151

\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145

\162\164\141\151\156\154\171\040\122\157\157\164\040\105\061

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\06\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151

\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145

\162\164\141\151\156\154\171\040\122\157\157\164\040\105\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\006\045\063\261\107\003\063\047\134\371\215\232\271\277

\314\370

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\001\367\060\202\001\175\240\003\002\001\002\002\020\006

\045\063\261\107\003\063\047\134\371\215\232\271\277\314\370\060

\012\006\010\052\206\110\316\075\004\003\003\060\075\061\013\060

\011\006\003\125\004\006\023\002\125\123\061\022\060\020\006\003

\125\004\012\023\011\103\145\162\164\141\151\156\154\171\061\032

\060\030\006\003\125\004\003\023\021\103\145\162\164\141\151\156

\154\171\040\122\157\157\164\040\105\061\060\036\027\015\062\061

\060\064\060\061\060\060\060\060\060\060\132\027\015\064\066\060

\064\060\061\060\060\060\060\060\060\132\060\075\061\013\060\011

```
\006\003\125\004\006\023\002\125\123\061\022\060\020\006\003\125
\004\012\023\011\103\145\162\164\141\151\156\154\171\061\032\060
\030\006\003\125\004\003\023\021\103\145\162\164\141\151\156\154
\171\040\122\157\157\164\040\105\061\060\166\060\020\006\007\052
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000
\004\336\157\370\177\034\337\355\371\107\207\206\261\244\300\212
\370\202\227\200\352\217\310\112\136\052\175\210\150\247\001\142
\024\221\044\172\134\236\243\027\175\212\206\041\064\030\120\033
\020\336\320\067\113\046\307\031\140\200\351\064\275\140\031\066
\100\326\051\207\011\074\221\172\366\274\023\043\335\131\116\004
\136\317\310\002\034\030\123\301\061\330\332\040\351\104\215\344
\166\243\102\060\100\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004
\024\363\050\030\313\144\165\356\051\052\353\355\256\043\130\070
\205\353\310\042\007\060\012\006\010\052\206\110\316\075\004\003
\003\003\150\000\060\145\002\061\000\261\216\132\040\303\262\031
\142\115\336\260\117\337\156\322\160\212\361\237\176\152\214\346
\272\336\203\151\312\151\263\251\005\265\226\222\027\207\302\322
\352\320\173\316\330\101\133\174\256\002\060\106\336\352\313\135
\232\354\062\302\145\026\260\114\060\134\060\363\332\116\163\206
\006\330\316\211\004\110\067\067\370\335\063\121\235\160\257\173
\125\330\001\056\175\005\144\016\206\270\221
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certainly Root E1"

# Issuer: CN=Certainly

Root E1,O=Certainly,C=US

# Serial Number:06:25:33:b1:47:03:33:27:5c:f9:8d:9a:b9:bf:cc:f8

# Subject: CN=Certainly Root E1,O=Certainly,C=US

# Not Valid Before: Thu Apr 01 00:00:00 2021

# Not Valid After : Sun Apr 01 00:00:00 2046

# Fingerprint (SHA-256):

B4:58:5F:22:E4:AC:75:6A:4E:86:12:A1:36:1C:5D:9D:03:1A:93:FD:84:FE:BB:77:8F:A3:06:8B:0F:C4:2D:C2

# Fingerprint (SHA1): F9:E1:6D:DC:01:89:CF:D5:82:45:63:3E:C5:37:7D:C2:EB:93:6F:2B

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certainly Root E1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\371\341\155\334\001\211\317\325\202\105\143\076\305\067\175\302
```

```
\353\223\157\053
```

END



```

CKA_CERT_MD5_HASH MULTILINE_OCTAL
\012\236\312\315\076\122\120\306\066\363\113\243\355\247\123\351
END
CKA_ISSUER MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145
\162\164\141\151\156\154\171\040\122\157\157\164\040\105\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\006\045\063\261\107\003\063\047\134\371\215\232\271\277
\314\370
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "E-Tugra Global Root CA RSA v3"
#
Issuer: CN=E-Tugra Global Root CA RSA v3,OU=E-Tugra Trust Center,O=E-Tugra EBG A.S.,L=Ankara,C=TR
Serial Number:0d:4d:c5:cd:16:22:95:96:08:7e:b8:0b:7f:15:06:34:fb:79:10:34
Subject: CN=E-Tugra Global Root CA RSA v3,OU=E-Tugra Trust Center,O=E-Tugra EBG
A.S.,L=Ankara,C=TR
Not Valid Before: Wed Mar 18 09:07:17 2020
Not Valid After : Sun Mar 12 09:07:17 2045
Fingerprint (SHA-256):
EF:66:B0:B1:0A:3C:DB:9F:2E:36:48:C7:6B:D2:AF:18:EA:D2:BF:E6:F1:17:65:5E:28:C4:06:0D:A1:A3:F4:C2
Fingerprint (SHA1):
E9:A8:5D:22:14:52:1C:5B:AA:0A:B4:BE:24:6A:23:8A:C9:BA:E2:A9
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "E-Tugra Global Root CA RSA v3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\122\123\101
\040\166\063

```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122  
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162  
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165  
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033  
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124  
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006  
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154  
\157\142\141\154\040\122\157\157\164\040\103\101\040\122\123\101  
\040\166\063

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\024\015\115\305\315\026\042\225\226\010\176\270\013\177\025  
\006\064\373\171\020\064

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\363\060\202\003\333\240\003\002\001\002\002\024\015  
\115\305\315\026\042\225\226\010\176\270\013\177\025\006\064\373  
\171\020\064\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\201\200\061\013\060\011\006\003\125\004\006\023\002  
\124\122\061\017\060\015\006\003\125\004\007\023\006\101\156\153  
\141\162\141\061\031\060\027\006\003\125\004\012\023\020\105\055  
\124\165\147\162\141\040\105\102\107\040\101\056\123\056\061\035  
\060\033\006\003\125\004\013\023\024\105\055\124\165\147\162\141  
\040\124\162\165\163\164\040\103\145\156\164\145\162\061\046\060  
\044\006\003\125\004\003\023\035\105\055\124\165\147\162\141\040  
\107\154\157\142\141\154\040\122\157\157\164\040\103\101\040\122  
\123\101\040\166\063\060\036\027\015\062\060\060\063\061\070\060  
\071\060\067\061\067\132\027\015\064\065\060\063\061\062\060\071  
\060\067\061\067\132\060\201\200\061\013\060\011\006\003\125\004  
\006\023\002\124\122\061\017\060\015\006\003\125\004\007\023\006  
\101\156\153\141\162\141\061\031\060\027\006\003\125\004\012\023  
\020\105\055\124\165\147\162\141\040\105\102\107\040\101\056\123  
\056\061\035\060\033\006\003\125\004\013\023\024\105\055\124\165  
\147\162\141\040\124\162\165\163\164\040\103\145\156\164\145\162  
\061\046\060\044\006\003\125\004\003\023\035\105\055\124\165\147  
\162\141\040\107\154\157\142\141\154\040\122\157\157\164\040\103  
\101\040\122\123\101\040\166\063\060\202\002\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000  
\060\202\002\012\002\202\002\001\000\242\146\360\211\267\162\173  
\356\011\311\143\322\323\103\335\136\303\246\204\070\112\361\215  
\201\273\024\275\107\350\100\027\363\075\303\170\105\162\246\056  
\220\336\232\072\324\040\161\312\274\237\035\113\227\012\307\061  
\272\076\327\376\045\251\052\216\066\364\321\057\307\267\251\135  
\063\334\060\160\370\100\154\113\262\246\061\141\321\064\074\075

\061\172\307\257\304\247\247\204\341\227\244\350\113\366\027\174  
\356\074\007\355\342\212\127\334\266\373\370\103\045\120\352\047  
\201\250\206\274\217\122\112\226\072\140\032\226\273\375\163\364  
\205\375\203\375\177\204\155\064\154\177\152\267\113\001\003\277  
\255\151\267\327\062\331\365\127\152\351\206\202\076\245\146\061  
\263\026\075\302\363\046\140\062\323\122\036\260\154\244\067\076  
\364\365\257\353\341\337\200\006\317\052\101\347\146\011\341\113  
\227\347\167\275\041\155\051\266\147\303\055\176\355\326\171\145  
\321\317\072\266\321\261\136\126\141\120\172\132\316\116\120\061  
\200\003\230\107\347\344\030\174\104\132\306\244\263\073\306\306  
\303\072\360\154\303\213\310\244\221\005\363\365\331\266\252\006  
\241\267\253\344\261\352\041\024\134\203\244\374\377\266\120\323  
\214\022\046\231\166\160\351\300\017\246\164\374\273\320\033\170  
\316\162\222\342\050\234\274\346\351\011\330\072\323\211\346\276  
\056\167\337\001\012\157\226\366\345\215\074\115\122\166\032\126  
\341\163\176\027\254\075\255\154\243\122\022\030\160\346\200\116  
\063\362\176\046\062\254\005\215\070\244\346\166\074\237\020\151  
\016\155\235\322\301\171\040\153\133\317\063\215\321\224\166\065  
\347\135\125\307\267\254\050\253\106\314\347\073\041\265\012\012  
\344\112\131\334\201\065\113\104\225\022\012\147\245\241\377\133  
\000\007\322\300\314\371\077\374\237\063\362\000\370\214\154\207  
\235\006\055\361\357\343\346\006\372\305\146\023\133\374\120\007  
\236\161\206\262\332\157\164\060\317\223\123\350\334\042\326\336  
\040\037\141\215\243\056\243\170\062\220\154\334\254\062\265\005  
\344\365\074\063\015\326\340\207\167\027\114\235\260\330\011\250  
\015\127\367\104\205\360\310\004\276\134\135\132\343\027\216\124  
\143\151\177\111\164\144\005\214\243\002\003\001\000\001\243\143  
\060\141\060\017\006\003\125\035\023\001\001\377\004\005\060\003  
\001\001\377\060\037\006\003\125\035\043\004\030\060\026\200\024  
\262\264\256\346\055\367\046\325\252\165\055\166\113\300\033\123  
\041\320\110\357\060\035\006\003\125\035\016\004\026\004\024\262  
\264\256\346\055\367\046\325\252\165\055\166\113\300\033\123\041  
\320\110\357\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\002\001\000\211\250\162\177\214\353\316\056\030  
\304\020\200\055\020\014\377\373\024\315\004\340\024\074\116\232  
\373\237\051\277\042\236\127\271\202\163\022\143\046\265\314\220  
\351\322\052\051\356\234\055\314\054\231\276\105\047\344\261\161  
\355\344\070\225\061\101\362\175\172\143\170\337\312\066\026\057  
\202\210\237\274\021\107\117\166\115\310\055\216\353\337\055\174  
\116\073\332\256\366\343\332\135\024\246\256\350\205\104\235\006  
\156\216\373\357\172\112\152\055\053\050\030\376\277\220\054\165  
\026\237\017\352\226\175\005\356\233\023\245\104\154\370\003\320  
\335\043\341\375\003\022\022\010\364\030\064\263\340\067\013\167  
\021\001\110\277\141\264\265\370\031\331\313\115\352\243\214\357  
\375\360\006\265\155\222\364\112\141\120\204\355\354\111\323\344  
\276\150\346\056\343\061\013\124\013\032\222\326\202\330\266\242  
\145\074\146\004\371\125\332\154\373\333\265\024\146\115\224\203

```
\073\315\036\246\053\262\376\167\100\206\253\347\337\012\311\375
\366\335\207\126\030\330\260\054\125\140\226\372\010\176\122\220
\365\113\246\056\207\174\313\040\333\006\076\240\135\003\167\175
\242\074\023\033\051\242\023\125\240\075\024\042\257\157\270\320
\232\033\162\335\005\001\215\206\140\277\244\147\356\265\245\015
\321\177\346\032\053\142\146\303\007\272\347\240\110\034\070\303
\351\105\373\247\177\374\355\002\150\032\312\167\022\167\246\000
\125\050\024\354\326\307\022\242\033\145\102\351\221\350\313\076
\207\211\124\135\331\257\235\227\234\151\347\012\377\017\132\170
\213\143\052\114\175\107\224\077\336\113\351\123\320\060\361\305
\366\236\111\337\073\240\221\243\243\376\315\130\314\352\337\257
\157\050\073\240\151\233\217\354\254\256\053\124\235\233\004\261
\107\040\257\226\022\076\143\224\035\004\347\056\273\206\307\014
\232\210\277\166\107\357\367\260\013\227\146\322\104\317\140\122
\007\341\325\054\112\072\047\141\167\312\327\217\347\207\016\060
\377\014\273\004\342\141\303\242\310\227\141\216\264\060\152\074
\155\302\007\137\112\163\057\077\371\026\212\001\146\357\272\221
\312\122\127\173\256\324\346\017\335\013\172\177\213\236\046\040
\317\073\357\201\161\203\131
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "E-Tugra Global Root CA RSA v3"

# Issuer: CN=E-Tugra

Global Root CA RSA v3,OU=E-Tugra Trust Center,O=E-Tugra EBG A.S.,L=Ankara,C=TR

# Serial Number:0d:4d:c5:cd:16:22:95:96:08:7e:b8:0b:7f:15:06:34:fb:79:10:34

# Subject: CN=E-Tugra Global Root CA RSA v3,OU=E-Tugra Trust Center,O=E-Tugra EBG A.S.,L=Ankara,C=TR

# Not Valid Before: Wed Mar 18 09:07:17 2020

# Not Valid After : Sun Mar 12 09:07:17 2045

# Fingerprint (SHA-256):

EF:66:B0:B1:0A:3C:DB:9F:2E:36:48:C7:6B:D2:AF:18:EA:D2:BF:E6:F1:17:65:5E:28:C4:06:0D:A1:A3:F4:C2

# Fingerprint (SHA1): E9:A8:5D:22:14:52:1C:5B:AA:0A:B4:BE:24:6A:23:8A:C9:BA:E2:A9

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "E-Tugra Global Root CA RSA v3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\351\250\135\042\024\122\034\133\252\012\264\276\044\152\043\212
\311\272\342\251
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\042\276\020\366\302\370\003\210\163\137\063\051\107\050\107\244
```

END

CKA\_ISSUER MULTILINE\_OCTAL  
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122  
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162  
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165  
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033  
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124  
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006  
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154  
\157\142\141\154\040\122\157\157\164\040\103\101\040\122\123\101  
\040\166\063

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\024\015\115\305\315\026\042\225\226\010\176\270\013\177\025  
\006\064\373\171\020\064

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "E-Tugra Global Root CA ECC v3"

#

# Issuer: CN=E-Tugra Global Root CA ECC v3,OU=E-Tugra Trust Center,O=E-Tugra EBG  
A.S.,L=Ankara,C=TR

# Serial Number:26:46:19:77:31:e1:4f:6f:28:36:de:39:51:86:e6:d4:97:88:22:c1

# Subject: CN=E-Tugra Global Root CA ECC v3,OU=E-Tugra Trust Center,O=E-Tugra EBG  
A.S.,L=Ankara,C=TR

# Not Valid Before: Wed Mar 18 09:46:58 2020

# Not Valid After : Sun Mar 12 09:46:58 2045

# Fingerprint (SHA-256):

87:3F:46:85:FA:7F:56:36:25:25:2E:6D:36:BC:D7:F1:6F:C2:49:51:F2:64:E4:7E:1B:95:4F:49:08:CD:CA:13

# Fingerprint (SHA1): 8A:2F:AF:57:53:B1:B0:E6:A1:04:EC:5B:6A:69:71:6D:F6:1C:E2:84

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "E-Tugra Global Root CA ECC v3"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122  
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162  
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165  
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033  
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124  
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006  
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154

```
\157\142\141\154\040\122\157\157\164\040\103\101\040\105\103\103
\040\166\063
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\105\103\103
\040\166\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\046\106\031\167\061\341\117\157\050\066\336\071\121\206
\346\324\227\210\042\301
END
CKA_VALUE
MULTILINE_OCTAL
\060\202\002\245\060\202\002\052\240\003\002\001\002\002\024\046
\106\031\167\061\341\117\157\050\066\336\071\121\206\346\324\227
\210\042\301\060\012\006\010\052\206\110\316\075\004\003\003\060
\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122\061
\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162\141
\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165\147
\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033\006
\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124\162
\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006\003
\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154\157
\142\141\154\040\122\157\157\164\040\103\101\040\105\103\103\040
\166\063\060\036\027\015\062\060\060\063\061\070\060\071\064\066
\065\070\132\027\015\064\065\060\063\061\062\060\071\064\066\065
\070\132\060\201\200\061\013\060\011\006\003\125\004\006\023\002
\124\122\061\017\060\015\006\003\125\004\007\023\006\101\156\153
\141\162\141\061\031\060\027\006\003\125\004\012\023\020\105\055
\124\165\147\162\141\040\105\102\107\040\101\056\123\056\061\035
\060\033\006\003\125\004\013\023\024\105\055\124\165\147\162\141
\040\124\162\165\163\164\040\103\145\156\164\145\162\061\046\060
\044\006\003\125\004\003\023\035\105\055\124\165\147\162\141\040
\107\154\157\142\141\154\040\122\157\157\164\040\103\101\040\105
\103\103\040\166\063\060\166\060\020\006\007\052\206\110\316\075
\002\001\006\005\053\201\004\000\042\003\142\000\004\216\230\051
\277\307\020\036\047\333\253\003\314\050\054\330\136\110\031\020
\051\314\313\131\201\314\214\270\222\027\211\203\052\222\366\303
\244\035\114\142\325\237\326\240\106\334\034\274\166\301\343\107
```

```
\320\133\023\332\347\245\263\146\110\347\041\232\112\117\206\012
\175\154\352\115\062\200\012\262\172\011\233\151\113\230\201\342
\056\354\002\160\226\037\375\365\106\316\312\334\202\243\143\060
\141\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\037\006\003\125\035\043\004\030\060\026\200\024\377
\202\061\162\076\371\304\146\154\255\070\236\321\260\121\210\245
\220\314\365\060\035\006\003\125\035\016\004\026\004\024\377\202
\061\162\076\371\304\146\154\255\070\236\321\260\121\210\245\220
\314\365\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\006\060\012\006\010\052\206\110\316\075\004\003\003\003\151
\000\060\146\002\061\000\346\005\130\151\141\345\055\312\015\313
\361\031\010\275\326\375\121\222\032\176\143\124\004\220\221\232
\065\221\071\231\372\007\251\146\223\272\310\150\324\212\077\372
\355\156\026\002\047\267\002\061\000\335\132\027\053\166\035\145
\102\226\246\254\135\212\171\126\330\212\033\337\232\336\137\307
\120\217\261\133\161\014\046\337\152\100\000\354\063\221\041\161
\276\150\344\043\244\331\255\241\067
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "E-Tugra Global Root CA ECC v3"

# Issuer: CN=E-Tugra Global

Root CA ECC v3,OU=E-Tugra Trust Center,O=E-Tugra EBG A.S.,L=Ankara,C=TR

# Serial Number:26:46:19:77:31:e1:4f:6f:28:36:de:39:51:86:e6:d4:97:88:22:c1

# Subject: CN=E-Tugra Global Root CA ECC v3,OU=E-Tugra Trust Center,O=E-Tugra EBG  
A.S.,L=Ankara,C=TR

# Not Valid Before: Wed Mar 18 09:46:58 2020

# Not Valid After : Sun Mar 12 09:46:58 2045

# Fingerprint (SHA-256):

87:3F:46:85:FA:7F:56:36:25:25:2E:6D:36:BC:D7:F1:6F:C2:49:51:F2:64:E4:7E:1B:95:4F:49:08:CD:CA:13

# Fingerprint (SHA1): 8A:2F:AF:57:53:B1:B0:E6:A1:04:EC:5B:6A:69:71:6D:F6:1C:E2:84

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "E-Tugra Global Root CA ECC v3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\212\057\257\127\123\261\260\346\241\004\354\133\152\151\161\155
\366\034\342\204
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\106\274\201\273\361\265\036\367\113\226\274\024\342\347\047\144
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
```

```
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\105\103\103
\040\166\063
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\024\046\106\031\167\061\341\117\157\050\066\336\071\121\206
\346\324\227\210\042\301
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "DIGITALSIGN GLOBAL ROOT RSA CA"

#

# Issuer: CN=DIGITALSIGN GLOBAL ROOT RSA CA,O=DigitalSign Certificadora Digital,C=PT

# Serial

Number:5d:59:c8:ca:ab:09:57:f5:e6:b5:da:29:94:04:6a:ff:c5:d4:95:87

# Subject: CN=DIGITALSIGN GLOBAL ROOT RSA CA,O=DigitalSign Certificadora Digital,C=PT

# Not Valid Before: Thu Jan 21 10:50:34 2021

# Not Valid After : Mon Jan 15 10:50:34 2046

# Fingerprint (SHA-256):

82:BD:5D:85:1A:CF:7F:6E:1B:A7:BF:CB:C5:30:30:D0:E7:BC:3C:21:DF:77:2D:85:8C:AB:41:D1:99:BD:F5:95

# Fingerprint (SHA1): B9:82:07:97:AE:52:A5:68:6F:46:07:DF:FD:03:72:3D:92:86:88:2D

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DIGITALSIGN GLOBAL ROOT RSA CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\142\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\047\060\045\006
\003\125\004\003\014\036\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\122\123
\101\040\103\101
```

END

CKA\_ID



UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\142\061\013\060\011\006\003\125\004\006\023\002\120\124\061  
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141  
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144  
\157\162\141\040\104\151\147\151\164\141\154\061\047\060\045\006  
\003\125\004\003\014\036\104\111\107\111\124\101\114\123\111\107  
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\122\123  
\101\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\024\135\131\310\312\253\011\127\365\346\265\332\051\224\004  
\152\377\305\324\225\207

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\265\060\202\003\235\240\003\002\001\002\002\024\135  
\131\310\312\253\011\127\365\346\265\332\051\224\004\152\377\305  
\324\225\207\060\015\006\011\052\206\110\206\367\015\001\001\015  
\005\000\060\142\061\013\060\011\006\003\125\004\006\023\002\120  
\124\061\052\060\050\006\003\125\004\012\014\041\104\151\147\151  
\164\141\154\123\151\147\156\040\103\145\162\164\151\146\151\143  
\141\144\157\162\141\040\104\151\147\151\164\141\154\061\047\060  
\045\006\003\125\004\003\014\036\104\111\107\111\124\101\114\123  
\111\107\116\040\107\114\117\102\101\114\040\122\117\117\124\040  
\122\123\101\040\103\101\060\036\027\015\062\061\060\061\062\061  
\061\060\065\060\063\064\132\027\015\064\066\060\061\061\065\061  
\060\065\060\063\064\132\060\142\061\013\060\011\006\003\125\004  
\006\023\002\120\124\061\052\060\050\006\003\125\004\012\014\041  
\104\151\147\151\164\141\154\123\151\147\156\040\103\145\162\164  
\151\146\151\143\141\144\157\162\141\040\104\151\147\151\164\141  
\154\061\047\060\045\006\003\125\004\003\014\036\104\111\107\111  
\124\101\114\123\111\107\116\040\107\114\117\102\101\114\040\122  
\117\117\124\040\122\123\101\040\103\101\060\202\002\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002  
\017\000\060\202\002\012\002\202\002\001\000\310\207\266\070\323  
\034\360\336\022\370\203\307\304\212\342\211\270\264\042\172\170  
\370\014\146\121\150\166\067\012\325\117\302\132\010\270\026\134  
\367\162\001\011\067\204\201\052\124\153\327\222\320\154\372\250  
\247\103\022\064\353\016\333\067\017\051\376\212\061\121\102\350  
\113\234\220\250\310\054\021\323\375\240\051\176\316\336\224\366  
\202\340\130\264\116\105\045\361\042\362\075\323\017\173\124\032  
\334\062\266\326\121\116\176\101\264\127\270\054\306\271\016\056  
\312\127\361\325\310\323\130\347\245\351\102\021\256\323\040\045  
\224\151\327\217\312\242\015\303\323\237\007\150\077\025\322\147  
\056\123\375\166\202\233\013\163\251\051\015\236\021\223\024\010  
\230\354\236\124\022\112\126\242\006\025\354\153\154\056\222\140  
\056\206\015\256\202\037\121\115\343\262\007\327\020\031\127\042  
\366\251\151\104\204\363\331\075\240\006\277\314\210\176\177\365

\316\133\245\302\052\152\164\102\352\157\246\377\371\150\261\320  
\137\275\221\322\125\157\063\127\114\036\235\344\342\213\301\205  
\145\240\340\152\234\000\000\210\222\335\130\010\026\362\160\061  
\250\034\341\336\275\116\161\351\326\276\176\265\241\132\303\115  
\367\277\233\275\224\244\375\365\252\123\223\106\311\046\001\004  
\160\304\240\161\272\316\045\146\373\221\176\125\160\356\111\012  
\115\142\177\302\120\232\162\362\030\147\235\351\105\250\064\204  
\350\370\201\366\321\132\042\036\007\117\073\263\177\335\021\245  
\163\334\276\251\031\072\151\251\155\033\062\342\211\252\245\047  
\013\132\176\164\342\017\144\071\135\176\134\271\301\027\374\307  
\215\136\311\354\044\355\322\362\077\172\204\105\067\002\276\076  
\153\131\304\346\133\026\155\300\252\236\252\265\131\056\054\160  
\125\234\314\231\226\230\044\124\321\216\332\312\264\021\264\267  
\160\103\037\157\220\013\040\240\250\166\023\145\333\333\043\132  
\165\113\241\013\061\167\012\356\175\150\141\032\023\214\352\121  
\176\134\126\243\127\114\135\241\353\023\145\277\124\024\314\363  
\356\334\327\354\074\227\362\170\126\270\337\162\134\160\374\316  
\006\335\237\322\007\061\357\347\122\221\236\315\272\327\300\030  
\104\007\061\145\111\062\151\023\112\353\217\002\003\001\000\001  
\243\143\060\141\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\037\006\003\125\035\043\004\030\060\026  
\200\024\265\066\274\074\214\032\253\054\366\131\031\055\203\024  
\332\223\045\025\326\206\060\035\006\003\125\035\016\004\026\004  
\024\265\066\274\074\214\032\253\054\366\131\031\055\203\024\332  
\223\045\025\326\206\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\006\060\015\006\011\052\206\110\206\367\015\001  
\001\015\005\000\003\202\002\001\000\024\373\061\045\070\061\370  
\312\010\262\043\166\070\255\370\323\131\365\314\264\127\045\341  
\104\276\176\374\026\354\256\372\046\237\117\147\026\112\126\360  
\375\355\307\031\001\064\216\220\132\055\326\200\134\354\161\322  
\201\045\202\036\000\161\337\232\321\325\035\042\273\321\245\363  
\142\017\264\353\334\044\163\376\246\126\315\232\024\305\004\065  
\026\061\242\007\353\245\000\342\266\370\137\162\375\077\141\111  
\216\336\176\115\070\327\172\036\164\067\154\121\334\276\000\004  
\270\070\024\363\040\301\355\233\247\043\375\015\102\204\035\177  
\362\163\303\320\170\143\361\237\354\327\133\351\361\276\154\240  
\113\003\236\215\151\341\024\332\210\020\201\043\123\377\332\124  
\053\013\306\271\226\225\004\030\106\363\173\250\227\330\133\150  
\244\344\070\034\016\105\345\230\323\011\256\232\136\354\263\171  
\015\071\162\362\364\224\235\016\236\140\042\346\250\366\114\205  
\315\007\202\072\150\071\315\075\137\343\070\364\266\257\073\153  
\112\237\140\121\105\242\100\002\345\252\014\343\076\321\170\324  
\242\164\234\046\272\005\232\050\160\112\076\246\013\320\035\111  
\360\272\370\256\101\020\176\244\007\022\275\250\317\051\075\127  
\273\307\361\103\107\000\076\256\160\030\132\040\173\011\313\072  
\072\160\200\345\114\140\230\301\025\301\035\112\367\310\360\233  
\341\162\255\347\135\150\130\013\004\261\214\274\237\267\373\156  
\213\133\004\125\373\353\043\125\327\170\120\332\045\313\276\047

```
\066\273\044\032\171\034\121\321\376\023\273\377\170\054\334\244
\276\057\366\305\113\123\317\247\114\231\136\160\254\131\210\004
\256\144\004\277\173\246\172\115\323\350\167\275\241\176\120\025
\363\357\111\060\205\115\041\127\252\333\054\165\227\255\201\001
\207\242\261\160\235\036\006\132\003\140\261\077\246\155\202\054
\324\024\261\201\245\350\075\210\035\264\162\054\130\067\212\216
\070\224\270\163\335\251\340\270\366\167\242\263\174\130\336\256
\151\072\265\213\245\032\273\362\330\164\006\234\375\142\163\040
\041\166\261\176\160\236\031\324\353\027\142\031\070\231\315\066
\053\107\376\061\313\337\271\344\254\010\323\330\246\353\324\236
\176\113\144\244\125\135\053\027\311
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DIGITALSIGN GLOBAL ROOT RSA CA"

# Issuer: CN=DIGITALSIGN GLOBAL ROOT RSA CA,O=DigitalSign Certificadora Digital,C=PT

# Serial Number:5d:59:c8:ca:ab:09:57:f5:e6:b5:da:29:94:04:6a:ff:c5:d4:95:87

#

Subject: CN=DIGITALSIGN GLOBAL ROOT RSA CA,O=DigitalSign Certificadora Digital,C=PT

# Not Valid Before: Thu Jan 21 10:50:34 2021

# Not Valid After : Mon Jan 15 10:50:34 2046

# Fingerprint (SHA-256):

82:BD:5D:85:1A:CF:7F:6E:1B:A7:BF:CB:C5:30:30:D0:E7:BC:3C:21:DF:77:2D:85:8C:AB:41:D1:99:BD:F5:95

# Fingerprint (SHA1): B9:82:07:97:AE:52:A5:68:6F:46:07:DF:FD:03:72:3D:92:86:88:2D

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DIGITALSIGN GLOBAL ROOT RSA CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\271\202\007\227\256\122\245\150\157\106\007\337\375\003\162\075
\222\206\210\055
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\033\032\275\032\171\306\333\264\355\263\207\314\251\323\116\170
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\142\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\047\060\045\006
\003\125\004\003\014\036\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\122\123
\101\040\103\101
```

END

```

CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\024\135\131\310\312\253\011\127\365\346\265\332\051\224\004
\152\377\305\324\225\207
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DIGITALSIGN GLOBAL ROOT ECDSA CA"
#
Issuer: CN=DIGITALSIGN GLOBAL ROOT ECDSA CA,O=DigitalSign Certificadora Digital,C=PT
Serial Number:36:2d:8f:72:88:a2:28:27:e4:00:ff:24:c6:2d:e4:eb:fa:9d:b6:e1
Subject: CN=DIGITALSIGN GLOBAL ROOT ECDSA CA,O=DigitalSign Certificadora Digital,C=PT
Not Valid Before: Thu Jan 21 11:07:50 2021
Not Valid After : Mon Jan 15 11:07:50 2046
Fingerprint
(SHA-256):
26:1D:71:14:AE:5F:8F:F2:D8:C7:20:9A:9D:E4:28:9E:6A:FC:9D:71:70:23:D8:54:50:90:91:99:F1:85:7C:FE
Fingerprint (SHA1): 67:A8:08:EB:8F:88:F5:80:6C:05:45:1B:17:F3:D7:00:2F:D2:4A:8A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DIGITALSIGN GLOBAL ROOT ECDSA CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\144\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\051\060\047\006
\003\125\004\003\014\040\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\105\103
\104\123\101\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\144\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\051\060\047\006
\003\125\004\003\014\040\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\105\103
\104\123\101\040\103\101
END
CKA_SERIAL_NUMBER

```

MULTILINE\_OCTAL

\002\024\066\055\217\162\210\242\050\047\344\000\377\044\306\055  
\344\353\372\235\266\341

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\152\060\202\001\360\240\003\002\001\002\002\024\066  
\055\217\162\210\242\050\047\344\000\377\044\306\055\344\353\372  
\235\266\341\060\012\006\010\052\206\110\316\075\004\003\003\060  
\144\061\013\060\011\006\003\125\004\006\023\002\120\124\061\052  
\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141\154  
\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144\157  
\162\141\040\104\151\147\151\164\141\154\061\051\060\047\006\003  
\125\004\003\014\040\104\111\107\111\124\101\114\123\111\107\116  
\040\107\114\117\102\101\114\040\122\117\117\124\040\105\103\104  
\123\101\040\103\101\060\036\027\015\062\061\060\061\062\061\061  
\061\060\067\065\060\132\027\015\064\066\060\061\061\065\061\061  
\060\067\065\060\132\060\144\061\013\060\011\006\003\125\004\006  
\023\002\120\124\061\052\060\050\006\003\125\004\012\014\041\104  
\151\147\151\164\141\154\123\151\147\156\040\103\145\162\164\151  
\146\151\143\141\144\157\162\141\040\104\151\147\151\164\141\154  
\061\051\060\047\006\003\125\004\003\014\040\104\111\107\111\124  
\101\114\123\111\107\116\040\107\114\117\102\101\114\040\122\117  
\117\124\040\105\103\104\123\101\040\103\101\060\166\060\020\006  
\007\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003  
\142\000\004\156\013\243\253\063\115\034\352\112\350\374\004\215  
\024\240\175\360\010\054\137\203\253\223\321\322\173\272\327\111  
\175\217\354\022\120\137\324\271\313\345\360\371\063\143\037\311  
\127\354\100\330\021\013\227\350\122\026\314\051\216\364\006\206  
\036\070\334\075\127\304\356\252\275\310\124\004\046\132\047\023  
\121\107\075\037\037\032\216\250\225\244\063\320\314\107\314\155  
\270\374\110\243\143\060\141\060\017\006\003\125\035\023\001\001  
\377\004\005\060\003\001\001\377\060\037\006\003\125\035\043\004  
\030\060\026\200\024\316\257\112\213\032\165\342\361\070\347\002  
\360\026\255\136\352\144\325\173\264\060\035\006\003\125\035\016  
\004\026\004\024\316\257\112\213\032\165\342\361\070\347\002\360  
\026\255\136\352\144\325\173\264\060\016\006\003\125\035\017\001  
\001\377\004\004\003\002\001\006\060\012\006\010\052\206\110\316  
\075\004\003\003\003\150\000\060\145\002\060\012\210\304\161\234  
\104\003\115\215\264\307\274\250\256\331\060\047\065\152\153\026  
\143\327\374\347\131\341\247\211\033\114\061\232\043\125\104\346  
\363\103\041\325\107\047\157\155\127\001\252\002\061\000\373\262  
\352\342\227\177\121\265\237\110\353\274\157\065\211\250\144\160  
\253\127\166\315\300\306\024\140\312\177\342\202\000\163\367\314  
\065\352\216\044\233\345\010\131\307\004\214\163\170\376

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DIGITALSIGN GLOBAL ROOT ECDSA CA"

# Issuer: CN=DIGITALSIGN GLOBAL ROOT ECDSA CA,O=DigitalSign Certificadora Digital,C=PT

# Serial Number:36:2d:8f:72:88:a2:28:27:e4:00:ff:24:c6:2d:e4:eb:fa:9d:b6:e1

# Subject: CN=DIGITALSIGN GLOBAL ROOT ECDSA CA,O=DigitalSign Certificadora Digital,C=PT

# Not Valid Before: Thu Jan 21 11:07:50 2021

# Not Valid After : Mon Jan 15 11:07:50 2046

# Fingerprint (SHA-256):

26:1D:71:14:AE:5F:8F:F2:D8:C7:20:9A:9D:E4:28:9E:6A:FC:9D:71:70:23:D8:54:50:90:91:99:F1:85:7C:FE

# Fingerprint (SHA1): 67:A8:08:EB:8F:88:F5:80:6C:05:45:1B:17:F3:D7:00:2F:D2:4A:8A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DIGITALSIGN GLOBAL ROOT ECDSA CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\147\250\010\353\217\210\365\200\154\005\105\033\027\363\327\000  
\057\322\112\212

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

\252\055\241\316\377\041\302\210\313\132\036\214\341\311\222\217  
END

CKA\_ISSUER MULTILINE\_OCTAL

\060\144\061\013\060\011\006\003\125\004\006\023\002\120\124\061  
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141  
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144  
\157\162\141\040\104\151\147\151\164\141\154\061\051\060\047\006  
\003\125\004\003\014\040\104\111\107\111\124\101\114\123\111\107  
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\105\103  
\104\123\101\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\024\066\055\217\162\210\242\050\047\344\000\377\044\306\055  
\344\353\372\235\266\341

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Security Communication RootCA3"

#

#

Issuer: CN=Security Communication RootCA3,O="SECOM Trust Systems CO.,LTD.",C=JP

# Serial Number:00:e1:7c:37:40:fd:1b:fe:67

```
Subject: CN=Security Communication RootCA3,O="SECOM Trust Systems CO.,LTD.",C=JP
Not Valid Before: Thu Jun 16 06:17:16 2016
Not Valid After : Mon Jan 18 06:17:16 2038
Fingerprint (SHA-256):
24:A5:5C:2A:B0:51:44:2D:06:17:76:65:41:23:9A:4A:D0:32:D7:C5:51:75:AA:34:FF:DE:2F:BC:4F:5C:52:94
Fingerprint (SHA1): C3:03:C8:22:74:92:E5:61:A2:9C:5F:79:91:2B:1E:44:13:91:30:3A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication RootCA3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\003\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\063
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\003\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\341\174\067\100\375\033\376\147
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\177\060\202\003\147\240\003\002\001\002\002\011\000
\341\174\067\100\375\033\376\147\060\015\006\011\052\206\110\206
\367\015\001\001\014\005\000\060\135\061\013\060\011\006\003\125
\004\006\023\002\112\120\061\045\060\043\006\003\125\004\012\023
\034\123\105\103\117\115\040\124\162\165\163\164\040\123\171\163
\164\145\155\163\040\103\117\056\054\114\124\104\056\061\047\060
\045\006\003\125\004\003\023\036\123\145\143\165\162\151\164\171
\040\103\157\155\155\165\156\151\143\141\164\151\157\156\040\122
\157\157\164\103\101\063\060\036\027\015\061\066\060\066\061\066
\060\066\061\067\061\066\132\027\015\063\070\060\061\061\070\060
\066\061\067\061\066\132\060\135\061\013\060\011\006\003\125\004
\006\023\002\112\120\061\045\060\043\006\003\125\004\012\023\034
\123\105\103\117\115\040\124\162\165\163\164\040\123\171\163\164
\145\155\163\040\103\117\056\054\114\124\104\056\061\047\060\045
```

\006\003\125\004\003\023\036\123\145\143\165\162\151\164\171\040  
\103\157\155\155\165\156\151\143\141\164\151\157\156\040\122\157  
\157\164\103\101\063\060\202\002\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002  
\012\002\202\002\001\000\343\311\162\111\367\060\336\011\174\251  
\100\201\130\323\264\072\335\272\141\017\223\120\156\151\074\065  
\302\356\133\163\220\033\147\114\041\354\137\065\273\071\076\053  
\012\140\357\273\155\053\206\373\161\242\310\254\344\126\224\371  
\311\257\261\162\324\040\254\164\322\270\025\255\121\376\205\164  
\241\271\020\376\005\200\371\122\223\263\100\075\165\020\254\300  
\226\267\247\176\166\274\343\033\122\031\316\021\037\013\004\064  
\365\330\365\151\074\167\363\144\364\015\252\205\336\340\011\120  
\004\027\226\204\267\310\212\274\115\162\374\034\273\317\363\006  
\115\371\237\144\367\176\246\146\206\065\161\310\021\200\114\301  
\161\100\130\036\276\240\163\366\374\076\120\341\340\057\046\075  
\176\134\043\265\171\160\336\372\340\321\245\326\014\101\161\173  
\367\352\214\034\210\307\354\213\365\321\057\125\226\106\174\132  
\073\130\073\373\272\330\055\265\045\332\172\116\317\104\256\041  
\246\236\230\312\040\156\174\273\210\205\133\373\300\020\142\273  
\362\371\047\107\357\321\211\071\103\304\337\336\341\101\277\124  
\163\040\227\055\154\332\363\324\007\243\346\271\330\157\256\374  
\214\031\056\323\147\147\053\225\333\130\134\265\152\002\363\270  
\203\136\264\153\276\101\176\127\011\165\104\120\125\315\132\021  
\141\041\012\141\302\251\210\375\023\274\055\211\057\315\141\340  
\225\276\312\265\173\341\173\064\147\013\037\266\014\307\174\036  
\031\123\312\247\261\112\025\040\126\024\160\075\053\202\054\017  
\235\025\035\107\200\107\377\170\231\016\061\257\157\076\217\355  
\206\151\036\173\030\210\024\262\302\374\202\063\056\234\113\055  
\373\160\073\161\252\053\173\046\047\363\032\302\334\373\027\270  
\241\352\313\240\264\256\323\224\176\172\320\253\303\354\070\055  
\021\056\210\277\324\077\255\022\073\102\254\217\002\156\175\314  
\321\137\141\276\241\274\072\152\110\352\046\125\042\026\135\137  
\015\377\047\063\237\030\003\164\212\133\122\040\107\153\105\115  
\042\167\214\125\047\360\257\036\214\311\203\042\124\267\232\320  
\117\331\316\374\331\056\034\226\050\261\002\323\003\275\045\122  
\034\064\146\117\043\253\364\167\202\226\035\321\127\060\010\021  
\005\375\127\321\331\307\002\003\001\000\001\243\102\060\100\060  
\035\006\003\125\035\016\004\026\004\024\144\024\174\374\130\162  
\026\246\012\051\064\025\157\052\313\274\374\257\250\253\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\003\202  
\002\001\000\334\002\043\010\342\357\041\072\307\015\267\046\322  
\142\223\247\245\043\162\007\040\202\140\337\030\327\124\255\151  
\045\222\236\331\024\317\231\271\122\201\317\256\154\212\073\132  
\071\310\154\001\103\302\042\155\002\360\142\315\116\143\103\300  
\024\332\364\143\360\352\364\161\356\116\207\343\161\251\364\311  
\127\345\056\137\034\171\273\043\252\207\104\127\351\275\065\115



\101\273\113\050\243\230\262\033\331\013\027\007\345\367\352\235  
\365\166\327\277\304\266\201\130\377\310\377\144\151\142\171\255  
\156\016\037\177\356\035\151\345\267\162\161\263\376\245\001\065  
\224\124\053\300\122\155\217\125\304\311\322\270\313\312\064\010  
\121\205\240\365\274\264\027\130\352\012\134\172\275\143\306\072  
\057\377\226\111\031\204\352\147\330\004\261\141\364\000\133\112  
\267\234\161\067\031\205\171\277\201\260\307\023\016\166\161\076  
\072\200\006\256\006\026\247\215\265\302\304\313\377\100\245\134  
\215\245\311\072\355\162\201\312\134\230\074\322\064\003\167\010  
\375\360\051\131\135\041\010\307\140\277\244\161\173\270\331\036  
\202\276\011\257\145\157\050\253\277\113\265\356\076\010\107\047  
\240\017\157\017\213\077\254\225\030\363\271\016\334\147\125\156  
\142\236\106\016\321\004\170\312\162\256\166\331\245\370\262\337  
\210\011\141\213\357\044\116\321\131\077\132\324\075\311\223\074  
\053\144\365\201\015\026\226\367\222\303\376\061\157\350\052\062  
\164\016\364\114\230\112\030\016\060\124\325\305\353\274\305\025  
\236\350\231\041\353\047\053\011\012\333\361\346\160\030\126\273  
\014\344\276\371\350\020\244\023\222\270\034\340\333\147\035\123  
\003\244\042\247\334\135\222\020\074\352\377\374\033\020\032\303  
\330\320\234\235\145\313\320\053\047\061\003\036\066\341\075\166  
\165\014\377\105\046\271\335\121\274\043\307\137\330\330\207\020  
\100\022\015\075\070\067\347\104\074\030\300\123\011\144\217\377  
\325\232\246\174\160\056\163\125\041\350\337\377\203\271\035\076  
\062\036\326\246\175\054\361\146\351\134\035\247\243\316\136\045  
\062\053\343\225\254\052\007\316\264\050\170\206\074\055\246\235  
\115\322\164\060\335\144\121\025\333\203\203\121\327\257\375\063  
\235\115\146

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Security Communication RootCA3"

# Issuer: CN=Security Communication RootCA3,O="SECOM Trust Systems CO.,LTD.",C=JP

# Serial Number:00:e1:7c:37:40:fd:1b:fe:67

# Subject: CN=Security Communication RootCA3,O="SECOM Trust Systems CO.,LTD.",C=JP

# Not Valid Before: Thu Jun 16 06:17:16 2016

# Not Valid After : Mon Jan 18 06:17:16 2038

# Fingerprint (SHA-256):

24:A5:5C:2A:B0:51:44:2D:06:17:76:65:41:23:9A:4A:D0:32:D7:C5:51:75:AA:34:FF:DE:2F:BC:4F:5C:52:94

#

Fingerprint (SHA1): C3:03:C8:22:74:92:E5:61:A2:9C:5F:79:91:2B:1E:44:13:91:30:3A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Security Communication RootCA3"

```

CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\303\003\310\042\164\222\345\141\242\234\137\171\221\053\036\104
\023\221\060\072
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\034\232\026\377\236\134\340\115\212\024\001\364\065\135\051\046
END
CKA_ISSUER MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\003\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\341\174\067\100\375\033\376\147
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Security Communication ECC RootCA1"
#
Issuer: CN=Security Communication ECC RootCA1,O="SECOM Trust Systems CO.,LTD.",C=JP
Serial Number:00:d6:5d:9b:b3:78:81:2e:eb
Subject: CN=Security Communication ECC RootCA1,O="SECOM Trust Systems CO.,LTD.",C=JP
Not Valid Before: Thu Jun 16 05:15:28 2016
Not Valid After : Mon Jan 18 05:15:28 2038
Fingerprint (SHA-256):
E7:4F:BD:A5:5B:D5:64:C4:73:A3:6B:44:1A:A7:99:C8:A6:8E:07:74:40:E8:28:8B:9F:A1:E5:0E:4B:BA:CA:11
Fingerprint (SHA1): B8:0E:26:A9:BF:D2:B2:3B:C0:EF:46:C9:BA:C7:BB:F6:1D:0D:41:41
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication ECC RootCA1"
CKA_CERTIFICATE_TYPE
CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\053\060\051\006\003\125\004\003\023
\042\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156

```

```
\151\143\141\164\151\157\156\040\105\103\103\040\122\157\157\164
\103\101\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\053\060\051\006\003\125\004\003\023
\042\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\105\103\103\040\122\157\157\164
\103\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\326\135\233\263\170\201\056\353
END
CKA_VALUE
MULTILINE_OCTAL
\060\202\002\070\060\202\001\276\240\003\002\001\002\002\011\000
\326\135\233\263\170\201\056\353\060\012\006\010\052\206\110\316
\075\004\003\003\060\141\061\013\060\011\006\003\125\004\006\023
\002\112\120\061\045\060\043\006\003\125\004\012\023\034\123\105
\103\117\115\040\124\162\165\163\164\040\123\171\163\164\145\155
\163\040\103\117\056\054\114\124\104\056\061\053\060\051\006\003
\125\004\003\023\042\123\145\143\165\162\151\164\171\040\103\157
\155\155\165\156\151\143\141\164\151\157\156\040\105\103\103\040
\122\157\157\164\103\101\061\060\036\027\015\061\066\060\066\061
\066\060\065\061\065\062\070\132\027\015\063\070\060\061\061\070
\060\065\061\065\062\070\132\060\141\061\013\060\011\006\003\125
\004\006\023\002\112\120\061\045\060\043\006\003\125\004\012\023
\034\123\105\103\117\115\040\124\162\165\163\164\040\123\171\163
\164\145\155\163\040\103\117\056\054\114\124\104\056\061\053\060
\051\006\003\125\004\003\023\042\123\145\143\165\162\151\164\171
\040\103\157\155\155\165\156\151\143\141\164\151\157\156\040\105
\103\103\040\122\157\157\164\103\101\061\060\166\060\020\006\007
\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142
\000\004\244\245\157\140\003\003\303\275\061\364\323\027\234\053
\204\165\254\345\375\075\127\156\327\143\277\346\004\211\222\216
\201\234\343\351\107\156\312\220\022\310\023\340\247\235\367\145
\164\037\154\020\262\350\344\351\357\155\205\062\231\104\261\136
\375\314\166\020\330\133\275\242\306\371\326\102\344\127\166\334
\220\302\065\251\113\210\074\022\107\155\134\377\111\117\032\112
\120\261\243\102\060\100\060\035\006\003\125\035\016\004\026\004
\024\206\034\347\376\055\245\112\213\010\376\050\021\372\276\243
\146\370\140\131\057\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\012\006\010\052\206\110\316\075\004
\003\003\003\150\000\060\145\002\060\025\135\102\075\374\266\356
```

```
\367\073\261\066\350\236\366\304\106\050\111\063\320\130\103\052
\143\051\314\115\261\264\172\242\271\015\070\245\135\110\052\375
\313\262\163\135\243\210\010\307\014\002\061\000\300\253\055\016
\155\355\030\242\333\123\351\045\333\125\010\340\120\314\337\104
\141\026\202\253\111\260\262\201\354\163\207\170\264\114\262\142
\033\022\372\026\115\045\113\143\275\036\067\331
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Security Communication ECC RootCA1"

# Issuer: CN=Security Communication ECC RootCA1,O="SECOM Trust Systems CO.,LTD.",C=JP

# Serial Number:00:d6:5d:9b:b3:78:81:2e:eb

# Subject: CN=Security Communication ECC RootCA1,O="SECOM Trust Systems CO.,LTD.",C=JP

# Not Valid Before: Thu Jun 16 05:15:28 2016

# Not Valid After : Mon Jan 18 05:15:28 2038

# Fingerprint (SHA-256):

E7:4F:BD:A5:5B:D5:64:C4:73:A3:6B:44:1A:A7:99:C8:A6:8E:07:74:40:E8:28:8B:9F:A1:E5:0E:4B:BA:CA:11

# Fingerprint (SHA1):

B8:0E:26:A9:BF:D2:B2:3B:C0:EF:46:C9:BA:C7:BB:F6:1D:0D:41:41

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Security Communication ECC RootCA1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\270\016\046\251\277\322\262\073\300\357\106\311\272\307\273\366
\035\015\101\101
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\176\103\260\222\150\354\005\103\114\230\253\135\065\056\176\206
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\141\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\053\060\051\006\003\125\004\003\023
\042\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\105\103\103\040\122\157\157\164
\103\101\061
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\011\000\326\135\233\263\170\201\056\353
```

END

CKA\_TRUST\_SERVER\_AUTH

```

CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "BJCA Global Root CA1"
#
Issuer: CN=BJCA Global Root CA1,O=BEIJING CERTIFICATE AUTHORITY,C=CN
Serial Number:55:6f:65:e3:b4:d9:90:6a:1b:09:d1:6c:3e:c0:6c:20
Subject: CN=BJCA Global Root CA1,O=BEIJING CERTIFICATE AUTHORITY,C=CN
Not Valid Before: Thu Dec 19 03:16:17 2019
Not Valid After : Mon Dec 12 03:16:17 2044
Fingerprint (SHA-256):
F3:89:6F:88:FE:7C:0A:88:27:66:A7:FA:6A:D2:74:9F:B5:7A:7F:3E:98:FB:76:9C:1F:A7:B0:9C:2C:44:D5:AE
Fingerprint (SHA1): D5:EC:8D:7B:4C:BA:79:F4:E7:E8:CB:9D:6B:AE:77:83:10:03:21:6A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "BJCA Global Root CA1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\061
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\125\157\145\343\264\331\220\152\033\011\321\154\076\300
\154\040
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\164\060\202\003\134\240\003\002\001\002\002\020\125
\157\145\343\264\331\220\152\033\011\321\154\076\300\154\040\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\124

```

\061\013\060\011\006\003\125\004\006\023\002\103\116\061\046\060  
\044\006\003\125\004\012\014\035\102\105\111\112\111\116\107\040  
\103\105\122\124\111\106\111\103\101\124\105\040\101\125\124\110  
\117\122\111\124\131\061\035\060\033\006\003\125\004\003\014\024  
\102\112\103\101\040\107\154\157\142\141\154\040\122\157\157\164  
\040\103\101\061\060\036\027\015\061\071\061\062\061\071\060\063  
\061\066\061\067\132\027\015\064\064\061\062\061\062\060\063\061  
\066\061\067\132\060\124\061\013\060\011\006\003\125\004\006\023  
\002\103\116\061\046\060\044\006\003\125\004\012\014\035\102\105  
\111\112\111\116\107\040\103\105\122\124\111\106\111\103\101\124  
\105\040\101\125\124\110\117\122\111\124\131\061\035\060\033\006  
\003\125\004\003\014\024\102\112\103\101\040\107\154\157\142\141  
\154\040\122\157\157\164\040\103\101\061\060\202\002\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002  
\017\000\060\202\002\012\002\202\002\001\000\361\146\010\275\331  
\305\025\141\313\204\004\101\245\151\067\167\035\301\260\173\372  
\303\167\110\220\023\162\144\321\270\174\220\065\235\030\171\210  
\343\227\001\074\107\201\362\016\242\230\015\236\077\067\340\031  
\262\220\362\106\034\222\261\072\141\316\372\267\106\236\003\206  
\327\063\156\355\367\105\214\166\067\336\156\226\221\367\327\176  
\053\207\027\325\213\065\356\204\221\162\127\334\140\303\303\271  
\347\307\147\044\043\117\143\012\143\366\146\175\113\125\247\077  
\170\144\111\151\022\227\340\114\015\323\011\240\062\060\072\372  
\237\300\362\234\305\022\052\056\034\265\004\063\332\244\070\021  
\152\336\306\030\366\107\072\042\101\207\042\374\304\211\050\124  
\330\214\245\060\012\370\027\026\312\254\067\375\171\247\221\027  
\170\070\231\255\130\355\262\336\314\211\175\003\234\263\211\145  
\347\343\073\261\042\206\217\006\155\170\007\375\221\022\177\260  
\153\034\211\015\371\270\313\164\133\007\302\310\364\065\321\144  
\143\172\351\156\232\050\326\060\275\346\033\335\025\257\204\352  
\234\307\312\365\016\352\362\135\051\207\217\151\163\071\276\056  
\044\157\105\041\254\305\324\151\045\006\203\255\172\110\205\023  
\054\015\006\270\154\171\126\374\243\147\062\201\365\127\245\312  
\127\102\151\351\134\044\141\357\342\060\030\116\104\230\125\157  
\172\302\223\330\031\266\336\174\107\212\021\116\111\107\333\050  
\224\002\013\224\112\054\371\022\320\117\350\061\176\154\172\277  
\246\077\233\071\075\002\026\243\030\263\147\254\133\077\054\203  
\053\147\071\201\134\271\176\224\325\144\335\236\217\156\256\350  
\174\133\264\327\152\107\110\327\176\263\324\055\216\126\166\116  
\317\151\361\156\104\154\324\044\352\215\044\241\030\277\275\127  
\376\251\231\065\265\333\020\167\270\075\110\272\326\301\347\361  
\043\076\327\337\205\235\047\074\324\100\275\012\014\275\365\347  
\215\045\326\201\164\207\106\324\051\165\242\102\154\367\163\211  
\347\175\277\172\112\037\323\042\311\025\125\317\337\157\174\125  
\320\244\213\007\021\067\137\203\246\046\127\246\001\133\176\376  
\130\150\007\251\351\172\331\271\350\377\120\037\253\302\264\300  
\316\350\352\375\017\275\215\115\270\274\161\002\003\001\000\001  
\243\102\060\100\060\035\006\003\125\035\016\004\026\004\024\305

\357\355\314\330\215\041\306\110\344\343\327\024\056\247\026\223  
\345\230\001\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\015\006\011\052\206\110\206\367\015\001\001  
\013\005\000\003\202\002\001\000\122\202\254\041\064\037\043\362  
\242\330\371\270\257\067\066\040\211\321\067\003\326\151\237\270  
\141\020\272\242\061\230\131\107\350\321\015\045\036\025\101\014  
\340\052\125\325\127\122\313\370\344\307\151\243\035\115\161\002  
\136\137\041\105\140\110\134\011\216\111\020\301\004\334\251\142  
\153\002\360\103\310\116\235\070\111\164\311\062\160\124\155\301  
\107\374\216\264\066\236\324\234\275\335\040\326\123\311\030\251  
\265\126\271\166\213\225\147\146\356\275\230\376\256\357\276\156  
\373\140\366\375\131\306\052\033\077\043\112\224\044\060\047\310  
\211\274\353\104\044\232\313\075\276\117\325\172\316\216\027\313  
\142\301\331\336\036\016\172\377\103\206\064\122\274\141\077\074  
\137\273\331\166\264\123\274\227\263\376\212\114\022\056\053\363  
\327\316\341\242\377\335\173\160\373\073\241\115\244\143\002\375  
\070\227\225\077\005\160\240\153\337\142\201\103\213\264\131\015  
\112\214\124\234\305\273\201\237\315\175\245\357\013\045\036\072  
\040\333\034\374\037\230\147\002\012\324\163\104\023\333\121\204  
\032\125\003\126\340\000\176\164\006\377\070\304\162\035\323\250  
\077\150\061\135\323\011\307\056\214\133\143\340\350\334\036\322  
\354\141\036\362\336\345\357\366\231\166\140\055\036\224\162\161  
\306\013\052\062\307\222\116\325\106\327\035\371\251\031\012\310  
\372\225\316\155\043\230\252\013\070\255\232\126\015\157\215\361  
\061\000\210\301\027\234\315\031\066\065\376\125\123\240\340\074  
\063\137\226\136\342\062\351\337\063\273\006\112\251\330\204\163  
\316\167\322\306\254\161\341\134\243\035\014\273\012\337\137\342  
\243\161\330\332\067\132\240\170\053\364\324\175\353\166\355\362  
\141\160\245\145\232\323\211\064\030\253\373\162\076\327\264\075  
\171\134\330\037\241\063\173\331\202\120\014\223\027\252\154\334  
\302\202\273\002\127\066\257\230\047\052\071\120\341\260\211\365  
\045\227\176\107\150\020\264\354\163\312\263\227\321\044\334\366  
\142\240\050\323\265\243\270\144\267\210\142\102\317\235\123\315  
\231\276\144\150\217\117\036\022\110\367\322\051\303\230\050\312  
\362\062\013\223\214\051\117\074\140\062\315\005\226\141\354\362  
\257\376\263\160\054\056\246\362

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "BJCA Global Root CA1"

# Issuer: CN=BJCA Global Root CA1,O=BEIJING CERTIFICATE AUTHORITY,C=CN

# Serial Number:55:6f:65:e3:b4:d9:90:6a:1b:09:d1:6c:3e:c0:6c:20

# Subject: CN=BJCA Global Root CA1,O=BEIJING CERTIFICATE AUTHORITY,C=CN

# Not Valid Before: Thu Dec 19 03:16:17

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2019
Not Valid After : Mon Dec 12 03:16:17 2044
Fingerprint (SHA-256):
F3:89:6F:88:FE:7C:0A:88:27:66:A7:FA:6A:D2:74:9F:B5:7A:7F:3E:98:FB:76:9C:1F:A7:B0:9C:2C:44:D5:AE
Fingerprint (SHA1): D5:EC:8D:7B:4C:BA:79:F4:E7:E8:CB:9D:6B:AE:77:83:10:03:21:6A
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "BJCA Global Root CA1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\325\354\215\173\114\272\171\364\347\350\313\235\153\256\167\203
\020\003\041\152
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\102\062\231\166\103\063\066\044\065\007\202\233\050\371\320\220
END
CKA_ISSUER MULTILINE_OCTAL
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\125\157\145\343\264\331\220\152\033\011\321\154\076\300
\154\040
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "BJCA Global Root CA2"
#
Issuer: CN=BJCA Global Root CA2,O=BEIJING CERTIFICATE AUTHORITY,C=CN
Serial Number:2c:17:08:7d:64:2a:c0:fe:85:18:59:06:cf:b4:4a:eb
Subject: CN=BJCA Global Root CA2,O=BEIJING CERTIFICATE AUTHORITY,C=CN
Not Valid Before: Thu Dec 19 03:18:21 2019
Not Valid After : Mon Dec 12 03:18:21 2044
Fingerprint (SHA-256):
57:4D:F6:93:1E:27:80:39:66:7B:72:0A:FD:C1:60:0F:C2:7E:B6:6D:D3:09:29:79:FB:73:85:64:87:21:28:82
Fingerprint (SHA1): F4:27:86:EB:6E:B8:6D:88:31:67:02:FB:BA:66:A4:53:00:AA:7A:A6
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE

```



```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE
CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "BJCA Global Root CA2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\054\027\010\175\144\052\300\376\205\030\131\006\317\264
\112\353
END
CKA_VALUE
MULTILINE_OCTAL
\060\202\002\045\060\202\001\253\240\003\002\001\002\002\020\054
\027\010\175\144\052\300\376\205\030\131\006\317\264\112\353\060
\012\006\010\052\206\110\316\075\004\003\003\060\124\061\013\060
\011\006\003\125\004\006\023\002\103\116\061\046\060\044\006\003
\125\004\012\014\035\102\105\111\112\111\116\107\040\103\105\122
\124\111\106\111\103\101\124\105\040\101\125\124\110\117\122\111
\124\131\061\035\060\033\006\003\125\004\003\014\024\102\112\103
\101\040\107\154\157\142\141\154\040\122\157\157\164\040\103\101
\062\060\036\027\015\061\071\061\062\061\071\060\063\061\070\062
\061\132\027\015\064\064\061\062\061\062\060\063\061\070\062\061
\132\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116
\061\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111
\116\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101
\125\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004
\003\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122
\157\157\164\040\103\101\062\060\166\060\020\006\007\052\206\110
\316\075\002\001\006\005\053\201\004\000\042\003\142\000\004\235
\313\200\221\215\123\147\265\271\120\261\003\370\345\111\037\101
\042\011\260\121\122\130\326\053\064\217\305\022\106\024\305\213
\057\054\204\377\054\156\250\325\361\011\343\003\041\024\304\103
```

```
\075\174\301\054\304\113\152\112\315\351\207\340\175\366\042\276
\372\112\121\270\060\212\375\341\336\030\022\012\366\107\267\347
\027\277\047\212\324\101\114\226\074\140\226\301\375\025\034\243
\102\060\100\060\035\006\003\125\035\016\004\026\004\024\322\112
\261\121\177\006\360\321\202\037\116\156\137\253\203\374\110\324
\260\221\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\012\006\010\052\206\110\316\075\004\003\003\003
\150\000\060\145\002\060\032\274\133\327\376\251\322\124\016\112
\135\322\155\261\100\334\364\103\325\322\112\231\031\022\126\200
\367\203\064\341\065\116\110\155\004\017\127\061\060\060\055\261
\252\235\003\070\333\006\002\061\000\313\314\207\123\313\172\337
\040\121\163\220\300\250\133\141\320\305\120\071\375\205\376\301
\343\170\370\246\326\113\275\233\207\217\017\345\326\123\226\253
\074\310\100\332\141\367\123\243\367
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "BJCA Global Root CA2"

# Issuer: CN=BJCA Global Root CA2,O=BEIJING CERTIFICATE AUTHORITY,C=CN

# Serial Number:2c:17:08:7d:64:2a:c0:fe:85:18:59:06:cf:b4:4a:eb

# Subject: CN=BJCA Global Root CA2,O=BEIJING CERTIFICATE AUTHORITY,C=CN

# Not Valid Before: Thu Dec 19 03:18:21 2019

# Not Valid After : Mon Dec 12 03:18:21 2044

# Fingerprint (SHA-256):

57:4D:F6:93:1E:27:80:39:66:7B:72:0A:FD:C1:60:0F:C2:7E:B6:6D:D3:09:29:79:FB:73:85:64:87:21:28:82

# Fingerprint (SHA1): F4:27:86:EB:6E:B8:6D:88:31:67:02:FB:BA:66:A4:53:00:AA:7A:A6

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN

CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "BJCA Global Root CA2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\364\047\206\353\156\270\155\210\061\147\002\373\272\146\244\123
\000\252\172\246
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\136\012\366\107\137\246\024\350\021\001\225\077\115\001\353\074
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
```

\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157

\157\164\040\103\101\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\054\027\010\175\144\052\300\376\205\030\131\006\317\264

\112\353

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST

CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

Found in path(s):

\* /opt/cola/permits/1667253608\_1683577718.267003/0/ca-certificates-20230506-tar-bz2/ca-certificates-20230506/certdata.txt

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Found in path(s):

\* /opt/cola/permits/1667253608\_1683577718.267003/0/ca-certificates-20230506-tar-bz2/ca-certificates-20230506/mk-ca-bundle.pl

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/\* c\_rehash.c - Create hash symlinks for certificates

\* C implementation based on the original Perl and shell versions

\*

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\*/

Found in path(s):

\* /opt/cola/permits/1667253608\_1683577718.267003/0/ca-certificates-20230506-tar-bz2/ca-certificates-20230506/c\_rehash.c

## 1.75 apk-tools 2.14.0-r2

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# 1.76 alpine-baselayout 3.4.3-r1

## 1.76.1 Available under license :

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```
/*
 * Create mount directories in fstab
 *
 * Copyright(c) 2008 Natanael Copa <natanael.copa@gmail.com>
 * May be distributed under the terms of GPL-2
 *
 * usage: mkmntdirs [fstab]
 *
 */
```

Found in path(s):

```
*/opt/cola/permits/1675356458_1684887865.7744117/0/alpine-baselayout-master-zip/alpine-baselayout-master/src/mkmntdirs.c
```

# 1.77 ca-certificates-bundle 20230506-r0

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```

Found in path(s):

```
*/opt/cola/permits/1679450782_1685340861.071418/0/ca-certificates-20230506-tar-bz2/ca-certificates-20230506/mk-ca-bundle.pl
```

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```
/* c_rehash.c - Create hash symlinks for certificates
 * C implementation based on the original Perl and shell versions
 *
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 * All rights reserved.
 *
 * This software is licensed under the MIT License.
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 */
```

Found in path(s):

```
*/opt/cola/permits/1679450782_1685340861.071418/0/ca-certificates-20230506-tar-bz2/ca-certificates-20230506/c_rehash.c
```

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```
#
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file, You can obtain one at http://mozilla.org/MPL/2.0/.

#
certdata.txt
#
This file contains the object definitions for the certs and other
information "built into" NSS.
#
Object definitions:
#
Certificates
#
-- Attribute -- -- type -- -- value --
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 (varies)
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT DER+base64 (varies)
CKA_ID byte array (varies)
#
CKA_ISSUER DER+base64 (varies)
CKA_SERIAL_NUMBER DER+base64 (varies)
CKA_VALUE DER+base64 (varies)
CKA_NSS_EMAIL ASCII7 (unused here)
CKA_NSS_SERVER_DISTRUST_AFTER DER+base64 (varies)
CKA_NSS_EMAIL_DISTRUST_AFTER DER+base64 (varies)
#
Trust
#
-- Attribute -- -- type -- -- value --
CKA_CLASS CK_OBJECT_CLASS CKO_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 (varies)
CKA_ISSUER DER+base64 (varies)
CKA_SERIAL_NUMBER DER+base64 (varies)
CKA_CERT_HASH binary+base64 (varies)
CKA_EXPIRES CK_DATE
(not used here)
CKA_TRUST_DIGITAL_SIGNATURE CK_TRUST (varies)
```

```

CKA_TRUST_NON_REPUDIATION CK_TRUST (varies)
CKA_TRUST_KEY_ENCIPHERMENT CK_TRUST (varies)
CKA_TRUST_DATA_ENCIPHERMENT CK_TRUST (varies)
CKA_TRUST_KEY_AGREEMENT CK_TRUST (varies)
CKA_TRUST_KEY_CERT_SIGN CK_TRUST (varies)
CKA_TRUST_CRL_SIGN CK_TRUST (varies)
CKA_TRUST_SERVER_AUTH CK_TRUST (varies)
CKA_TRUST_CLIENT_AUTH CK_TRUST (varies)
CKA_TRUST_CODE_SIGNING CK_TRUST (varies)
CKA_TRUST_EMAIL_PROTECTION CK_TRUST (varies)
CKA_TRUST_IPSEC_END_SYSTEM CK_TRUST (varies)
CKA_TRUST_IPSEC_TUNNEL CK_TRUST (varies)
CKA_TRUST_IPSEC_USER CK_TRUST (varies)
CKA_TRUST_TIME_STAMPING CK_TRUST (varies)
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL (varies)
(other
trust attributes can be defined)
#

```

```

#
The object to tell NSS that this is a root list and we don't
have to go looking for others.
#

```

```

BEGINDATA
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_BUILTIN_ROOT_LIST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Mozilla Builtin Roots"

```

```

#
Certificate "GlobalSign Root CA"
#
Issuer: CN=GlobalSign Root CA,OU=Root CA,O=GlobalSign nv-sa,C=BE
Serial Number:04:00:00:00:00:01:15:4b:5a:c3:94
Subject: CN=GlobalSign Root CA,OU=Root CA,O=GlobalSign nv-sa,C=BE
Not Valid Before: Tue Sep 01 12:00:00 1998
Not Valid After : Fri Jan 28 12:00:00 2028
Fingerprint (SHA-256):
EB:D4:10:40:E4:BB:3E:C7:42:C9:E3:81:D3:1E:F2:A4:1A:48:B6:68:5C:96:E7:CE:F3:C1:DF:6C:D4:33:1C:99
Fingerprint (SHA1): B1:BC:96:8B:D4:F4:9D:62:2A:A8:9A:81:F2:15:01:52:A4:1D:82:9C
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign
Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

```

CKA\_SUBJECT MULTILINE\_OCTAL

\060\127\061\013\060\011\006\003\125\004\006\023\002\102\105\061  
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154  
\123\151\147\156\040\156\166\055\163\141\061\020\060\016\006\003  
\125\004\013\023\007\122\157\157\164\040\103\101\061\033\060\031  
\006\003\125\004\003\023\022\107\154\157\142\141\154\123\151\147  
\156\040\122\157\157\164\040\103\101

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\127\061\013\060\011\006\003\125\004\006\023\002\102\105\061  
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154  
\123\151\147\156\040\156\166\055\163\141\061\020\060\016\006\003  
\125\004\013\023\007\122\157\157\164\040\103\101\061\033\060\031  
\006\003\125\004\003\023\022\107\154\157\142\141\154\123\151\147  
\156\040\122\157\157\164\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\013\004\000\000\000\000\001\025\113\132\303\224

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\165\060\202\002\135\240\003\002\001\002\002\013\004  
\000\000\000\000\001\025\113\132\303\224\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\060\127\061\013\060\011\006  
\003\125\004\006\023\002\102\105\061\031\060\027\006\003\125\004  
\012\023\020\107\154\157\142\141\154\123\151\147\156\040\156\166  
\055\163\141\061\020\060\016\006\003\125\004\013\023\007\122\157  
\157\164\040\103\101\061\033\060\031\006\003\125\004\003\023\022  
\107\154\157\142\141\154\123\151\147\156\040\122\157\157\164\040  
\103\101\060\036\027\015\071\070\060\071\060\061\061\062\060\060  
\060\060\132\027\015\062\070\060\061\062\070\061\062\060\060\060  
\060\132\060\127\061\013\060\011\006\003\125\004\006\023\002\102  
\105\061\031\060\027\006\003\125\004\012\023\020\107\154\157\142  
\141\154\123\151\147\156\040\156\166\055\163\141\061\020\060\016  
\006\003\125\004\013\023\007\122\157\157\164\040\103\101\061\033  
\060\031\006\003\125\004\003\023\022\107\154\157\142\141\154\123  
\151\147\156\040\122\157\157\164\040\103\101\060\202\001\042\060  
\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202  
\001\017\000\060\202\001\012\002\202\001\001\000\332\016\346\231  
\215\316\243\343\117\212\176\373\361\213\203\045\153\352\110\037  
\361\052\260\271\225\021\004\275\360\143\321\342\147\146\317\034  
\335\317\033\110\053\356\215\211\216\232\257\051\200\145\253\351  
\307\055\022\313\253\034\114\160\007\241\075\012\060\315\025\215  
\117\370\335\324\214\120\025\034\357\120\356\304\056\367\374\351  
\122\362\221\175\340\155\325\065\060\216\136\103\163\362\101\351  
\325\152\343\262\211\072\126\071\070\157\006\074\210\151\133\052  
\115\305\247\124\270\154\211\314\233\371\074\312\345\375\211\365  
\022\074\222\170\226\326\334\164\156\223\104\141\321\215\307\106

\262\165\016\206\350\031\212\325\155\154\325\170\026\225\242\351  
\310\012\070\353\362\044\023\117\163\124\223\023\205\072\033\274  
\036\064\265\213\005\214\271\167\213\261\333\037\040\221\253\011  
\123\156\220\316\173\067\164\271\160\107\221\042\121\143\026\171  
\256\261\256\101\046\010\310\031\053\321\106\252\110\326\144\052  
\327\203\064\377\054\052\301\154\031\103\112\007\205\347\323\174  
\366\041\150\357\352\362\122\237\177\223\220\317\002\003\001\000  
\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004  
\024\140\173\146\032\105\015\227\312\211\120\057\175\004\315\064  
\250\377\374\375\113\060\015\006\011\052\206\110\206\367\015\001  
\001\005\005\000\003\202\001\001\000\326\163\347\174\117\166\320  
\215\277\354\272\242\276\064\305\050\062\265\174\374\154\234\054  
\053\275\011\236\123\277\153\136\252\021\110\266\345\010\243\263  
\312\075\141\115\323\106\011\263\076\303\240\343\143\125\033\362  
\272\357\255\071\341\103\271\070\243\346\057\212\046\073\357\240  
\120\126\371\306\012\375\070\315\304\013\160\121\224\227\230\004  
\337\303\137\224\325\025\311\024\101\234\304\135\165\144\025\015  
\377\125\060\354\206\217\377\015\357\054\271\143\106\366\252\374  
\337\274\151\375\056\022\110\144\232\340\225\360\246\357\051\217  
\001\261\025\265\014\035\245\376\151\054\151\044\170\036\263\247  
\034\161\142\356\312\310\227\254\027\135\212\302\370\107\206\156  
\052\304\126\061\225\320\147\211\205\053\371\154\246\135\106\235  
\014\252\202\344\231\121\335\160\267\333\126\075\141\344\152\341  
\134\326\366\376\075\336\101\314\007\256\143\122\277\123\123\364  
\053\351\307\375\266\367\202\137\205\322\101\030\333\201\263\004  
\034\305\037\244\200\157\025\040\311\336\014\210\012\035\326\146  
\125\342\374\110\311\051\046\151\340

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign Root CA"

# Issuer: CN=GlobalSign Root CA,OU=Root CA,O=GlobalSign nv-sa,C=BE

# Serial Number:04:00:00:00:00:01:15:4b:5a:c3:94

# Subject: CN=GlobalSign Root CA,OU=Root CA,O=GlobalSign nv-sa,C=BE

# Not Valid Before: Tue Sep 01 12:00:00 1998

#

Not Valid After : Fri Jan 28 12:00:00 2028

# Fingerprint (SHA-256):

EB:D4:10:40:E4:BB:3E:C7:42:C9:E3:81:D3:1E:F2:A4:1A:48:B6:68:5C:96:E7:CE:F3:C1:DF:6C:D4:33:1C:99

# Fingerprint (SHA1): B1:BC:96:8B:D4:F4:9D:62:2A:A8:9A:81:F2:15:01:52:A4:1D:82:9C

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

```

CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\261\274\226\213\324\364\235\142\052\250\232\201\362\025\001\122
\244\035\202\234
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\076\105\122\025\011\121\222\341\267\135\067\237\261\207\051\212
END
CKA_ISSUER MULTILINE_OCTAL
\060\127\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\020\060\016\006\003
\125\004\013\023\007\122\157\157\164\040\103\101\061\033\060\031
\006\003\125\004\003\023\022\107\154\157\142\141\154\123\151\147
\156\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\013\004\000\000\000\000\001\025\113\132\303\224
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Verisign Class 1 Public Primary Certification Authority - G3"
#
Issuer: CN=VeriSign Class 1 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
Serial Number:00:8b:5b:75:56:84:54:85:0b:00:cf:af:38:48:ce:b1:a4
Subject: CN=VeriSign Class 1 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
Not Valid Before: Fri Oct 01 00:00:00 1999
Not Valid After : Wed Jul 16 23:59:59 2036
Fingerprint (SHA-256):
CB:B5:AF:18:5E:94:2A:24:02:F9:EA:CB:C0:ED:5B:B8:76:EE:A3:C1:22:36:23:D0:04:47:E4:F3:BA:55:4B:65
#
Fingerprint (SHA1): 20:42:85:DC:F7:EB:76:41:95:57:8E:13:6B:D4:B7:D1:E9:8E:46:A5
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verisign Class 1 Public Primary Certification Authority - G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123

```



```
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\061\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\055\040\107\063
```

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\061\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\055\040\107\063
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\021\000\213\133\165\126\204\124\205\013\000\317\257\070\110
\316\261\244
```

END

CKA\_VALUE MULTILINE\_OCTAL

```
\060\202\004\032\060\202\003\002\002\021\000\213\133\165\126\204
\124\205\013\000\317\257\070\110\316\261\244\060\015\006\011\052
\206\110\206\367\015\001\001\005\005\000\060\201\312\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003
\125\004\012\023\016\126\145\162\151\123\151\147\156\054\040\111
\156\143\056\061\037\060\035\006\003\125\004\013\023\026\126\145
\162\151\123\151\147\156\040\124\162\165\163\164\040\116\145\164
\167\157\162\153\061\072\060\070\006\003\125\004\013\023\061\050
\143\051\040\061\071\071\071\040\126\145\162\151\123\151\147\156
\054\040\111\156\143\056\040\055\040\106\157\162\040\141\165\164
\150\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171
\061\105\060\103\006\003\125\004\003\023\074\126\145\162\151\123
```

\151\147\156\040\103\154\141\163\163\040\061\040\120\165\142\154  
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\055\040\107\063\060\036\027\015\071\071\061\060\060  
\061\060\060\060\060\060\060\132\027\015\063\066\060\067\061\066  
\062\063\065\071\065\071\132\060\201\312\061\013\060\011\006\003  
\125\004\006\023\002\125\123\061\027\060\025\006\003\125\004\012  
\023\016\126\145\162\151\123\151\147\156\054\040\111\156\143\056  
\061\037\060\035\006\003\125\004\013\023\026\126\145\162\151\123  
\151\147\156\040\124\162\165\163\164\040\116\145\164\167\157\162  
\153\061\072\060\070\006\003\125\004\013\023\061\050\143\051\040  
\061\071\071\071\040\126\145\162\151\123\151\147\156\054\040\111  
\156\143\056\040\055\040\106\157\162\040\141\165\164\150\157\162  
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\105\060  
\103\006\003\125\004\003\023\074\126\145\162\151\123\151\147\156  
\040\103\154\141\163\163\040\061\040\120\165\142\154\151\143\040  
\120\162\151\155\141\162\171\040\103\145\162\164\151\146\151\143  
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040  
\055\040\107\063\060\202\001\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012  
\002\202\001\001\000\335\204\324\271\264\371\247\330\363\004\170  
\234\336\075\334\154\023\026\331\172\335\044\121\146\300\307\046  
\131\015\254\006\010\302\224\321\063\037\360\203\065\037\156\033  
\310\336\252\156\025\116\124\047\357\304\155\032\354\013\343\016  
\360\104\245\127\307\100\130\036\243\107\037\161\354\140\366\155  
\224\310\030\071\355\376\102\030\126\337\344\114\111\020\170\116  
\001\166\065\143\022\066\335\146\274\001\004\066\243\125\150\325  
\242\066\011\254\253\041\046\124\006\255\077\312\024\340\254\312  
\255\006\035\225\342\370\235\361\340\140\377\302\177\165\053\114  
\314\332\376\207\231\041\352\272\376\076\124\327\322\131\170\333  
\074\156\317\240\023\000\032\270\047\241\344\276\147\226\312\240  
\305\263\234\335\311\165\236\353\060\232\137\243\315\331\256\170  
\031\077\043\351\134\333\051\275\255\125\310\033\124\214\143\366  
\350\246\352\307\067\022\134\243\051\036\002\331\333\037\073\264  
\327\017\126\107\201\025\004\112\257\203\047\321\305\130\210\301  
\335\366\252\247\243\030\332\150\252\155\021\121\341\277\145\153  
\237\226\166\321\075\002\003\001\000\001\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\253\146  
\215\327\263\272\307\232\266\346\125\320\005\361\237\061\215\132  
\252\331\252\106\046\017\161\355\245\255\123\126\142\001\107\052  
\104\351\376\077\164\013\023\233\271\364\115\033\262\321\137\262  
\266\322\210\134\263\237\315\313\324\247\331\140\225\204\072\370  
\301\067\035\141\312\347\260\305\345\221\332\124\246\254\061\201  
\256\227\336\315\010\254\270\300\227\200\177\156\162\244\347\151  
\023\225\145\037\304\223\074\375\171\217\004\324\076\117\352\367  
\236\316\315\147\174\117\145\002\377\221\205\124\163\307\377\066  
\367\206\055\354\320\136\117\377\021\237\162\006\326\270\032\361  
\114\015\046\145\342\104\200\036\307\237\343\335\350\012\332\354

```
\245\040\200\151\150\241\117\176\341\153\317\007\101\372\203\216
\274\070\335\260\056\021\261\153\262\102\314\232\274\371\110\042
\171\112\031\017\262\034\076\040\164\331\152\303\276\362\050\170
\023\126\171\117\155\120\352\033\260\265\127\261\067\146\130\043
\363\334\017\337\012\207\304\357\206\005\325\070\024\140\231\243
\113\336\006\226\161\054\362\333\266\037\244\357\077\356
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# For Email Distrust After: Wed Aug 31 00:00:00 2022

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER MULTILINE\_OCTAL

```
\062\062\060\070\063\061\060\060\060\060\060\060\132
```

END

# Trust for "Verisign Class 1 Public Primary Certification Authority - G3"

# Issuer: CN=Verisign Class 1 Public Primary Certification Authority - G3,OU="(c) 1999 Verisign, Inc. - For authorized use only",OU=Verisign Trust Network,O="Verisign, Inc.",C=US

# Serial Number:00:8b:5b:75:56:84:54:85:0b:00:cf:af:38:48:ce:b1:a4

# Subject: CN=Verisign Class 1 Public Primary Certification Authority - G3,OU="(c) 1999 Verisign, Inc. - For authorized use only",OU=Verisign Trust Network,O="Verisign, Inc.",C=US

# Not Valid Before: Fri Oct 01 00:00:00 1999

# Not Valid After : Wed Jul 16 23:59:59 2036

# Fingerprint (SHA-256):

CB:B5:AF:18:5E:94:2A:24:02:F9:EA:CB:C0:ED:5B:B8:76:EE:A3:C1:22:36:23:D0:04:47:E4:F3:BA:55:4B:65

# Fingerprint (SHA1): 20:42:85:DC:F7:EB:76:41:95:57:8E:13:6B:D4:B7:D1:E9:8E:46:A5

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Verisign Class 1 Public Primary Certification Authority - G3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\040\102\205\334\367\353\166\101\225\127\216\023\153\324\267\321
\351\216\106\245
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\261\107\274\030\127\321\030\240\170\055\354\161\350\052\225\163
```

END

CKA\_ISSUER

MULTILINE\_OCTAL

```
\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
```

```
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\061\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\055\040\107\063
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\021\000\213\133\165\126\204\124\205\013\000\317\257\070\110
\316\261\244
```

END

CKA\_TRUST\_SERVER\_AUTH

CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Verisign Class 2 Public Primary Certification Authority - G3"

#

# Issuer: CN=VeriSign Class 2 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US

# Serial Number:61:70:cb:49:8c:5f:98:45:29:e7:b0:a6:d9:50:5b:7a

# Subject: CN=VeriSign Class 2 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US

# Not Valid Before: Fri Oct 01 00:00:00 1999

# Not Valid After : Wed Jul 16 23:59:59 2036

# Fingerprint (SHA-256):

92:A9:D9:83:3F:E1:94:4D:B3:66:E8:BF:AE:7A:95:B6:48:0C:2D:6C:6C:2A:1B:E6:5D:42:36:B6:08:FC:A1:BB

# Fingerprint (SHA1): 61:EF:43:D7:7F:CA:D4:61:51:BC:98:E0:C3:59:12:AF:9F:EB:63:11

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Verisign Class 2 Public Primary Certification Authority - G3"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\062\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
```

\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171\040\055\040\107\063

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123  
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125  
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165  
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003  
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145  
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106  
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163  
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023  
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040  
\062\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171\040\055\040\107\063

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\141\160\313\111\214\137\230\105\051\347\260\246\331\120  
\133\172

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\031\060\202\003\001\002\020\141\160\313\111\214\137  
\230\105\051\347\260\246\331\120\133\172\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\060\201\312\061\013\060\011  
\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003\125  
\004\012\023\016\126\145\162\151\123\151\147\156\054\040\111\156  
\143\056\061\037\060\035\006\003\125\004\013\023\026\126\145\162  
\151\123\151\147\156\040\124\162\165\163\164\040\116\145\164\167  
\157\162\153\061\072\060\070\006\003\125\004\013\023\061\050\143  
\051\040\061\071\071\071\040\126\145\162\151\123\151\147\156\054  
\040\111\156\143\056\040\055\040\106\157\162\040\141\165\164\150  
\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171\061  
\105\060\103\006\003\125\004\003\023\074\126\145\162\151\123\151  
\147\156\040\103\154\141\163\163\040\062\040\120\165\142\154\151  
\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146  
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164  
\171\040\055\040\107\063\060\036\027\015\071\071\061\060\060\061  
\060\060\060\060\060\060\132\027\015\063\066\060\067\061\066\062  
\063\065\071\065\071\132\060\201\312\061\013\060\011\006\003\125  
\004\006\023\002\125\123\061\027\060\025\006\003\125\004\012\023  
\016\126\145\162\151\123\151\147\156\054\040\111\156\143\056\061  
\037\060\035\006\003\125\004\013\023\026\126\145\162\151\123\151  
\147\156\040\124\162\165\163\164\040\116\145\164\167\157\162\153

\061\072\060\070\006\003\125\004\013\023\061\050\143\051\040\061  
\071\071\071\040\126\145\162\151\123\151\147\156\054\040\111\156  
\143\056\040\055\040\106\157\162\040\141\165\164\150\157\162\151  
\172\145\144\040\165\163\145\040\157\156\154\171\061\105\060\103  
\006\003\125\004\003\023\074\126\145\162\151\123\151\147\156\040  
\103\154\141\163\163\040\062\040\120\165\142\154\151\143\040\120  
\162\151\155\141\162\171\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\055  
\040\107\063\060\202\001\042\060\015\006\011\052\206\110\206\367  
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002  
\202\001\001\000\257\012\015\302\325\054\333\147\271\055\345\224  
\047\335\245\276\340\260\115\217\263\141\126\074\326\174\303\364  
\315\076\206\313\242\210\342\341\330\244\151\305\265\342\277\301  
\246\107\120\136\106\071\213\325\226\272\265\157\024\277\020\316  
\047\023\236\005\107\233\061\172\023\330\037\331\323\002\067\213  
\255\054\107\360\216\201\006\247\015\060\014\353\367\074\017\040  
\035\334\162\106\356\245\002\310\133\303\311\126\151\114\305\030  
\301\221\173\013\325\023\000\233\274\357\303\110\076\106\140\040  
\205\052\325\220\266\315\213\240\314\062\335\267\375\100\125\262  
\120\034\126\256\314\215\167\115\307\040\115\247\061\166\357\150  
\222\212\220\036\010\201\126\262\255\151\243\122\320\313\034\304  
\043\075\037\231\376\114\350\026\143\216\306\010\216\366\061\366  
\322\372\345\166\335\265\034\222\243\111\315\315\001\315\150\315  
\251\151\272\243\353\035\015\234\244\040\246\301\240\305\321\106  
\114\027\155\322\254\146\077\226\214\340\204\324\066\377\042\131  
\305\371\021\140\250\137\004\175\362\032\366\045\102\141\017\304  
\112\270\076\211\002\003\001\000\001\060\015\006\011\052\206\110  
\206\367\015\001\001\005\005\000\003\202\001\001\000\064\046\025  
\074\300\215\115\103\111\035\275\351\041\222\327\146\234\267\336  
\305\270\320\344\135\137\166\042\300\046\371\204\072\072\371\214  
\265\373\354\140\361\350\316\004\260\310\335\247\003\217\060\363  
\230\337\244\346\244\061\337\323\034\013\106\334\162\040\077\256  
\356\005\074\244\063\077\013\071\254\160\170\163\113\231\053\337  
\060\302\124\260\250\073\125\241\376\026\050\315\102\275\164\156  
\200\333\047\104\247\316\104\135\324\033\220\230\015\036\102\224  
\261\000\054\004\320\164\243\002\005\042\143\143\315\203\265\373  
\301\155\142\153\151\165\375\135\160\101\271\365\277\174\337\276  
\301\062\163\042\041\213\130\201\173\025\221\172\272\343\144\110  
\260\177\373\066\045\332\225\320\361\044\024\027\335\030\200\153  
\106\043\071\124\365\216\142\011\004\035\224\220\246\233\346\045  
\342\102\105\252\270\220\255\276\010\217\251\013\102\030\224\317  
\162\071\341\261\103\340\050\317\267\347\132\154\023\153\111\263  
\377\343\030\174\211\213\063\135\254\063\327\247\371\332\072\125  
\311\130\020\371\252\357\132\266\317\113\113\337\052

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# For Email Distrust After: Wed Aug 31 00:00:00 2022

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER MULTILINE\_OCTAL

\062\062\060\070\063\061\060\060\060\060\060\060\132

END

# Trust for "Verisign Class 2 Public Primary Certification Authority - G3"

# Issuer: CN=VeriSign Class 2 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US

# Serial Number:61:70:cb:49:8c:5f:98:45:29:e7:b0:a6:d9:50:5b:7a

#

Subject: CN=VeriSign Class 2 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US

# Not Valid Before: Fri Oct 01 00:00:00 1999

# Not Valid After : Wed Jul 16 23:59:59 2036

# Fingerprint (SHA-256):

92:A9:D9:83:3F:E1:94:4D:B3:66:E8:BF:AE:7A:95:B6:48:0C:2D:6C:6C:2A:1B:E6:5D:42:36:B6:08:FC:A1:BB

# Fingerprint (SHA1): 61:EF:43:D7:7F:CA:D4:61:51:BC:98:E0:C3:59:12:AF:9F:EB:63:11

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Verisign Class 2 Public Primary Certification Authority - G3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\141\357\103\327\177\312\324\141\121\274\230\340\303\131\022\257

\237\353\143\021

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\370\276\304\143\042\311\250\106\164\213\270\035\036\112\053\366

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123

\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123

\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125

\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165

\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003

\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145

\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106

\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163

\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023

\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040

\062\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171

\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101

\165\164\150\157\162\151\164\171\040\055\040\107\063

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\141\160\313\111\214\137\230\105\051\347\260\246\331\120

\133\172

```

END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Entrust.net Premium 2048 Secure Server CA"
#
Issuer: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net
Limited,OU=www.entrust.net/CPS_2048 incorp. by ref. (limits liab.),O=Entrust.net
Serial Number: 946069240 (0x3863def8)
Subject: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net
Limited,OU=www.entrust.net/CPS_2048 incorp. by ref. (limits liab.),O=Entrust.net
Not Valid Before: Fri Dec 24 17:50:51 1999
Not Valid After : Tue Jul 24 14:15:12 2029
Fingerprint (SHA-256):
6D:C4:71:72:E0:1C:BC:B0:BF:62:58:0D:89:5F:E2:B8:AC:9A:D4:F8:73:80:1E:0C:10:B9:C8:37:D2:1E:B1:77
Fingerprint (SHA1): 50:30:06:09:1D:97:D4:F5:AE:39:F7:CB:E7:92:7D:7D:65:2D:34:31
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL
UTF8 "Entrust.net Premium 2048 Secure Server CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\264\061\024\060\022\006\003\125\004\012\023\013\105\156
\164\162\165\163\164\056\156\145\164\061\100\060\076\006\003\125
\004\013\024\067\167\167\167\056\145\156\164\162\165\163\164\056
\156\145\164\057\103\120\123\137\062\060\064\070\040\151\156\143
\157\162\160\056\040\142\171\040\162\145\146\056\040\050\154\151
\155\151\164\163\040\154\151\141\142\056\051\061\045\060\043\006
\003\125\004\013\023\034\050\143\051\040\061\071\071\071\040\105
\156\164\162\165\163\164\056\156\145\164\040\114\151\155\151\164
\145\144\061\063\060\061\006\003\125\004\003\023\052\105\156\164
\162\165\163\164\056\156\145\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\050\062\060\064\070\051
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\264\061\024\060\022\006\003\125\004\012\023\013\105\156
\164\162\165\163\164\056\156\145\164\061\100\060\076\006\003\125
\004\013\024\067\167\167\167\056\145\156\164\162\165\163\164\056
\156\145\164\057\103\120\123\137\062\060\064\070\040\151\156\143
\157\162\160\056\040\142\171\040\162\145\146\056\040\050\154\151

```



\155\151\164\163\040\154\151\141\142\056\051\061\045\060\043\006  
\003\125\004\013\023\034\050\143\051\040\061\071\071\071\040\105  
\156\164\162\165\163\164\056\156\145\164\040\114\151\155\151\164  
\145\144\061\063\060\061\006\003\125\004\003\023\052\105\156\164  
\162\165\163\164\056\156\145\164\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\040\050\062\060\064\070\051

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\004\070\143\336\370

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\052\060\202\003\022\240\003\002\001\002\002\004\070  
\143\336\370\060\015\006\011\052\206\110\206\367\015\001\001\005  
\005\000\060\201\264\061\024\060\022\006\003\125\004\012\023\013  
\105\156\164\162\165\163\164\056\156\145\164\061\100\060\076\006  
\003\125\004\013\024\067\167\167\167\056\145\156\164\162\165\163  
\164\056\156\145\164\057\103\120\123\137\062\060\064\070\040\151  
\156\143\157\162\160\056\040\142\171\040\162\145\146\056\040\050  
\154\151\155\151\164\163\040\154\151\141\142\056\051\061\045\060  
\043\006\003\125\004\013\023\034\050\143\051\040\061\071\071\071  
\040\105\156\164\162\165\163\164\056\156\145\164\040\114\151\155  
\151\164\145\144\061\063\060\061\006\003\125\004\003\023\052\105  
\156\164\162\165\163\164\056\156\145\164\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\050\062\060\064\070\051\060\036\027\015\071\071\061  
\062\062\064\061\067\065\060\065\061\132\027\015\062\071\060\067  
\062\064\061\064\061\065\061\062\132\060\201\264\061\024\060\022  
\006\003\125\004\012\023\013\105\156\164\162\165\163\164\056\156  
\145\164\061\100\060\076\006\003\125\004\013\024\067\167\167\167  
\056\145\156\164\162\165\163\164\056\156\145\164\057\103\120\123  
\137\062\060\064\070\040\151\156\143\157\162\160\056\040\142\171  
\040\162\145\146\056\040\050\154\151\155\151\164\163\040\154\151  
\141\142\056\051\061\045\060\043\006\003\125\004\013\023\034\050  
\143\051\040\061\071\071\071\040\105\156\164\162\165\163\164\056  
\156\145\164\040\114\151\155\151\164\145\144\061\063\060\061\006  
\003\125\004\003\023\052\105\156\164\162\165\163\164\056\156\145  
\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040  
\101\165\164\150\157\162\151\164\171\040\050\062\060\064\070\051  
\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001  
\000\255\115\113\251\022\206\262\352\243\040\007\025\026\144\052  
\053\113\321\277\013\112\115\216\355\200\166\245\147\267\170\100  
\300\163\102\310\150\300\333\123\053\335\136\270\166\230\065\223  
\213\032\235\174\023\072\016\037\133\267\036\317\345\044\024\036  
\261\201\251\215\175\270\314\153\113\003\361\002\014\334\253\245  
\100\044\000\177\164\224\241\235\010\051\263\210\013\365\207\167

\235\125\315\344\303\176\327\152\144\253\205\024\206\225\133\227  
\062\120\157\075\310\272\146\014\343\374\275\270\111\301\166\211  
\111\031\375\300\250\275\211\243\147\057\306\237\274\161\031\140  
\270\055\351\054\311\220\166\146\173\224\342\257\170\326\145\123  
\135\074\326\234\262\317\051\003\371\057\244\120\262\324\110\316  
\005\062\125\212\375\262\144\114\016\344\230\007\165\333\177\337  
\271\010\125\140\205\060\051\371\173\110\244\151\206\343\065\077  
\036\206\135\172\172\025\275\357\000\216\025\042\124\027\000\220  
\046\223\274\016\111\150\221\277\370\107\323\235\225\102\301\016  
\115\337\157\046\317\303\030\041\142\146\103\160\326\325\300\007  
\341\002\003\001\000\001\243\102\060\100\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125  
\035\016\004\026\004\024\125\344\201\321\021\200\276\330\211\271  
\010\243\061\371\241\044\011\026\271\160\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\073\233  
\217\126\233\060\347\123\231\174\172\171\247\115\227\327\031\225  
\220\373\006\037\312\063\174\106\143\217\226\146\044\372\100\033  
\041\047\312\346\162\163\362\117\376\061\231\375\310\014\114\150  
\123\306\200\202\023\230\372\266\255\332\135\075\361\316\156\366  
\025\021\224\202\014\356\077\225\257\021\253\017\327\057\336\037  
\003\217\127\054\036\311\273\232\032\104\225\353\030\117\246\037  
\315\175\127\020\057\233\004\011\132\204\265\156\330\035\072\341  
\326\236\321\154\171\136\171\034\024\305\343\320\114\223\073\145  
\074\355\337\075\276\246\345\225\032\303\265\031\303\275\136\133  
\273\377\043\357\150\031\313\022\223\047\134\003\055\157\060\320  
\036\266\032\254\336\132\367\321\252\250\047\246\376\171\201\304  
\171\231\063\127\272\022\260\251\340\102\154\223\312\126\336\376  
\155\204\013\010\213\176\215\352\327\230\041\306\363\347\074\171  
\057\136\234\321\114\025\215\341\354\042\067\314\232\103\013\227  
\334\200\220\215\263\147\233\157\110\010\025\126\317\277\361\053  
\174\136\232\166\351\131\220\305\174\203\065\021\145\121

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Entrust.net Premium 2048 Secure Server CA"

# Issuer: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net  
Limited,OU=www.entrust.net/CPS\_2048 incorp. by ref. (limits liab.),O=Entrust.net  
# Serial Number: 946069240 (0x3863def8)

# Subject: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net  
Limited,OU=www.entrust.net/CPS\_2048 incorp. by ref. (limits liab.),O=Entrust.net

# Not Valid Before: Fri Dec 24 17:50:51 1999

# Not Valid After : Tue Jul 24 14:15:12 2029

# Fingerprint (SHA-256):

6D:C4:71:72:E0:1C:BC:B0:BF:62:58:0D:89:5F:E2:B8:AC:9A:D4:F8:73:80:1E:0C:10:B9:C8:37:D2:1E:B1:77

```

Fingerprint (SHA1): 50:30:06:09:1D:97:D4:F5:AE:39:F7:CB:E7:92:7D:7D:65:2D:34:31
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN
CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust.net Premium 2048 Secure Server CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\120\060\006\011\035\227\324\365\256\071\367\313\347\222\175\175
\145\055\064\061
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\356\051\061\274\062\176\232\346\350\265\367\121\264\064\161\220
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\264\061\024\060\022\006\003\125\004\012\023\013\105\156
\164\162\165\163\164\056\156\145\164\061\100\060\076\006\003\125
\004\013\024\067\167\167\167\056\145\156\164\162\165\163\164\056
\156\145\164\057\103\120\123\137\062\060\064\070\040\151\156\143
\157\162\160\056\040\142\171\040\162\145\146\056\040\050\154\151
\155\151\164\163\040\154\151\141\142\056\051\061\045\060\043\006
\003\125\004\013\023\034\050\143\051\040\061\071\071\071\040\105
\156\164\162\165\163\164\056\156\145\164\040\114\151\155\151\164
\145\144\061\063\060\061\006\003\125\004\003\023\052\105\156\164
\162\165\163\164\056\156\145\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\050\062\060\064\070\051
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\004\070\143\336\370
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Baltimore CyberTrust Root"
#
Issuer: CN=Baltimore CyberTrust Root,OU=CyberTrust,O=Baltimore,C=IE
Serial Number: 33554617 (0x20000b9)
Subject: CN=Baltimore CyberTrust Root,OU=CyberTrust,O=Baltimore,C=IE
Not Valid Before: Fri May 12 18:46:00 2000
Not Valid After : Mon May 12 23:59:00 2025
Fingerprint (SHA-256):
16:AF:57:A9:F6:76:B0:AB:12:60:95:AA:5E:BA:DE:F2:2A:B3:11:19:D6:44:AC:95:CD:4B:93:DB:F3:F2:6A:EB
Fingerprint (SHA1): D4:DE:20:D0:5E:66:FC:53:FE:1A:50:88:2C:78:DB:28:52:CA:E4:74

```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN
CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Baltimore CyberTrust Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\111\105\061
\022\060\020\006\003\125\004\012\023\011\102\141\154\164\151\155
\157\162\145\061\023\060\021\006\003\125\004\013\023\012\103\171
\142\145\162\124\162\165\163\164\061\042\060\040\006\003\125\004
\003\023\031\102\141\154\164\151\155\157\162\145\040\103\171\142
\145\162\124\162\165\163\164\040\122\157\157\164
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\111\105\061
\022\060\020\006\003\125\004\012\023\011\102\141\154\164\151\155
\157\162\145\061\023\060\021\006\003\125\004\013\023\012\103\171
\142\145\162\124\162\165\163\164\061\042\060\040\006\003\125\004
\003\023\031\102\141\154\164\151\155\157\162\145\040\103\171\142
\145\162\124\162\165\163\164\040\122\157\157\164
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\004\002\000\000\271
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\167\060\202\002\137\240\003\002\001\002\002\004\002
\000\000\271\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\060\132\061\013\060\011\006\003\125\004\006\023\002\111
\105\061\022\060\020\006\003\125\004\012\023\011\102\141\154\164
\151\155\157\162\145\061\023\060\021\006\003\125\004\013\023\012
\103\171\142\145\162\124\162\165\163\164\061\042\060\040\006\003
\125\004\003\023\031\102\141\154\164\151\155\157\162\145\040\103
\171\142\145\162\124\162\165\163\164\040\122\157\157\164\060\036
\027\015\060\060\060\065\061\062\061\070\064\066\060\060\132\027
\015\062\065\060\065\061\062\062\063\065\071\060\060\132\060\132
\061\013\060\011\006\003\125\004\006\023\002\111\105\061\022\060
\020\006\003\125\004\012\023\011\102\141\154\164\151\155\157\162
\145\061\023\060\021\006\003\125\004\013\023\012\103\171\142\145
\162\124\162\165\163\164\061\042\060\040\006\003\125\004\003\023
\031\102\141\154\164\151\155\157\162\145\040\103\171\142\145\162
\124\162\165\163\164\040\122\157\157\164\060\202\001\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001
\017\000\060\202\001\012\002\202\001\001\000\243\004\273\042\253
\230\075\127\350\046\162\232\265\171\324\051\342\341\350\225\200
```

\261\260\343\133\216\053\051\232\144\337\241\135\355\260\011\005  
\155\333\050\056\316\142\242\142\376\264\210\332\022\353\070\353  
\041\235\300\101\053\001\122\173\210\167\323\034\217\307\272\271  
\210\265\152\011\347\163\350\021\100\247\321\314\312\142\215\055  
\345\217\013\246\120\322\250\120\303\050\352\365\253\045\207\212  
\232\226\034\251\147\270\077\014\325\367\371\122\023\057\302\033  
\325\160\160\360\217\300\022\312\006\313\232\341\331\312\063\172  
\167\326\370\354\271\361\150\104\102\110\023\322\300\302\244\256  
\136\140\376\266\246\005\374\264\335\007\131\002\324\131\030\230  
\143\365\245\143\340\220\014\175\135\262\006\172\363\205\352\353  
\324\003\256\136\204\076\137\377\025\355\151\274\371\071\066\162  
\165\317\167\122\115\363\311\220\054\271\075\345\311\043\123\077  
\037\044\230\041\134\007\231\051\275\306\072\354\347\156\206\072  
\153\227\164\143\063\275\150\030\061\360\170\215\166\277\374\236  
\216\135\052\206\247\115\220\334\047\032\071\002\003\001\000\001  
\243\105\060\103\060\035\006\003\125\035\016\004\026\004\024\345  
\235\131\060\202\107\130\314\254\372\010\124\066\206\173\072\265  
\004\115\360\060\022\006\003\125\035\023\001\001\377\004\010\060  
\006\001\001\377\002\001\003\060\016\006\003\125\035\017\001\001  
\377\004\004\003\002\001\006\060\015\006\011\052\206\110\206\367  
\015\001\001\005\005\000\003\202\001\001\000\205\014\135\216\344  
\157\121\150\102\005\240\335\273\117\047\045\204\003\275\367\144  
\375\055\327\060\343\244\020\027\353\332\051\051\266\171\077\166  
\366\031\023\043\270\020\012\371\130\244\324\141\160\275\004\141  
\152\022\212\027\325\012\275\305\274\060\174\326\351\014\045\215  
\206\100\117\354\314\243\176\070\306\067\021\117\355\335\150\061  
\216\114\322\263\001\164\356\276\165\136\007\110\032\177\160\377  
\026\134\204\300\171\205\270\005\375\177\276\145\021\243\017\300  
\002\264\370\122\067\071\004\325\251\061\172\030\277\240\052\364  
\022\231\367\243\105\202\343\074\136\365\235\236\265\310\236\174  
\056\310\244\236\116\010\024\113\155\375\160\155\153\032\143\275  
\144\346\037\267\316\360\362\237\056\273\033\267\362\120\210\163  
\222\302\342\343\026\215\232\062\002\253\216\030\335\351\020\021  
\356\176\065\253\220\257\076\060\224\172\320\063\075\247\145\017  
\365\374\216\236\142\317\107\104\054\001\135\273\035\265\062\322  
\107\322\070\056\320\376\201\334\062\152\036\265\356\074\325\374  
\347\201\035\031\303\044\102\352\143\071\251

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Baltimore CyberTrust Root"

# Issuer: CN=Baltimore CyberTrust Root,OU=CyberTrust,O=Baltimore,C=IE

# Serial Number: 33554617

(0x20000b9)

# Subject: CN=Baltimore CyberTrust Root,OU=CyberTrust,O=Baltimore,C=IE

```

Not Valid Before: Fri May 12 18:46:00 2000
Not Valid After : Mon May 12 23:59:00 2025
Fingerprint (SHA-256):
16:AF:57:A9:F6:76:B0:AB:12:60:95:AA:5E:BA:DE:F2:2A:B3:11:19:D6:44:AC:95:CD:4B:93:DB:F3:F2:6A:EB
Fingerprint (SHA1): D4:DE:20:D0:5E:66:FC:53:FE:1A:50:88:2C:78:DB:28:52:CA:E4:74
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Baltimore CyberTrust Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\324\336\040\320\136\146\374\123\376\032\120\210\054\170\333\050
\122\312\344\164
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\254\266\224\245\234\027\340\327\221\122\233\261\227\006\246\344
END
CKA_ISSUER MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\111\105\061
\022\060\020\006\003\125\004\012\023\011\102\141\154\164\151\155
\157\162\145\061\023\060\021\006\003\125\004\013\023\012\103\171
\142\145\162\124\162\165\163\164\061\042\060\040\006\003\125\004
\003\023\031\102\141\154\164\151\155\157\162\145\040\103\171\142
\145\162\124\162\165\163\164\040\122\157\157\164
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\004\002\000\000\271
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Entrust Root Certification Authority"
#
Issuer: CN=Entrust Root Certification Authority,OU="(c) 2006 Entrust, Inc.",OU=www.entrust.net/CPS is
incorporated by reference,O="Entrust, Inc.",C=US
Serial Number: 1164660820 (0x456b5054)
Subject: CN=Entrust Root Certification Authority,OU="(c) 2006 Entrust, Inc.",OU=www.entrust.net/CPS is
incorporated by reference,O="Entrust, Inc.",C=US
Not Valid Before: Mon Nov 27 20:23:42 2006
Not Valid After : Fri Nov 27 20:53:42 2026
Fingerprint (SHA-256):
73:C1:76:43:4F:1B:C6:D5:AD:F4:5B:0E:76:E7:27:28:7C:8D:E5:76:16:C1:E6:E6:14:1A:2B:2C:BC:7D:8E:4C
#

```

Fingerprint (SHA1): B3:1E:B1:B7:40:E3:6C:84:02:DA:DC:37:D4:4D:F5:D4:67:49:52:F9

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "Entrust Root Certification Authority"  
CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509  
CKA\_SUBJECT MULTILINE\_OCTAL  
\060\201\260\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165  
\163\164\054\040\111\156\143\056\061\071\060\067\006\003\125\004  
\013\023\060\167\167\167\056\145\156\164\162\165\163\164\056\156  
\145\164\057\103\120\123\040\151\163\040\151\156\143\157\162\160  
\157\162\141\164\145\144\040\142\171\040\162\145\146\145\162\145  
\156\143\145\061\037\060\035\006\003\125\004\013\023\026\050\143  
\051\040\062\060\060\066\040\105\156\164\162\165\163\164\054\040  
\111\156\143\056\061\055\060\053\006\003\125\004\003\023\044\105  
\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162  
\151\164\171

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\260\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165  
\163\164\054\040\111\156\143\056\061\071\060\067\006\003\125\004  
\013\023\060\167\167\167\056\145\156\164\162\165\163\164\056\156  
\145\164\057\103\120\123\040\151\163\040\151\156\143\157\162\160  
\157\162\141\164\145\144\040\142\171\040\162\145\146\145\162\145  
\156\143\145\061\037\060\035\006\003\125\004\013\023\026\050\143  
\051\040\062\060\060\066\040\105\156\164\162\165\163\164\054\040  
\111\156\143\056\061\055\060\053\006\003\125\004\003\023\044\105  
\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162  
\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\004\105\153\120\124

END

CKA\_VALUE

MULTILINE\_OCTAL

\060\202\004\221\060\202\003\171\240\003\002\001\002\002\004\105  
\153\120\124\060\015\006\011\052\206\110\206\367\015\001\001\005  
\005\000\060\201\260\061\013\060\011\006\003\125\004\006\023\002  
\125\123\061\026\060\024\006\003\125\004\012\023\015\105\156\164  
\162\165\163\164\054\040\111\156\143\056\061\071\060\067\006\003  
\125\004\013\023\060\167\167\167\056\145\156\164\162\165\163\164

\056\156\145\164\057\103\120\123\040\151\163\040\151\156\143\157  
\162\160\157\162\141\164\145\144\040\142\171\040\162\145\146\145  
\162\145\156\143\145\061\037\060\035\006\003\125\004\013\023\026  
\050\143\051\040\062\060\060\066\040\105\156\164\162\165\163\164  
\054\040\111\156\143\056\061\055\060\053\006\003\125\004\003\023  
\044\105\156\164\162\165\163\164\040\122\157\157\164\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171\060\036\027\015\060\066\061\061\062\067\062  
\060\062\063\064\062\132\027\015\062\066\061\061\062\067\062\060  
\065\063\064\062\132\060\201\260\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\026\060\024\006\003\125\004\012\023\015  
\105\156\164\162\165\163\164\054\040\111\156\143\056\061\071\060  
\067\006\003\125\004\013\023\060\167\167\167\056\145\156\164\162  
\165\163\164\056\156\145\164\057\103\120\123\040\151\163\040\151  
\156\143\157\162\160\157\162\141\164\145\144\040\142\171\040\162  
\145\146\145\162\145\156\143\145\061\037\060\035\006\003\125\004  
\013\023\026\050\143\051\040\062\060\060\066\040\105\156\164\162  
\165\163\164\054\040\111\156\143\056\061\055\060\053\006\003\125  
\004\003\023\044\105\156\164\162\165\163\164\040\122\157\157\164  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171\060\202\001\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000  
\060\202\001\012\002\202\001\001\000\266\225\266\103\102\372\306  
\155\052\157\110\337\224\114\071\127\005\356\303\171\021\101\150  
\066\355\354\376\232\001\217\241\070\050\374\367\020\106\146\056  
\115\036\032\261\032\116\306\321\300\225\210\260\311\377\061\213  
\063\003\333\267\203\173\076\040\204\136\355\262\126\050\247\370  
\340\271\100\161\067\305\313\107\016\227\052\150\300\042\225\142  
\025\333\107\331\365\320\053\377\202\113\311\255\076\336\114\333  
\220\200\120\077\011\212\204\000\354\060\012\075\030\315\373\375  
\052\131\232\043\225\027\054\105\236\037\156\103\171\155\014\134  
\230\376\110\247\305\043\107\134\136\375\156\347\036\264\366\150  
\105\321\206\203\133\242\212\215\261\343\051\200\376\045\161\210  
\255\276\274\217\254\122\226\113\252\121\215\344\023\061\031\350  
\116\115\237\333\254\263\152\325\274\071\124\161\312\172\172\177  
\220\335\175\035\200\331\201\273\131\046\302\021\376\346\223\342  
\367\200\344\145\373\064\067\016\051\200\160\115\257\070\206\056  
\236\177\127\257\236\027\256\353\034\313\050\041\137\266\034\330  
\347\242\004\042\371\323\332\330\313\002\003\001\000\001\243\201  
\260\060\201\255\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\053\006\003\125\035\020\004\044\060\042  
\200\017\062\060\060\066\061\061\062\067\062\060\062\063\064\062  
\132\201\017\062\060\062\066\061\061\062\067\062\060\065\063\064  
\062\132\060\037\006\003\125\035\043\004\030\060\026\200\024\150  
\220\344\147\244\246\123\200\307\206\146\244\361\367\113\103\373  
\204\275\155\060\035\006\003\125\035\016\004\026\004\024\150\220  
\344\147\244\246\123\200\307\206\146\244\361\367\113\103\373\204



```
\275\155\060\035\006\011\052\206\110\206\366\175\007\101\000\004
\020\060\016\033\010\126\067\056\061\072\064\056\060\003\002\004
\220\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\003\202\001\001\000\223\324\060\260\327\003\040\052\320\371\143
\350\221\014\005\040\251\137\031\312\173\162\116\324\261\333\320
\226\373\124\132\031\054\014\010\367\262\274\205\250\235\177\155
\073\122\263\052\333\347\324\204\214\143\366\017\313\046\001\221
\120\154\364\137\024\342\223\164\300\023\236\060\072\120\343\264
\140\305\034\360\042\104\215\161\107\254\310\032\311\351\233\232
\000\140\023\377\160\176\137\021\115\111\033\263\025\122\173\311
\124\332\277\235\225\257\153\232\330\236\351\361\344\103\215\342
\021\104\072\277\257\275\203\102\163\122\213\252\273\247\051\317
\365\144\034\012\115\321\274\252\254\237\052\320\377\177\177\332
\175\352\261\355\060\045\301\204\332\064\322\133\170\203\126\354
\234\066\303\046\342\021\366\147\111\035\222\253\214\373\353\377
\172\356\205\112\247\120\200\360\247\134\112\224\056\137\005\231
\074\122\101\340\315\264\143\317\001\103\272\234\203\334\217\140
\073\363\132\264\264\173\256\332\013\220\070\165\357\201\035\146
\322\367\127\160\066\263\277\374\050\257\161\045\205\133\023\376
\036\177\132\264\074
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Entrust Root Certification Authority"

# Issuer: CN=Entrust

Root Certification Authority,OU="(c) 2006 Entrust, Inc.",OU=www.entrust.net/CPS is incorporated by reference,O="Entrust, Inc.",C=US

# Serial Number: 1164660820 (0x456b5054)

# Subject: CN=Entrust Root Certification Authority,OU="(c) 2006 Entrust, Inc.",OU=www.entrust.net/CPS is incorporated by reference,O="Entrust, Inc.",C=US

# Not Valid Before: Mon Nov 27 20:23:42 2006

# Not Valid After : Fri Nov 27 20:53:42 2026

# Fingerprint (SHA-256):

73:C1:76:43:4F:1B:C6:D5:AD:F4:5B:0E:76:E7:27:28:7C:8D:E5:76:16:C1:E6:E6:14:1A:2B:2C:BC:7D:8E:4C

# Fingerprint (SHA1): B3:1E:B1:B7:40:E3:6C:84:02:DA:DC:37:D4:4D:F5:D4:67:49:52:F9

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Entrust Root Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\263\036\261\267\100\343\154\204\002\332\334\067\324\115\365\324
\147\111\122\371
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\326\245\303\355\135\335\076\000\301\075\207\222\037\035\077\344

END

CKA\_ISSUER

MULTILINE\_OCTAL

\060\201\260\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165  
\163\164\054\040\111\156\143\056\061\071\060\067\006\003\125\004  
\013\023\060\167\167\167\056\145\156\164\162\165\163\164\056\156  
\145\164\057\103\120\123\040\151\163\040\151\156\143\157\162\160  
\157\162\141\164\145\144\040\142\171\040\162\145\146\145\162\145  
\156\143\145\061\037\060\035\006\003\125\004\013\023\026\050\143  
\051\040\062\060\060\066\040\105\156\164\162\165\163\164\054\040  
\111\156\143\056\061\055\060\053\006\003\125\004\003\023\044\105  
\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162  
\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\004\105\153\120\124

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST

CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Certum Root CA"

#

# Issuer: CN=Certum CA,O=Unizeto Sp. z o.o.,C=PL

# Serial Number: 65568 (0x10020)

# Subject: CN=Certum CA,O=Unizeto Sp. z o.o.,C=PL

# Not Valid Before: Tue Jun 11 10:46:39 2002

# Not Valid After : Fri Jun 11 10:46:39 2027

# Fingerprint (SHA-256):

D8:E0:FE:BC:1D:B2:E3:8D:00:94:0F:37:D2:7D:41:34:4D:99:3E:73:4B:99:D5:65:6D:97:78:D4:D8:14:36:24

# Fingerprint (SHA1): 62:52:DC:40:F7:11:43:A2:2F:DE:9E:F7:34:8E:06:42:51:B1:81:18

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certum Root CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114\061  
\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145\164  
\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060\020  
\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103\101

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114\061  
\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145\164  
\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060\020  
\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\003\001\000\040

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\014\060\202\001\364\240\003\002\001\002\002\003\001  
\000\040\060\015\006\011\052\206\110\206\367\015\001\001\005\005  
\000\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114  
\061\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145  
\164\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060  
\020\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103  
\101\060\036\027\015\060\062\060\066\061\061\061\060\064\066\063  
\071\132\027\015\062\067\060\066\061\061\061\060\064\066\063\071  
\132\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114  
\061\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145  
\164\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060  
\020\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103  
\101\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001  
\001\000\316\261\301\056\323\117\174\315\045\316\030\076\117\304  
\214\157\200\152\163\310\133\121\370\233\322\334\273\000\134\261  
\240\374\165\003\356\201\360\210\356\043\122\351\346\025\063\215  
\254\055\011\305\166\371\053\071\200\211\344\227\113\220\245\250  
\170\370\163\103\173\244\141\260\330\130\314\341\154\146\176\234  
\363\011\136\125\143\204\325\250\357\363\261\056\060\150\263\304  
\074\330\254\156\215\231\132\220\116\064\334\066\232\217\201\210  
\120\267\155\226\102\011\363\327\225\203\015\101\113\260\152\153  
\370\374\017\176\142\237\147\304\355\046\137\020\046\017\010\117  
\360\244\127\050\316\217\270\355\105\366\156\356\045\135\252\156  
\071\276\344\223\057\331\107\240\162\353\372\246\133\257\312\123  
\077\342\016\306\226\126\021\156\367\351\146\251\046\330\177\225  
\123\355\012\205\210\272\117\051\245\102\214\136\266\374\205\040  
\000\252\150\013\241\032\205\001\234\304\106\143\202\210\266\042  
\261\356\376\252\106\131\176\317\065\054\325\266\332\135\367\110  
\063\024\124\266\353\331\157\316\315\210\326\253\033\332\226\073  
\035\131\002\003\001\000\001\243\023\060\021\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\015\006\011  
\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000  
\270\215\316\357\347\024\272\317\356\260\104\222\154\264\071\076  
\242\204\156\255\270\041\167\322\324\167\202\207\346\040\101\201

```
\356\342\370\021\267\143\321\027\067\276\031\166\044\034\004\032
\114\353\075\252\147\157\055\324\315\376\145\061\160\305\033\246
\002\012\272\140\173\155\130\302\232\111\376\143\062\013\153\343
\072\300\254\253\073\260\350\323\011\121\214\020\203\306\064\340
\305\053\340\032\266\140\024\047\154\062\167\214\274\262\162\230
\317\315\314\077\271\310\044\102\024\326\127\374\346\046\103\251
\035\345\200\220\316\003\124\050\076\367\077\323\370\115\355\152
\012\072\223\023\233\073\024\043\023\143\234\077\321\207\047\171
\345\114\121\343\001\255\205\135\032\073\261\325\163\020\244\323
\362\274\156\144\365\132\126\220\250\307\016\114\164\017\056\161
\073\367\310\107\364\151\157\025\362\021\136\203\036\234\174\122
\256\375\002\332\022\250\131\147\030\333\274\160\335\233\261\151
\355\200\316\211\100\110\152\016\065\312\051\146\025\041\224\054
\350\140\052\233\205\112\100\363\153\212\044\354\006\026\054\163
END
```

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certum Root CA"

# Issuer: CN=Certum CA,O=Unizeto Sp. z o.o.,C=PL

# Serial Number: 65568 (0x10020)

# Subject: CN=Certum CA,O=Unizeto Sp. z o.o.,C=PL

# Not Valid Before: Tue Jun 11 10:46:39 2002

# Not Valid After : Fri Jun 11

10:46:39 2027

# Fingerprint (SHA-256):

D8:E0:FE:BC:1D:B2:E3:8D:00:94:0F:37:D2:7D:41:34:4D:99:3E:73:4B:99:D5:65:6D:97:78:D4:D8:14:36:24

# Fingerprint (SHA1): 62:52:DC:40:F7:11:43:A2:2F:DE:9E:F7:34:8E:06:42:51:B1:81:18

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certum Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\142\122\334\100\367\021\103\242\057\336\236\367\064\216\006\102
```

```
\121\261\201\030
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\054\217\237\146\035\030\220\261\107\046\235\216\206\202\214\251
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114\061
```

```
\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145\164
```

```
\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060\020
```

```
\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103\101
```

END

```

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\001\000\040
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Comodo AAA Services root"
#
Issuer: CN=AAA Certificate Services,O=Comodo CA Limited,L=Salford,ST=Greater Manchester,C=GB
Serial Number: 1 (0x1)
Subject: CN=AAA Certificate Services,O=Comodo CA Limited,L=Salford,ST=Greater Manchester,C=GB
Not Valid Before: Thu Jan 01 00:00:00 2004
Not Valid After : Sun Dec 31 23:59:59 2028
Fingerprint (SHA-256):
D7:A7:A0:FB:5D:7E:27:31:D7:71:E9:48:4E:BC:DE:F7:1D:5F:0C:3E:0A:29:48:78:2B:C8:3E:E0:EA:69:9E:F4
Fingerprint (SHA1): D1:EB:23:A4:6D:17:D6:8F:D9:25:64:C2:F1:F1:60:17:64:D8:E3:49
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Comodo AAA Services root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040
\103\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003
\125\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151
\143\141\164\145\040\123\145\162\166\151\143\145\163
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040
\103\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003
\125\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151
\143\141\164\145\040\123\145\162\166\151\143\145\163
END

```

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\001

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\062\060\202\003\032\240\003\002\001\002\002\001\001  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060  
\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061\033  
\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145\162  
\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016\006  
\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032\060  
\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040\103  
\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003\125  
\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151\143  
\141\164\145\040\123\145\162\166\151\143\145\163\060\036\027\015  
\060\064\060\061\060\061\060\060\060\060\060\132\027\015\062  
\070\061\062\063\061\062\063\065\071\065\071\132\060\173\061\013  
\060\011\006\003\125\004\006\023\002\107\102\061\033\060\031\006  
\003\125\004\010\014\022\107\162\145\141\164\145\162\040\115\141  
\156\143\150\145\163\164\145\162\061\020\060\016\006\003\125\004  
\007\014\007\123\141\154\146\157\162\144\061\032\060\030\006\003  
\125\004\012\014\021\103\157\155\157\144\157\040\103\101\040\114  
\151\155\151\164\145\144\061\041\060\037\006\003\125\004\003\014  
\030\101\101\101\040\103\145\162\164\151\146\151\143\141\164\145  
\040\123\145\162\166\151\143\145\163\060\202\001\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017  
\000\060\202\001\012\002\202\001\001\000\276\100\235\364\156\341  
\352\166\207\034\115\105\104\216\276\106\310\203\006\235\301\052  
\376\030\037\216\344\002\372\363\253\135\120\212\026\061\013\232  
\006\320\305\160\042\315\111\055\124\143\314\266\156\150\106\013  
\123\352\313\114\044\300\274\162\116\352\361\025\256\364\124\232  
\022\012\303\172\262\063\140\342\332\211\125\363\042\130\363\336  
\334\317\357\203\206\242\214\224\117\237\150\362\230\220\106\204  
\047\307\166\277\343\314\065\054\213\136\007\144\145\202\300\110  
\260\250\221\371\141\237\166\040\120\250\221\307\146\265\353\170  
\142\003\126\360\212\032\023\352\061\243\036\240\231\375\070\366  
\366\047\062\130\157\007\365\153\270\373\024\053\257\267\252\314  
\326\143\137\163\214\332\005\231\250\070\250\313\027\170\066\121  
\254\351\236\364\170\072\215\317\017\331\102\342\230\014\253\057  
\237\016\001\336\357\237\231\111\361\055\337\254\164\115\033\230  
\265\107\305\345\051\321\371\220\030\307\142\234\276\203\307\046  
\173\076\212\045\307\300\335\235\346\065\150\020\040\235\217\330  
\336\322\303\204\234\015\136\350\057\311\002\003\001\000\001\243  
\201\300\060\201\275\060\035\006\003\125\035\016\004\026\004\024  
\240\021\012\043\076\226\361\007\354\342\257\051\357\202\245\177  
\320\060\244\264\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\173\006\003\125\035\037\004\164\060\162

\060\070\240\066\240\064\206\062\150\164\164\160\072\057\057\143  
\162\154\056\143\157\155\157\144\157\143\141\056\143\157\155\057  
\101\101\101\103\145\162\164\151\146\151\143\141\164\145\123\145  
\162\166\151\143\145\163\056\143\162\154\060\066\240\064\240\062  
\206\060\150\164\164\160\072\057\057\143\162\154\056\143\157\155  
\157\144\157\056\156\145\164\057\101\101\101\103\145\162\164\151  
\146\151\143\141\164\145\123\145\162\166\151\143\145\163\056\143  
\162\154\060\015\006\011\052\206\110\206\367\015\001\001\005\005  
\000\003\202\001\001\000\010\126\374\002\360\233\350\377\244\372  
\326\173\306\104\200\316\117\304\305\366\000\130\314\246\266\274  
\024\111\150\004\166\350\346\356\135\354\002\017\140\326\215\120  
\030\117\046\116\001\343\346\260\245\356\277\274\164\124\101\277  
\375\374\022\270\307\117\132\364\211\140\005\177\140\267\005\112  
\363\366\361\302\277\304\271\164\206\266\055\175\153\314\322\363  
\106\335\057\306\340\152\303\303\064\003\054\175\226\335\132\302  
\016\247\012\231\301\005\213\253\014\057\363\134\072\317\154\067  
\125\011\207\336\123\100\154\130\357\374\266\253\145\156\004\366  
\033\334\074\340\132\025\306\236\331\361\131\110\060\041\145\003  
\154\354\351\041\163\354\233\003\241\340\067\255\240\025\030\217  
\372\272\002\316\247\054\251\020\023\054\324\345\010\046\253\042  
\227\140\370\220\136\164\324\242\232\123\275\362\251\150\340\242  
\156\302\327\154\261\243\017\236\277\353\150\347\126\362\256\362  
\343\053\070\072\011\201\265\153\205\327\276\055\355\077\032\267  
\262\143\342\365\142\054\202\324\152\000\101\120\361\071\203\237  
\225\351\066\226\230\156

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Comodo AAA Services root"

# Issuer: CN=AAA Certificate Services,O=Comodo CA Limited,L=Salford,ST=Greater Manchester,C=GB

# Serial Number: 1 (0x1)

# Subject: CN=AAA Certificate Services,O=Comodo CA Limited,L=Salford,ST=Greater Manchester,C=GB

# Not Valid Before: Thu Jan 01 00:00:00 2004

# Not Valid After : Sun Dec 31 23:59:59 2028

# Fingerprint

(SHA-256):

D7:A7:A0:FB:5D:7E:27:31:D7:71:E9:48:4E:BC:DE:F7:1D:5F:0C:3E:0A:29:48:78:2B:C8:3E:E0:EA:69:9E:F4

# Fingerprint (SHA1): D1:EB:23:A4:6D:17:D6:8F:D9:25:64:C2:F1:F1:60:17:64:D8:E3:49

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Comodo AAA Services root"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\321\353\043\244\155\027\326\217\331\045\144\302\361\361\140\027

```

\144\330\343\111
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\111\171\004\260\353\207\031\254\107\260\274\021\121\233\164\320
END
CKA_ISSUER MULTILINE_OCTAL
\060\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040
\103\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003
\125\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151
\143\141\164\145\040\123\145\162\166\151\143\145\163
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "QuoVadis Root CA 2"
#
Issuer: CN=QuoVadis Root CA 2,O=QuoVadis Limited,C=BM
Serial Number: 1289 (0x509)
Subject: CN=QuoVadis Root CA 2,O=QuoVadis Limited,C=BM
Not Valid Before: Fri Nov 24 18:27:00 2006
Not Valid After : Mon Nov 24 18:23:33 2031
Fingerprint (SHA-256):
85:A0:DD:7D:D7:20:AD:B7:FF:05:F8:3D:54:2B:20:9D:C7:FF:45:28:F7:D6:77:B1:83:89:FE:A5:E5:C4:9E:86
Fingerprint (SHA1): CA:3A:FB:CF:12:40:36:4B:44:B2:16:20:88:80:48:39:19:93:7C:F7
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL
CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062

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END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061  
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144  
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003  
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157  
\157\164\040\103\101\040\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\002\005\011

END

CKA\_VALUE MULTILINE\_OCTAL

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\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144  
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003  
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157  
\157\164\040\103\101\040\062\060\036\027\015\060\066\061\061\062  
\064\061\070\062\067\060\060\132\027\015\063\061\061\061\062\064  
\061\070\062\063\063\063\132\060\105\061\013\060\011\006\003\125  
\004\006\023\002\102\115\061\031\060\027\006\003\125\004\012\023  
\020\121\165\157\126\141\144\151\163\040\114\151\155\151\164\145  
\144\061\033\060\031\006\003\125\004\003\023\022\121\165\157\126  
\141\144\151\163\040\122\157\157\164\040\103\101\040\062\060\202  
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005  
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\232  
\030\312\113\224\015\000\055\257\003\051\212\360\017\201\310\256  
\114\031\205\035\010\237\253\051\104\205\363\057\201\255\062\036  
\220\106\277\243\206\046\032\036\376\176\034\030\072\134\234\140  
\027\052\072\164\203\063\060\175\141\124\021\313\355\253\340\346  
\322\242\176\365\153\157\030\267\012\013\055\375\351\076\357\012  
\306\263\020\351\334\302\106\027\370\135\375\244\332\377\236\111  
\132\234\346\063\346\044\226\367\077\272\133\053\034\172\065\302  
\326\147\376\253\146\120\213\155\050\140\053\357\327\140\303\307  
\223\274\215\066\221\363\177\370\333\021\023\304\234\167\166\301  
\256\267\002\152\201\172\251\105\203\342\005\346\271\126\301\224  
\067\217\110\161\143\042\354\027\145\007\225\212\113\337\217\306  
\132\012\345\260\343\137\136\153\021\253\014\371\205\353\104\351  
\370\004\163\362\351\376\134\230\214\365\163\257\153\264\176\315  
\324\134\002\053\114\071\341\262\225\225\055\102\207\327\325\263  
\220\103\267\154\023\361\336\335\366\304\370\211\077\321\165\365  
\222\303\221\325\212\210\320\220\354\334\155\336\211\302\145\161  
\226\213\015\003\375\234\277\133\026\254\222\333\352\376\171\174  
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\121\314\072\123\014\110\346\016\275\311\264\166\006\122\346\021  
\023\205\162\143\003\004\340\004\066\053\040\031\002\350\164\247

\037\266\311\126\146\360\165\045\334\147\301\016\141\140\210\263  
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\355\101\330\301\262\042\266\123\034\337\065\035\334\241\167\052  
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\377\063\241\017\272\054\025\025\352\227\263\322\242\265\276\362  
\214\226\036\032\217\035\154\244\141\067\271\206\163\063\327\227  
\226\236\043\175\202\244\114\201\342\241\321\272\147\137\225\007  
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\003\303\072\213\040\077\156\215\147\075\072\326\376\175\133\210  
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\222\026\020\330\236\047\107\373\073\041\343\370\353\035\133\002  
\003\001\000\001\243\201\260\060\201\255\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\013\006\003\125  
\035\017\004\004\003\002\001\006\060\035\006\003\125\035\016\004  
\026\004\024\032\204\142\274\110\114\063\045\004\324\356\320\366  
\003\304\031\106\321\224\153\060\156\006\003\125\035\043\004\147  
\060\145\200\024\032\204\142\274\110\114\063\045\004\324\356\320  
\366\003\304\031\106\321\224\153\241\111\244\107\060\105\061\013  
\060\011\006\003\125\004\006\023\002\102\115\061\031\060\027\006  
\003\125\004\012\023\020\121\165\157\126\141\144\151\163\040\114  
\151\155\151\164\145\144\061\033\060\031\006\003\125\004\003\023  
\022\121\165\157\126\141\144\151\163\040\122\157\157\164\040\103  
\101\040\062\202\002\005\011\060\015\006\011\052\206\110\206\367  
\015\001\001\005\005\000\003\202\002\001\000\076\012\026\115\237  
\006\133\250\256\161\135\057\005\057\147\346\023\105\203\304\066  
\366\363\300\046\014\015\265\107\144\135\370\264\162\311\106\245  
\003\030\047\125\211\170\175\166\352\226\064\200\027\040\334\347  
\203\370\215\374\007\270\332\137\115\056\147\262\204\375\331\104  
\374\167\120\201\346\174\264\311\015\013\162\123\370\166\007\007  
\101\107\226\014\373\340\202\046\223\125\214\376\042\037\140\145  
\174\137\347\046\263\367\062\220\230\120\324\067\161\125\366\222  
\041\170\367\225\171\372\370\055\046\207\146\126\060\167\246\067  
\170\063\122\020\130\256\077\141\216\362\152\261\357\030\176\112  
\131\143\312\215\242\126\325\247\057\274\126\037\317\071\301\342  
\373\012\250\025\054\175\115\172\143\306\154\227\104\074\322\157  
\303\112\027\012\370\220\322\127\242\031\121\245\055\227\101\332  
\007\117\251\120\332\220\215\224\106\341\076\360\224\375\020\000  
\070\365\073\350\100\341\264\156\126\032\040\314\157\130\215\355  
\056\105\217\326\351\223\077\347\261\054\337\072\326\042\214\334  
\204\273\042\157\320\370\344\306\071\351\004\210\074\303\272\353  
\125\172\155\200\231\044\365\154\001\373\370\227\260\224\133\353  
\375\322\157\361\167\150\015\065\144\043\254\270\125\241\003\321  
\115\102\031\334\370\165\131\126\243\371\250\111\171\370\257\016  
\271\021\240\174\267\152\355\064\320\266\046\142\070\032\207\014  
\370\350\375\056\323\220\177\007\221\052\035\326\176\134\205\203  
\231\260\070\010\077\351\136\371\065\007\344\311\142\156\127\177  
\247\120\225\367\272\310\233\346\216\242\001\305\326\146\277\171

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\141\363\074\034\341\271\202\134\135\240\303\351\330\110\275\031
\242\021\024\031\156\262\206\033\150\076\110\067\032\210\267\135
\226\136\234\307\357\047\142\010\342\221\031\134\322\361\041\335
\272\027\102\202\227\161\201\123\061\251\237\366\175\142\277\162
\341\243\223\035\314\212\046\132\011\070\320\316\327\015\200\026
\264\170\245\072\207\114\215\212\245\325\106\227\362\054\020\271
\274\124\042\300\001\120\151\103\236\364\262\357\155\370\354\332
\361\343\261\357\337\221\217\124\052\013\045\301\046\031\304\122
\020\005\145\325\202\020\352\302\061\315\056
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END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "QuoVadis Root CA 2"

# Issuer: CN=QuoVadis Root

CA 2,O=QuoVadis Limited,C=BM

# Serial Number: 1289 (0x509)

# Subject: CN=QuoVadis Root CA 2,O=QuoVadis Limited,C=BM

# Not Valid Before: Fri Nov 24 18:27:00 2006

# Not Valid After : Mon Nov 24 18:23:33 2031

# Fingerprint (SHA-256):

85:A0:DD:7D:D7:20:AD:B7:FF:05:F8:3D:54:2B:20:9D:C7:FF:45:28:F7:D6:77:B1:83:89:FE:A5:E5:C4:9E:86

# Fingerprint (SHA1): CA:3A:FB:CF:12:40:36:4B:44:B2:16:20:88:80:48:39:19:93:7C:F7

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "QuoVadis Root CA 2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\312\072\373\317\022\100\066\113\104\262\026\040\210\200\110\071
\031\223\174\367
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\136\071\173\335\370\272\354\202\351\254\142\272\014\124\000\053
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062
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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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\002\002\005\011
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END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
Certificate "QuoVadis Root CA 3"
```

```
#
```

```
Issuer: CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM
```

```
Serial Number: 1478 (0x5c6)
```

```
Subject: CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM
```

```
Not Valid Before: Fri Nov 24 19:11:23 2006
```

```
Not Valid After : Mon Nov 24 19:06:44 2031
```

```
Fingerprint (SHA-256):
```

```
18:F1:FC:7F:20:5D:F8:AD:DD:EB:7F:E0:07:DD:57:E3:AF:37:5A:9C:4D:8D:73:54:6B:F4:F1:FE:D1:E1:8D:35
```

```
Fingerprint (SHA1): 1F:49:14:F7:D8:74:95:1D:DD:AE:02:C0:BE:FD:3A:2D:82:75:51:85
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL
```

```
UTF8 "QuoVadis Root CA 3"
```

```
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
```

```
CKA_SUBJECT MULTILINE_OCTAL
```

```
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063
```

```
END
```

```
CKA_ID UTF8 "0"
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063
```

```
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\002\005\306
```

```
END
```

```
CKA_VALUE MULTILINE_OCTAL
```

```
\060\202\006\235\060\202\004\205\240\003\002\001\002\002\002\005
\306\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
```

\157\164\040\103\101\040\063\060\036\027\015\060\066\061\061\062  
\064\061\071\061\061\062\063\132\027\015\063\061\061\061\062\064  
\061\071\060\066\064\064\132\060\105\061\013\060\011\006\003\125  
\004\006\023\002\102\115\061\031\060\027\006\003\125\004\012\023  
\020\121\165\157\126\141\144\151\163\040\114\151\155\151\164\145  
\144\061\033\060\031\006\003\125\004\003\023\022\121\165\157\126  
\141\144\151\163\040\122\157\157\164\040\103\101\040\063\060\202  
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005  
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\314  
\127\102\026\124\234\346\230\323\323\115\356\376\355\307\237\103  
\071\112\145\263\350\026\210\064\333\015\131\221\164\317\222\270  
\004\100\255\002\113\061\253\274\215\221\150\330\040\016\032\001  
\342\032\173\116\027\135\342\212\267\077\231\032\315\353\141\253  
\302\145\246\037\267\267\275\267\217\374\375\160\217\013\240\147  
\276\001\242\131\317\161\346\017\051\166\377\261\126\171\105\053  
\037\236\172\124\350\243\051\065\150\244\001\117\017\244\056\067  
\357\033\277\343\217\020\250\162\253\130\127\347\124\206\310\311  
\363\133\332\054\332\135\216\156\074\243\076\332\373\202\345\335  
\362\134\262\005\063\157\212\066\316\320\023\116\377\277\112\014  
\064\114\246\303\041\275\120\004\125\353\261\273\235\373\105\036  
\144\025\336\125\001\214\002\166\265\313\241\077\102\151\274\057  
\275\150\103\026\126\211\052\067\141\221\375\246\256\116\300\313  
\024\145\224\067\113\222\006\357\004\320\310\234\210\333\013\173  
\201\257\261\075\052\304\145\072\170\266\356\334\200\261\322\323  
\231\234\072\356\153\132\153\263\215\267\325\316\234\302\276\245  
\113\057\026\261\236\150\073\006\157\256\175\237\370\336\354\314  
\051\247\230\243\045\103\057\357\361\137\046\341\210\115\370\136  
\156\327\331\024\156\031\063\151\247\073\204\211\223\304\123\125  
\023\241\121\170\100\370\270\311\242\356\173\272\122\102\203\236  
\024\355\005\122\132\131\126\247\227\374\235\077\012\051\330\334  
\117\221\016\023\274\336\225\244\337\213\231\276\254\233\063\210  
\357\265\201\257\033\306\042\123\310\366\307\356\227\024\260\305  
\174\170\122\310\360\316\156\167\140\204\246\351\052\166\040\355  
\130\001\027\060\223\351\032\213\340\163\143\331\152\222\224\111  
\116\264\255\112\205\304\243\042\060\374\011\355\150\042\163\246  
\210\014\125\041\130\305\341\072\237\052\335\312\341\220\340\331  
\163\253\154\200\270\350\013\144\223\240\234\214\031\377\263\322  
\014\354\221\046\207\212\263\242\341\160\217\054\012\345\315\155  
\150\121\353\332\077\005\177\213\062\346\023\134\153\376\137\100  
\342\042\310\264\264\144\117\326\272\175\110\076\250\151\014\327  
\273\206\161\311\163\270\077\073\235\045\113\332\377\100\353\002  
\003\001\000\001\243\202\001\225\060\202\001\221\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\201\341  
\006\003\125\035\040\004\201\331\060\201\326\060\201\323\006\011  
\053\006\001\004\001\276\130\000\003\060\201\305\060\201\223\006  
\010\053\006\001\005\005\007\002\002\060\201\206\032\201\203\101  
\156\171\040\165\163\145\040\157\146\040\164\150\151\163\040\103  
\145\162\164\151\146\151\143\141\164\145\040\143\157\156\163\164

\151\164\165\164\145\163\040\141\143\143\145\160\164\141\156\143  
\145\040\157\146\040\164\150\145\040\121\165\157\126\141\144\151  
\163\040\122\157\157\164\040\103\101\040\063\040\103\145\162\164  
\151\146\151\143\141\164\145\040\120\157\154\151\143\171\040\057  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\120  
\162\141\143\164\151\143\145\040\123\164\141\164\145\155\145\156  
\164\056\060\055\006\010\053\006\001\005\005\007\002\001\026\041  
\150\164\164\160\072\057\057\167\167\167\056\161\165\157\166\141  
\144\151\163\147\154\157\142\141\154\056\143\157\155\057\143\160  
\163\060\013\006\003\125\035\017\004\004\003\002\001\006\060\035  
\006\003\125\035\016\004\026\004\024\362\300\023\340\202\103\076  
\373\356\057\147\062\226\065\134\333\270\313\002\320\060\156\006  
\003\125\035\043\004\147\060\145\200\024\362\300\023\340\202\103  
\076\373\356\057\147\062\226\065\134\333\270\313\002\320\241\111  
\244\107\060\105\061\013\060\011\006\003\125\004\006\023\002\102  
\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126  
\141\144\151\163\040\114\151\155\151\164\145\144\061\033\060\031  
\006\003\125\004\003\023\022\121\165\157\126\141\144\151\163\040  
\122\157\157\164\040\103\101\040\063\202\002\005\306\060\015\006  
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\002\001  
\000\117\255\240\054\114\372\300\362\157\367\146\125\253\043\064  
\356\347\051\332\303\133\266\260\203\331\320\320\342\041\373\363  
\140\247\073\135\140\123\047\242\233\366\010\042\052\347\277\240  
\162\345\234\044\152\061\261\220\172\047\333\204\021\211\047\246  
\167\132\070\327\277\254\206\374\356\135\203\274\006\306\321\167  
\153\017\155\044\057\113\172\154\247\007\226\312\343\204\237\255  
\210\213\035\253\026\215\133\146\027\331\026\364\213\200\322\335  
\370\262\166\303\374\070\023\252\014\336\102\151\053\156\363\074  
\353\200\047\333\365\246\104\015\237\132\125\131\013\325\015\122  
\110\305\256\237\362\057\200\305\352\062\120\065\022\227\056\301  
\341\377\361\043\210\121\070\237\362\146\126\166\347\017\121\227  
\245\122\014\115\111\121\225\066\075\277\242\113\014\020\035\206  
\231\114\252\363\162\021\223\344\352\366\233\332\250\135\247\115  
\267\236\002\256\163\000\310\332\043\003\350\371\352\031\164\142  
\000\224\313\042\040\276\224\247\131\265\202\152\276\231\171\172  
\251\362\112\044\122\367\164\375\272\116\346\250\035\002\156\261  
\015\200\104\301\256\323\043\067\137\273\205\174\053\222\056\350  
\176\245\213\335\231\341\277\047\157\055\135\252\173\207\376\012  
\335\113\374\216\365\046\344\156\160\102\156\063\354\061\236\173  
\223\301\344\311\151\032\075\300\153\116\042\155\356\253\130\115  
\306\320\101\301\053\352\117\022\207\136\353\105\330\154\365\230  
\002\323\240\330\125\212\006\231\031\242\240\167\321\060\236\254  
\314\165\356\203\365\260\142\071\317\154\127\342\114\322\221\013  
\016\165\050\033\232\277\375\032\103\361\312\167\373\073\217\141  
\270\151\050\026\102\004\136\160\052\034\041\330\217\341\275\043  
\133\055\164\100\222\331\143\031\015\163\335\151\274\142\107\274  
\340\164\053\262\353\175\276\101\033\265\300\106\305\241\042\313  
\137\116\301\050\222\336\030\272\325\052\050\273\021\213\027\223

```

\230\231\140\224\134\043\317\132\047\227\136\013\005\006\223\067
\036\073\151\066\353\251\236\141\035\217\062\332\216\014\326\164
\076\173\011\044\332\001\167\107\304\073\315\064\214\231\365\312
\341\045\141\063\262\131\033\342\156\327\067\127\266\015\251\022
\332
END
CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "QuoVadis Root CA 3"
Issuer: CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM
Serial Number: 1478 (0x5c6)
Subject:
 CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM
Not Valid Before: Fri Nov 24 19:11:23 2006
Not Valid After : Mon Nov 24 19:06:44 2031
Fingerprint (SHA-256):
18:F1:FC:7F:20:5D:F8:AD:DD:EB:7F:E0:07:DD:57:E3:AF:37:5A:9C:4D:8D:73:54:6B:F4:F1:FE:D1:E1:8D:35
Fingerprint (SHA1): 1F:49:14:F7:D8:74:95:1D:DD:AE:02:C0:BE:FD:3A:2D:82:75:51:85
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\037\111\024\367\330\164\225\035\335\256\002\300\276\375\072\055
\202\165\121\205
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\061\205\074\142\224\227\143\271\252\375\211\116\257\157\340\317
END
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\002\005\306
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```

```
#
Certificate "Security Communication Root CA"
#
Issuer: OU=Security Communication RootCA1,O=SECOM Trust.net,C=JP
Serial Number: 0 (0x0)
Subject: OU=Security Communication RootCA1,O=SECOM Trust.net,C=JP
Not Valid Before: Tue Sep 30 04:20:49 2003
Not Valid After : Sat Sep 30 04:20:49 2023
Fingerprint (SHA-256):
E7:5E:72:ED:9F:56:0E:EC:6E:B4:80:00:73:A4:3F:C3:AD:19:19:5A:39:22:82:01:78:95:97:4A:99:02:6B:6C
Fingerprint (SHA1): 36:B1:2B:49:F9:81:9E:D7:4C:9E:BC:38:0F:C6:56:8F:5D:AC:B2:F7
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication
Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040
\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125
\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155
\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103
\101\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040
\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125
\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155
\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103
\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\132\060\202\002\102\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061\030
\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040\124
\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125\004
\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155\155
\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103\101
\061\060\036\027\015\060\063\060\071\063\060\060\064\062\060\064
```



\071\132\027\015\062\063\060\071\063\060\060\064\062\060\064\071  
\132\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120  
\061\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115  
\040\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003  
\125\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157  
\155\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164  
\103\101\061\060\202\001\042\060\015\006\011\052\206\110\206\367  
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002  
\202\001\001\000\263\263\376\177\323\155\261\357\026\174\127\245  
\014\155\166\212\057\113\277\144\373\114\356\212\360\363\051\174  
\365\377\356\052\340\351\351\272\133\144\042\232\232\157\054\072  
\046\151\121\005\231\046\334\325\034\152\161\306\232\175\036\235  
\335\174\154\306\214\147\147\112\076\370\161\260\031\047\251\011  
\014\246\225\277\113\214\014\372\125\230\073\330\350\042\241\113  
\161\070\171\254\227\222\151\263\211\176\352\041\150\006\230\024  
\226\207\322\141\066\274\155\047\126\236\127\356\300\300\126\375  
\062\317\244\331\216\302\043\327\215\250\363\330\045\254\227\344  
\160\070\364\266\072\264\235\073\227\046\103\243\241\274\111\131  
\162\114\043\060\207\001\130\366\116\276\034\150\126\146\257\315  
\101\135\310\263\115\052\125\106\253\037\332\036\342\100\075\333  
\315\175\271\222\200\234\067\335\014\226\144\235\334\042\367\144  
\213\337\141\336\025\224\122\025\240\175\122\311\113\250\041\311  
\306\261\355\313\303\225\140\321\017\360\253\160\370\337\313\115  
\176\354\326\372\253\331\275\177\124\362\245\351\171\372\331\326  
\166\044\050\163\002\003\001\000\001\243\077\060\075\060\035\006  
\003\125\035\016\004\026\004\024\240\163\111\231\150\334\205\133  
\145\343\233\050\057\127\237\275\063\274\007\110\060\013\006\003  
\125\035\017\004\004\003\002\001\006\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\150\100  
\251\250\273\344\117\135\171\263\005\265\027\263\140\023\353\306  
\222\135\340\321\323\152\376\373\276\233\155\277\307\005\155\131  
\040\304\034\360\267\332\204\130\002\143\372\110\026\357\117\245  
\013\367\112\230\362\077\236\033\255\107\153\143\316\010\107\353  
\122\077\170\234\257\115\256\370\325\117\317\232\230\052\020\101  
\071\122\304\335\331\233\016\357\223\001\256\262\056\312\150\102  
\044\102\154\260\263\072\076\315\351\332\110\304\025\313\351\371  
\007\017\222\120\111\212\335\061\227\137\311\351\067\252\073\131  
\145\227\224\062\311\263\237\076\072\142\130\305\111\255\142\016  
\161\245\062\252\057\306\211\166\103\100\023\023\147\075\242\124  
\045\020\313\361\072\362\331\372\333\111\126\273\246\376\247\101  
\065\303\340\210\141\311\210\307\337\066\020\042\230\131\352\260  
\112\373\126\026\163\156\254\115\367\042\241\117\255\035\172\055  
\105\047\345\060\301\136\362\332\023\313\045\102\121\225\107\003  
\214\154\041\314\164\102\355\123\377\063\213\217\017\127\001\026  
\057\317\246\356\311\160\042\024\275\375\276\154\013\003

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

```

CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "Security Communication Root CA"
Issuer: OU=Security Communication RootCA1,O=SECOM Trust.net,C=JP
Serial Number: 0 (0x0)
Subject: OU=Security Communication RootCA1,O=SECOM Trust.net,C=JP
Not Valid Before: Tue Sep 30 04:20:49 2003
Not Valid After : Sat Sep 30 04:20:49 2023
Fingerprint (SHA-256):
E7:5E:72:ED:9F:56:0E:EC:6E:B4:80:00:73:A4:3F:C3:AD:19:19:5A:39:22:82:01:78:95:97:4A:99:02:6B:6C
Fingerprint (SHA1): 36:B1:2B:49:F9:81:9E:D7:4C:9E:BC:38:0F:C6:56:8F:5D:AC:B2:F7
CKA_CLASS
CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\066\261\053\111\371\201\236\327\114\236\274\070\017\306\126\217
\135\254\262\367
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\361\274\143\152\124\340\265\047\365\315\347\032\343\115\156\112
END
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040
\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125
\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155
\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103
\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

#
Certificate "Camerfirma Chambers of Commerce Root"
#
Issuer: CN=Chambers of Commerce Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF
A82743287,C=EU

```

```
Serial Number: 0 (0x0)
Subject: CN=Chambers of Commerce Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF
A82743287,C=EU
Not Valid Before: Tue Sep 30 16:13:43 2003
Not Valid After : Wed Sep 30 16:13:44 2037
Fingerprint (SHA-256):
0C:25:8A:12:A5:67:4A:EF:25:F2:8B:A7:DC:FA:EC:EE:A3:48:E5:41:E6:F5:CC:4E:E6:3B:71:B3:61:60:6A:C3
Fingerprint (SHA1): 6E:3A:55:A4:19:0C:19:5C:93:84:3C:C0:DB:72:2E:31:30:61:F0:B1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Camerfirma Chambers of Commerce Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060
\040\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157
\164
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060
\040\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157
\164
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\275\060\202\003\245\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061\047
\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155\145
\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101\070
```

\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004\013  
\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150\141  
\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060\040  
\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163\040  
\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157\164  
\060\036\027\015\060\063\060\071\063\060\061\066\061\063\064\063  
\132\027\015\063\067\060\071\063\060\061\066\061\063\064\064\132  
\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061  
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155  
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101  
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004  
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150  
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060  
\040\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163  
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157  
\164\060\202\001\040\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\001\015\000\060\202\001\010\002\202\001  
\001\000\267\066\125\345\245\135\030\060\340\332\211\124\221\374  
\310\307\122\370\057\120\331\357\261\165\163\145\107\175\033\133  
\272\165\305\374\241\210\044\372\057\355\312\010\112\071\124\304  
\121\172\265\332\140\352\070\074\201\262\313\361\273\331\221\043  
\077\110\001\160\165\251\005\052\255\037\161\363\311\124\075\035  
\006\152\100\076\263\014\205\356\134\033\171\302\142\304\270\066  
\216\065\135\001\014\043\004\107\065\252\233\140\116\240\146\075  
\313\046\012\234\100\241\364\135\230\277\161\253\245\000\150\052  
\355\203\172\017\242\024\265\324\042\263\200\260\074\014\132\121  
\151\055\130\030\217\355\231\236\361\256\342\225\346\366\107\250  
\326\014\017\260\130\130\333\303\146\067\236\233\221\124\063\067  
\322\224\034\152\110\311\311\362\245\332\245\014\043\367\043\016  
\234\062\125\136\161\234\204\005\121\232\055\375\346\116\052\064  
\132\336\312\100\067\147\014\124\041\125\167\332\012\014\314\227  
\256\200\334\224\066\112\364\076\316\066\023\036\123\344\254\116  
\072\005\354\333\256\162\234\070\213\320\071\073\211\012\076\167  
\376\165\002\001\003\243\202\001\104\060\202\001\100\060\022\006  
\003\125\035\023\001\001\377\004\010\060\006\001\001\377\002\001  
\014\060\074\006\003\125\035\037\004\065\060\063\060\061\240\057  
\240\055\206\053\150\164\164\160\072\057\057\143\162\154\056\143  
\150\141\155\142\145\162\163\151\147\156\056\157\162\147\057\143  
\150\141\155\142\145\162\163\162\157\157\164\056\143\162\154\060  
\035\006\003\125\035\016\004\026\004\024\343\224\365\261\115\351  
\333\241\051\133\127\213\115\166\006\166\341\321\242\212\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\021  
\006\011\140\206\110\001\206\370\102\001\001\004\004\003\002\000  
\007\060\047\006\003\125\035\021\004\040\060\036\201\034\143\150  
\141\155\142\145\162\163\162\157\157\164\100\143\150\141\155\142  
\145\162\163\151\147\156\056\157\162\147\060\047\006\003\125\035  
\022\004\040\060\036\201\034\143\150\141\155\142\145\162\163\162  
\157\157\164\100\143\150\141\155\142\145\162\163\151\147\156\056

\157\162\147\060\130\006\003\125\035\040\004\121\060\117\060\115  
\006\013\053\006\001\004\001\201\207\056\012\003\001\060\076\060  
\074\006\010\053\006\001\005\005\007\002\001\026\060\150\164\164  
\160\072\057\057\143\160\163\056\143\150\141\155\142\145\162\163  
\151\147\156\056\157\162\147\057\143\160\163\057\143\150\141\155  
\142\145\162\163\162\157\157\164\056\150\164\155\154\060\015\006  
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001  
\000\014\101\227\302\032\206\300\042\174\237\373\220\363\032\321  
\003\261\357\023\371\041\137\004\234\332\311\245\215\047\154\226  
\207\221\276\101\220\001\162\223\347\036\175\137\366\211\306\135  
\247\100\011\075\254\111\105\105\334\056\215\060\150\262\011\272  
\373\303\057\314\272\013\337\077\167\173\106\175\072\022\044\216  
\226\217\074\005\012\157\322\224\050\035\155\014\300\056\210\042  
\325\330\317\035\023\307\360\110\327\327\005\247\317\307\107\236  
\073\074\064\310\200\117\324\024\273\374\015\120\367\372\263\354  
\102\137\251\335\155\310\364\165\317\173\301\162\046\261\001\034  
\134\054\375\172\116\264\001\305\005\127\271\347\074\252\005\331  
\210\351\007\106\101\316\357\101\201\256\130\337\203\242\256\312  
\327\167\037\347\000\074\235\157\216\344\062\011\035\115\170\064  
\170\064\074\224\233\046\355\117\161\306\031\172\275\040\042\110  
\132\376\113\175\003\267\347\130\276\306\062\116\164\036\150\335  
\250\150\133\263\076\356\142\175\331\200\350\012\165\172\267\356  
\264\145\232\041\220\340\252\320\230\274\070\265\163\074\213\370  
\334

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# For Email Distrust After: Mon Mar 01 00:00:00 2021

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER MULTILINE\_OCTAL

\062\061\060\063\060\061\060\060\060\060\060\060\132

END

# Trust for "Camerfirma Chambers of Commerce Root"

# Issuer: CN=Chambers of Commerce Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF  
A82743287,C=EU

# Serial Number: 0 (0x0)

# Subject: CN=Chambers of Commerce Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF  
A82743287,C=EU

# Not Valid Before: Tue Sep 30 16:13:43 2003

# Not Valid After : Wed Sep 30 16:13:44 2037

# Fingerprint (SHA-256):

0C:25:8A:12:A5:67:4A:EF:25:F2:8B:A7:DC:FA:EC:EE:A3:48:E5:41:E6:F5:CC:4E:E6:3B:71:B3:61:60:6A:C3

# Fingerprint (SHA1): 6E:3A:55:A4:19:0C:19:5C:93:84:3C:C0:DB:72:2E:31:30:61:F0:B1

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL

```

CK_FALSE
CKA_LABEL UTF8 "Camerfirma Chambers of Commerce Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\156\072\125\244\031\014\031\134\223\204\074\300\333\162\056\061
\060\141\360\261
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\260\001\356\024\331\257\051\030\224\166\216\361\151\063\052\204
END
CKA_ISSUER MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060
\040\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157
\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING
CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "XRamp Global CA Root"
#
Issuer: CN=XRamp Global Certification Authority,O=XRamp Security Services
Inc,OU=www.xrampsecurity.com,C=US
Serial Number:50:94:6c:ec:18:ea:d5:9c:4d:d5:97:ef:75:8f:a0:ad
Subject: CN=XRamp Global Certification Authority,O=XRamp Security Services
Inc,OU=www.xrampsecurity.com,C=US
Not Valid Before: Mon Nov 01 17:14:04 2004
Not Valid After : Mon Jan 01 05:37:19 2035
Fingerprint (SHA-256):
CE:CD:DC:90:50:99:D8:DA:DF:C5:B1:D2:09:B7:37:CB:E2:C1:8C:FB:2C:10:C0:FF:0B:CF:0D:32:86:FC:1A:A2
Fingerprint (SHA1): B8:01:86:D1:EB:9C:86:A5:41:04:CF:30:54:F3:4C:52:B7:E5:58:C6
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "XRamp Global CA Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

```

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\036\060\034\006\003\125\004\013\023\025\167\167\167\056\170  
\162\141\155\160\163\145\143\165\162\151\164\171\056\143\157\155  
\061\044\060\042\006\003\125\004\012\023\033\130\122\141\155\160  
\040\123\145\143\165\162\151\164\171\040\123\145\162\166\151\143  
\145\163\040\111\156\143\061\055\060\053\006\003\125\004\003\023  
\044\130\122\141\155\160\040\107\154\157\142\141\154\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\036\060\034\006\003\125\004\013\023\025\167\167\167\056\170  
\162\141\155\160\163\145\143\165\162\151\164\171\056\143\157\155  
\061\044\060\042\006\003\125\004\012\023\033\130\122\141\155\160  
\040\123\145\143\165\162\151\164\171\040\123\145\162\166\151\143  
\145\163\040\111\156\143\061\055\060\053\006\003\125\004\003\023  
\044\130\122\141\155\160\040\107\154\157\142\141\154\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\120\224\154\354\030\352\325\234\115\325\227\357\165\217  
\240\255

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\060\060\202\003\030\240\003\002\001\002\002\020\120  
\224\154\354\030\352\325\234\115\325\227\357\165\217\240\255\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201  
\202\061\013\060\011\006\003\125\004\006\023\002\125\123\061\036  
\060\034\006\003\125\004\013\023\025\167\167\167\056\170\162\141  
\155\160\163\145\143\165\162\151\164\171\056\143\157\155\061\044  
\060\042\006\003\125\004\012\023\033\130\122\141\155\160\040\123  
\145\143\165\162\151\164\171\040\123\145\162\166\151\143\145\163  
\040\111\156\143\061\055\060\053\006\003\125\004\003\023\044\130  
\122\141\155\160\040\107\154\157\142\141\154\040\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162  
\151\164\171\060\036\027\015\060\064\061\061\060\061\061\067\061  
\064\060\064\132\027\015\063\065\060\061\060\061\060\065\063\067  
\061\071\132\060\201\202\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\036\060\034\006\003\125\004\013\023\025\167\167  
\167\056\170\162\141\155\160\163\145\143\165\162\151\164\171\056  
\143\157\155\061\044\060\042\006\003\125\004\012\023\033\130\122  
\141\155\160\040\123\145\143\165\162\151\164\171\040\123\145\162

\166\151\143\145\163\040\111\156\143\061\055\060\053\006\003\125  
\004\003\023\044\130\122\141\155\160\040\107\154\157\142\141\154  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171\060\202\001\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000  
\060\202\001\012\002\202\001\001\000\230\044\036\275\025\264\272  
\337\307\214\245\047\266\070\013\151\363\266\116\250\054\056\041  
\035\134\104\337\041\135\176\043\164\376\136\176\264\112\267\246  
\255\037\256\340\006\026\342\233\133\331\147\164\153\135\200\217  
\051\235\206\033\331\234\015\230\155\166\020\050\130\344\145\260  
\177\112\230\171\237\340\303\061\176\200\053\265\214\300\100\073  
\021\206\320\313\242\206\066\140\244\325\060\202\155\331\156\320  
\017\022\004\063\227\137\117\141\132\360\344\371\221\253\347\035  
\073\274\350\317\364\153\055\064\174\342\110\141\034\216\363\141  
\104\314\157\240\112\251\224\260\115\332\347\251\064\172\162\070  
\250\101\314\074\224\021\175\353\310\246\214\267\206\313\312\063  
\073\331\075\067\213\373\172\076\206\054\347\163\327\012\127\254  
\144\233\031\353\364\017\004\010\212\254\003\027\031\144\364\132  
\045\042\215\064\054\262\366\150\035\022\155\323\212\036\024\332  
\304\217\246\342\043\205\325\172\015\275\152\340\351\354\354\027  
\273\102\033\147\252\045\355\105\203\041\374\301\311\174\325\142  
\076\372\362\305\055\323\375\324\145\002\003\001\000\001\243\201  
\237\060\201\234\060\023\006\011\053\006\001\004\001\202\067\024  
\002\004\006\036\004\000\103\000\101\060\013\006\003\125\035\017  
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\306\117\242\075\006\143\204\011\234\316\142\344\004\254  
\215\134\265\351\266\033\060\066\006\003\125\035\037\004\057\060  
\055\060\053\240\051\240\047\206\045\150\164\164\160\072\057\057  
\143\162\154\056\170\162\141\155\160\163\145\143\165\162\151\164  
\171\056\143\157\155\057\130\107\103\101\056\143\162\154\060\020  
\006\011\053\006\001\004\001\202\067\025\001\004\003\002\001\001  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003  
\202\001\001\000\221\025\071\003\001\033\147\373\112\034\371\012  
\140\133\241\332\115\227\142\371\044\123\047\327\202\144\116\220  
\056\303\111\033\053\232\334\374\250\170\147\065\361\035\360\021  
\275\267\110\343\020\366\015\337\077\322\311\266\252\125\244\110  
\272\002\333\336\131\056\025\133\073\235\026\175\107\327\067\352  
\137\115\166\022\066\273\037\327\241\201\004\106\040\243\054\155  
\251\236\001\176\077\051\316\000\223\337\375\311\222\163\211\211  
\144\236\347\053\344\034\221\054\322\271\316\175\316\157\061\231  
\323\346\276\322\036\220\360\011\024\171\134\043\253\115\322\332  
\041\037\115\231\171\235\341\317\047\237\020\233\034\210\015\260  
\212\144\101\061\270\016\154\220\044\244\233\134\161\217\272\273  
\176\034\033\333\152\200\017\041\274\351\333\246\267\100\364\262  
\213\251\261\344\357\232\032\320\075\151\231\356\250\050\243\341  
\074\263\360\262\021\234\317\174\100\346\335\347\103\175\242\330  
\072\265\251\215\362\064\231\304\324\020\341\006\375\011\204\020



```
\073\356\304\114\364\354\047\174\102\302\164\174\202\212\011\311
\264\003\045\274
END
CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "XRamp Global CA Root"
Issuer: CN=XRamp Global Certification Authority,O=XRamp Security Services
Inc,OU=www.xrampsecurity.com,C=US
Serial Number:50:94:6c:ec:18:ea:d5:9c:4d:d5:97:ef:75:8f:a0:ad
Subject: CN=XRamp
Global Certification Authority,O=XRamp Security Services Inc,OU=www.xrampsecurity.com,C=US
Not Valid Before: Mon Nov 01 17:14:04 2004
Not Valid After : Mon Jan 01 05:37:19 2035
Fingerprint (SHA-256):
CE:CD:DC:90:50:99:D8:DA:DF:C5:B1:D2:09:B7:37:CB:E2:C1:8C:FB:2C:10:C0:FF:0B:CF:0D:32:86:FC:1A:A2
Fingerprint (SHA1): B8:01:86:D1:EB:9C:86:A5:41:04:CF:30:54:F3:4C:52:B7:E5:58:C6
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "XRamp Global CA Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\270\001\206\321\353\234\206\245\101\004\317\060\124\363\114\122
\267\345\130\306
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\241\013\104\263\312\020\330\000\156\235\017\330\017\222\012\321
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\036\060\034\006\003\125\004\013\023\025\167\167\167\056\170
\162\141\155\160\163\145\143\165\162\151\164\171\056\143\157\155
\061\044\060\042\006\003\125\004\012\023\033\130\122\141\155\160
\040\123\145\143\165\162\151\164\171\040\123\145\162\166\151\143
\145\163\040\111\156\143\061\055\060\053\006\003\125\004\003\023
\044\130\122\141\155\160\040\107\154\157\142\141\154\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\120\224\154\354\030\352\325\234\115\325\227\357\165\217
\240\255
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Go Daddy Class 2 CA"

#

# Issuer: OU=Go Daddy Class 2 Certification Authority,O="The Go Daddy Group, Inc.",C=US

# Serial Number: 0 (0x0)

# Subject: OU=Go Daddy Class 2 Certification Authority,O="The Go Daddy Group, Inc.",C=US

# Not Valid Before: Tue Jun 29 17:06:20 2004

# Not Valid After : Thu Jun

29 17:06:20 2034

# Fingerprint (SHA-256):

C3:84:6B:F2:4B:9E:93:CA:64:27:4C:0E:C6:7C:1E:CC:5E:02:4F:FC:AC:D2:D7:40:19:35:0E:81:FE:54:6A:E4

# Fingerprint (SHA1): 27:96:BA:E6:3F:18:01:E2:77:26:1B:A0:D7:77:70:02:8F:20:EE:E4

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Go Daddy Class 2 CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\041\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157  
\040\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156  
\143\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040  
\104\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\041\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157  
\040\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156  
\143\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040  
\104\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\000

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\000\060\202\002\350\240\003\002\001\002\002\001\000  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060

\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061\041  
\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157\040  
\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156\143  
\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040\104  
\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145\162  
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157  
\162\151\164\171\060\036\027\015\060\064\060\066\062\071\061\067  
\060\066\062\060\132\027\015\063\064\060\066\062\071\061\067\060  
\066\062\060\132\060\143\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\041\060\037\006\003\125\004\012\023\030\124\150  
\145\040\107\157\040\104\141\144\144\171\040\107\162\157\165\160  
\054\040\111\156\143\056\061\061\060\057\006\003\125\004\013\023  
\050\107\157\040\104\141\144\144\171\040\103\154\141\163\163\040  
\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040  
\101\165\164\150\157\162\151\164\171\060\202\001\040\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\015  
\000\060\202\001\010\002\202\001\001\000\336\235\327\352\127\030  
\111\241\133\353\327\137\110\206\352\276\335\377\344\357\147\034  
\364\145\150\263\127\161\240\136\167\273\355\233\111\351\160\200  
\075\126\030\143\010\157\332\362\314\320\077\177\002\124\042\124  
\020\330\262\201\324\300\165\075\113\177\307\167\303\076\170\253  
\032\003\265\040\153\057\152\053\261\305\210\176\304\273\036\260  
\301\330\105\047\157\252\067\130\367\207\046\327\330\055\366\251  
\027\267\037\162\066\116\246\027\077\145\230\222\333\052\156\135  
\242\376\210\340\013\336\177\345\215\025\341\353\313\072\325\342  
\022\242\023\055\330\216\257\137\022\075\240\010\005\010\266\134  
\245\145\070\004\105\231\036\243\140\140\164\305\101\245\162\142  
\033\142\305\037\157\137\032\102\276\002\121\145\250\256\043\030  
\152\374\170\003\251\115\177\200\303\372\253\132\374\241\100\244  
\312\031\026\376\262\310\357\136\163\015\356\167\275\232\366\171  
\230\274\261\007\147\242\025\015\335\240\130\306\104\173\012\076  
\142\050\137\272\101\007\123\130\317\021\176\070\164\305\370\377  
\265\151\220\217\204\164\352\227\033\257\002\001\003\243\201\300  
\060\201\275\060\035\006\003\125\035\016\004\026\004\024\322\304  
\260\322\221\324\114\021\161\263\141\313\075\241\376\335\250\152  
\324\343\060\201\215\006\003\125\035\043\004\201\205\060\201\202  
\200\024\322\304\260\322\221\324\114\021\161\263\141\313\075\241  
\376\335\250\152\324\343\241\147\244\145\060\143\061\013\060\011  
\006\003\125\004\006\023\002\125\123\061\041\060\037\006\003\125  
\004\012\023\030\124\150\145\040\107\157\040\104\141\144\144\171  
\040\107\162\157\165\160\054\040\111\156\143\056\061\061\060\057  
\006\003\125\004\013\023\050\107\157\040\104\141\144\144\171\040  
\103\154\141\163\163\040\062\040\103\145\162\164\151\146\151\143  
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\202  
\001\000\060\014\006\003\125\035\023\004\005\060\003\001\001\377  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003  
\202\001\001\000\062\113\363\262\312\076\221\374\022\306\241\007  
\214\216\167\240\063\006\024\134\220\036\030\367\010\246\075\012

\031\371\207\200\021\156\151\344\226\027\060\377\064\221\143\162  
\070\356\314\034\001\243\035\224\050\244\061\366\172\304\124\327  
\366\345\061\130\003\242\314\316\142\333\224\105\163\265\277\105  
\311\044\265\325\202\002\255\043\171\151\215\270\266\115\316\317  
\114\312\063\043\350\034\210\252\235\213\101\156\026\311\040\345  
\211\236\315\073\332\160\367\176\231\046\040\024\124\045\253\156  
\163\205\346\233\041\235\012\154\202\016\250\370\302\014\372\020  
\036\154\226\357\207\015\304\017\141\213\255\356\203\053\225\370  
\216\222\204\162\071\353\040\352\203\355\203\315\227\156\010\274  
\353\116\046\266\163\053\344\323\366\114\376\046\161\342\141\021  
\164\112\377\127\032\207\017\165\110\056\317\121\151\027\240\002  
\022\141\225\325\321\100\262\020\114\356\304\254\020\103\246\245  
\236\012\325\225\142\232\015\317\210\202\305\062\014\344\053\237  
\105\346\015\237\050\234\261\271\052\132\127\255\067\017\257\035  
\177\333\275\237

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Go Daddy Class 2 CA"

# Issuer: OU=Go Daddy Class 2 Certification Authority,O="The Go Daddy Group, Inc.",C=US

# Serial Number: 0 (0x0)

# Subject: OU=Go Daddy Class 2 Certification Authority,O="The Go Daddy Group, Inc.",C=US

# Not Valid Before: Tue

Jun 29 17:06:20 2004

# Not Valid After : Thu Jun 29 17:06:20 2034

# Fingerprint (SHA-256):

C3:84:6B:F2:4B:9E:93:CA:64:27:4C:0E:C6:7C:1E:CC:5E:02:4F:FC:AC:D2:D7:40:19:35:0E:81:FE:54:6A:E4

# Fingerprint (SHA1): 27:96:BA:E6:3F:18:01:E2:77:26:1B:A0:D7:77:70:02:8F:20:EE:E4

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Go Daddy Class 2 CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\047\226\272\346\077\030\001\342\167\046\033\240\327\167\160\002  
\217\040\356\344

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\221\336\006\045\253\332\375\062\027\014\273\045\027\052\204\147

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\041\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157  
\040\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156  
\143\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040

\104\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\000

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Starfield Class 2 CA"

#

# Issuer: OU=Starfield Class 2 Certification Authority,O="Starfield Technologies, Inc.",C=US

# Serial Number: 0 (0x0)

# Subject: OU=Starfield Class 2 Certification Authority,O="Starfield Technologies, Inc.",C=US

# Not Valid Before: Tue Jun 29 17:39:16 2004

# Not Valid After : Thu Jun 29 17:39:16 2034

# Fingerprint (SHA-256):

14:65:FA:20:53:97:B8:76:FA:A6:F0:A9:95:8E:55:90:E4:0F:CC:7F:AA:4F:B7:C2:C8:67:75:21:FB:5F:B6:58

# Fingerprint (SHA1): AD:7E:1C:28:B0:64:EF:8F:60:03:40:20:14:C3:D0:E3:37:0E:B5:8A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE

CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Starfield Class 2 CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\045\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151

\145\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163

\054\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023

\051\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163

\040\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156

\040\101\165\164\150\157\162\151\164\171

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\045\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151

\145\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163

\054\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023

\051\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163

\040\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156

\040\101\165\164\150\157\162\151\164\171  
END  
CKA\_SERIAL\_NUMBER  
MULTILINE\_OCTAL  
\002\001\000  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\004\017\060\202\002\367\240\003\002\001\002\002\001\000  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060  
\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061\045  
\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151\145  
\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163\054  
\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023\051  
\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163\040  
\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040  
\101\165\164\150\157\162\151\164\171\060\036\027\015\060\064\060  
\066\062\071\061\067\063\071\061\066\132\027\015\063\064\060\066  
\062\071\061\067\063\071\061\066\132\060\150\061\013\060\011\006  
\003\125\004\006\023\002\125\123\061\045\060\043\006\003\125\004  
\012\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143  
\150\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061  
\062\060\060\006\003\125\004\013\023\051\123\164\141\162\146\151  
\145\154\144\040\103\154\141\163\163\040\062\040\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162  
\151\164\171\060\202\001\040\060\015\006\011\052\206\110\206\367  
\015\001\001\001\005\000\003\202\001\015\000\060\202\001\010\002  
\202\001\001\000\267\062\310\376\351\161\246\004\205\255\014\021  
\144\337\316\115\357\310\003\030\207\077\241\253\373\074\246\237  
\360\303\241\332\324\330\156\053\123\220\373\044\244\076\204\360  
\236\350\137\354\345\047\104\365\050\246\077\173\336\340\052\360  
\310\257\123\057\236\312\005\001\223\036\217\146\034\071\247\115  
\372\132\266\163\004\045\146\353\167\177\347\131\306\112\231\045  
\024\124\353\046\307\363\177\031\325\060\160\217\257\260\106\052  
\377\255\353\051\355\327\237\252\004\207\243\324\371\211\245\064  
\137\333\103\221\202\066\331\146\074\261\270\271\202\375\234\072  
\076\020\310\073\357\006\145\146\172\233\031\030\075\377\161\121  
\074\060\056\137\276\075\167\163\262\135\006\154\303\043\126\232  
\053\205\046\222\034\247\002\263\344\077\015\257\010\171\202\270  
\066\075\352\234\323\065\263\274\151\312\365\314\235\350\375\144  
\215\027\200\063\156\136\112\135\231\311\036\207\264\235\032\300  
\325\156\023\065\043\136\337\233\137\075\357\326\367\166\302\352  
\076\273\170\015\034\102\147\153\004\330\370\326\332\157\213\362  
\104\240\001\253\002\001\003\243\201\305\060\201\302\060\035\006  
\003\125\035\016\004\026\004\024\277\137\267\321\316\335\037\206  
\364\133\125\254\334\327\020\302\016\251\210\347\060\201\222\006  
\003\125\035\043\004\201\212\060\201\207\200\024\277\137\267\321  
\316\335\037\206\364\133\125\254\334\327\020\302\016\251\210\347  
\241\154\244\152\060\150\061\013\060\011\006\003\125\004\006\023

\002\125\123\061\045\060\043\006\003\125\004\012\023\034\123\164  
\141\162\146\151\145\154\144\040\124\145\143\150\156\157\154\157  
\147\151\145\163\054\040\111\156\143\056\061\062\060\060\006\003  
\125\004\013\023\051\123\164\141\162\146\151\145\154\144\040\103  
\154\141\163\163\040\062\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\202\001  
\000\060\014\006\003\125\035\023\004\005\060\003\001\001\377\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202  
\001\001\000\005\235\077\210\235\321\311\032\125\241\254\151\363  
\363\131\332\233\001\207\032\117\127\251\241\171\011\052\333\367  
\057\262\036\314\307\136\152\330\203\207\241\227\357\111\065\076  
\167\006\101\130\142\277\216\130\270\012\147\077\354\263\335\041  
\146\037\311\124\372\162\314\075\114\100\330\201\257\167\236\203  
\172\273\242\307\365\064\027\216\331\021\100\364\374\054\052\115  
\025\177\247\142\135\056\045\323\000\013\040\032\035\150\371\027  
\270\364\275\213\355\050\131\335\115\026\213\027\203\310\262\145  
\307\055\172\245\252\274\123\206\155\335\127\244\312\370\040\101  
\013\150\360\364\373\164\276\126\135\172\171\365\371\035\205\343  
\055\225\276\365\161\220\103\314\215\037\232\000\012\207\051\351  
\125\042\130\000\043\352\343\022\103\051\133\107\010\335\214\101  
\152\145\006\250\345\041\252\101\264\225\041\225\271\175\321\064  
\253\023\326\255\274\334\342\075\071\315\275\076\165\160\241\030  
\131\003\311\042\264\217\234\325\136\052\327\245\266\324\012\155  
\370\267\100\021\106\232\037\171\016\142\277\017\227\354\340\057  
\037\027\224

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Starfield Class 2 CA"

# Issuer: OU=Starfield Class 2 Certification Authority,O="Starfield Technologies, Inc.",C=US

# Serial Number: 0 (0x0)

# Subject: OU=Starfield Class 2 Certification Authority,O="Starfield Technologies, Inc.",C=US

# Not Valid Before: Tue Jun 29 17:39:16 2004

# Not Valid After : Thu Jun 29 17:39:16 2034

# Fingerprint (SHA-256):

14:65:FA:20:53:97:B8:76:FA:A6:F0:A9:95:8E:55:90:E4:0F:CC:7F:AA:4F:B7:C2:C8:67:75:21:FB:5F:B6:58

#

Fingerprint (SHA1): AD:7E:1C:28:B0:64:EF:8F:60:03:40:20:14:C3:D0:E3:37:0E:B5:8A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Starfield Class 2 CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\255\176\034\050\260\144\357\217\140\003\100\040\024\303\320\343

```

\067\016\265\212
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\062\112\113\273\310\143\151\233\276\164\232\306\335\035\106\044
END
CKA_ISSUER MULTILINE_OCTAL
\060\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\045\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151
\145\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163
\054\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023
\051\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163
\040\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DigiCert Assured ID Root CA"
#
Issuer: CN=DigiCert Assured ID Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
Serial Number:0c:e7:e0:e5:17:d8:46:fe:8f:e5:60:fc:1b:f0:30:39
Subject: CN=DigiCert Assured ID Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
Not Valid Before: Fri Nov 10 00:00:00 2006
Not Valid After : Mon Nov 10 00:00:00 2031
Fingerprint (SHA-256):
3E:90:99:B5:01:5E:8F:48:6C:00:BC:EA:9D:11:1E:E7:21:FA:BA:35:5A:89:BC:F1:DF:69:56:1E:3D:C6:32:5C
Fingerprint (SHA1): 05:63:B8:63:0D:62:D7:5A:BB:C8:AB:1E:4B:DF:B5:A8:99:B2:4D:43
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Assured ID Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT
MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040

```



\122\157\157\164\040\103\101

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145  
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151  
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040  
\122\157\157\164\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\014\347\340\345\027\330\106\376\217\345\140\374\033\360  
\060\071

END

CKA\_VALUE

MULTILINE\_OCTAL

\060\202\003\267\060\202\002\237\240\003\002\001\002\002\020\014  
\347\340\345\027\330\106\376\217\345\140\374\033\360\060\071\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\145  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060  
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164  
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167  
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061  
\044\060\042\006\003\125\004\003\023\033\104\151\147\151\103\145  
\162\164\040\101\163\163\165\162\145\144\040\111\104\040\122\157  
\157\164\040\103\101\060\036\027\015\060\066\061\061\061\060\060  
\060\060\060\060\060\132\027\015\063\061\061\061\061\060\060\060  
\060\060\060\060\132\060\145\061\013\060\011\006\003\125\004\006  
\023\002\125\123\061\025\060\023\006\003\125\004\012\023\014\104  
\151\147\151\103\145\162\164\040\111\156\143\061\031\060\027\006  
\003\125\004\013\023\020\167\167\167\056\144\151\147\151\143\145  
\162\164\056\143\157\155\061\044\060\042\006\003\125\004\003\023  
\033\104\151\147\151\103\145\162\164\040\101\163\163\165\162\145  
\144\040\111\104\040\122\157\157\164\040\103\101\060\202\001\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\001\017\000\060\202\001\012\002\202\001\001\000\255\016\025  
\316\344\103\200\134\261\207\363\267\140\371\161\022\245\256\334  
\046\224\210\252\364\316\365\040\071\050\130\140\014\370\200\332  
\251\025\225\062\141\074\265\261\050\204\212\212\334\237\012\014  
\203\027\172\217\220\254\212\347\171\123\134\061\204\052\366\017  
\230\062\066\166\314\336\335\074\250\242\357\152\373\041\362\122  
\141\337\237\040\327\037\342\261\331\376\030\144\322\022\133\137  
\371\130\030\065\274\107\315\241\066\371\153\177\324\260\070\076  
\301\033\303\214\063\331\330\057\030\376\050\017\263\247\203\326  
\303\156\104\300\141\065\226\026\376\131\234\213\166\155\327\361  
\242\113\015\053\377\013\162\332\236\140\320\216\220\065\306\170

\125\207\040\241\317\345\155\012\310\111\174\061\230\063\154\042  
\351\207\320\062\132\242\272\023\202\021\355\071\027\235\231\072  
\162\241\346\372\244\331\325\027\061\165\256\205\175\042\256\077  
\001\106\206\366\050\171\310\261\332\344\127\027\304\176\034\016  
\260\264\222\246\126\263\275\262\227\355\252\247\360\267\305\250  
\077\225\026\320\377\241\226\353\010\137\030\167\117\002\003\001  
\000\001\243\143\060\141\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\105\353\242\257\364\222\313\202\061\055\121\213\247\247  
\041\235\363\155\310\017\060\037\006\003\125\035\043\004\030\060  
\026\200\024\105\353\242\257\364\222\313\202\061\055\121\213\247  
\247\041\235\363\155\310\017\060\015\006\011\052\206\110\206\367  
\015\001\001\005\005\000\003\202\001\001\000\242\016\274\337\342  
\355\360\343\162\163\172\144\224\277\367\162\146\330\062\344\102  
\165\142\256\207\353\362\325\331\336\126\263\237\314\316\024\050  
\271\015\227\140\134\022\114\130\344\323\075\203\111\105\130\227  
\065\151\032\250\107\352\126\306\171\253\022\330\147\201\204\337  
\177\011\074\224\346\270\046\054\040\275\075\263\050\211\367\137  
\377\042\342\227\204\037\351\145\357\207\340\337\301\147\111\263  
\135\353\262\011\052\353\046\355\170\276\175\077\053\363\267\046  
\065\155\137\211\001\266\111\133\237\001\005\233\253\075\045\301  
\314\266\177\302\361\157\206\306\372\144\150\353\201\055\224\353  
\102\267\372\214\036\335\142\361\276\120\147\267\154\275\363\361  
\037\153\014\066\007\026\177\067\174\251\133\155\172\361\022\106  
\140\203\327\047\004\276\113\316\227\276\303\147\052\150\021\337  
\200\347\014\063\146\277\023\015\024\156\363\177\037\143\020\036  
\372\215\033\045\155\154\217\245\267\141\001\261\322\243\046\241  
\020\161\235\255\342\303\371\303\231\121\267\053\007\010\316\056  
\346\120\262\247\372\012\105\057\242\360\362

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert Assured ID Root CA"

# Issuer: CN=DigiCert Assured ID Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:0c:e7:e0:e5:17:d8:46:fe:8f:e5:60:fc:1b:f0:30:39

# Subject: CN=DigiCert Assured ID Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Fri Nov 10 00:00:00 2006

# Not Valid After : Mon Nov 10 00:00:00 2031

# Fingerprint (SHA-256):

3E:90:99:B5:01:5E:8F:48:6C:00:BC:EA:9D:11:1E:E7:21:FA:BA:35:5A:89:BC:F1:DF:69:56:1E:3D:C6:32:5C

# Fingerprint (SHA1): 05:63:B8:63:0D:62:D7:5A:BB:C8:AB:1E:4B:DF:B5:A8:99:B2:4D:43

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Assured ID Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\005\143\270\143\015\142\327\132\273\310\253\036\113\337\265\250
\231\262\115\103
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\207\316\013\173\052\016\111\000\341\130\161\233\067\250\223\162
END
CKA_ISSUER
MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\014\347\340\345\027\330\106\376\217\345\140\374\033\360
\060\071
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DigiCert Global Root CA"
#
Issuer: CN=DigiCert Global Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
Serial Number:08:3b:e0:56:90:42:46:b1:a1:75:6a:c9:59:91:c7:4a
#
Subject: CN=DigiCert Global Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
Not Valid Before: Fri Nov 10 00:00:00 2006
Not Valid After : Mon Nov 10 00:00:00 2031
Fingerprint (SHA-256):
43:48:A0:E9:44:4C:78:CB:26:5E:05:8D:5E:89:44:B4:D8:4F:96:62:BD:26:DB:25:7F:89:34:A4:43:C7:01:61
Fingerprint (SHA1): A8:98:5D:3A:65:E5:E5:C4:B2:D7:D6:6D:40:C6:DD:2F:B1:9C:54:36
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Global Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL

```

\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145  
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151  
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164  
\040\103\101

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145  
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151  
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164  
\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\010\073\340\126\220\102\106\261\241\165\152\311\131\221  
\307\112

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\257\060\202\002\227\240\003\002\001\002\002\020\010  
\073\340\126\220\102\106\261\241\165\152\311\131\221\307\112\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\141  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060  
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164  
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167  
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061  
\040\060\036\006\003\125\004\003\023\027\104\151\147\151\103\145  
\162\164\040\107\154\157\142\141\154\040\122\157\157\164\040\103  
\101\060\036\027\015\060\066\061\061\061\060\060\060\060\060\060  
\060\132\027\015\063\061\061\061\061\060\060\060\060\060\060  
\132\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103  
\145\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013  
\023\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143  
\157\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147  
\151\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157  
\164\040\103\101\060\202\001\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012  
\002\202\001\001\000\342\073\341\021\162\336\250\244\323\243\127  
\252\120\242\217\013\167\220\311\242\245\356\022\316\226\133\001  
\011\040\314\001\223\247\116\060\267\123\367\103\304\151\000\127  
\235\342\215\042\335\207\006\100\000\201\011\316\316\033\203\277  
\337\315\073\161\106\342\326\146\307\005\263\166\047\026\217\173

\236\036\225\175\356\267\110\243\010\332\326\257\172\014\071\006  
\145\177\112\135\037\274\027\370\253\276\356\050\327\164\177\172  
\170\231\131\205\150\156\134\043\062\113\277\116\300\350\132\155  
\343\160\277\167\020\277\374\001\366\205\331\250\104\020\130\062  
\251\165\030\325\321\242\276\107\342\047\152\364\232\063\370\111  
\010\140\213\324\137\264\072\204\277\241\252\112\114\175\076\317  
\117\137\154\166\136\240\113\067\221\236\334\042\346\155\316\024  
\032\216\152\313\376\315\263\024\144\027\307\133\051\236\062\277  
\362\356\372\323\013\102\324\253\267\101\062\332\014\324\357\370  
\201\325\273\215\130\077\265\033\350\111\050\242\160\332\061\004  
\335\367\262\026\362\114\012\116\007\250\355\112\075\136\265\177  
\243\220\303\257\047\002\003\001\000\001\243\143\060\141\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\035\006\003\125\035\016\004\026\004\024\003\336\120\065\126\321  
\114\273\146\360\243\342\033\033\303\227\262\075\321\125\060\037  
\006\003\125\035\043\004\030\060\026\200\024\003\336\120\065\126  
\321\114\273\146\360\243\342\033\033\303\227\262\075\321\125\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202  
\001\001\000\313\234\067\252\110\023\022\012\372\335\104\234\117  
\122\260\364\337\256\004\365\171\171\010\243\044\030\374\113\053  
\204\300\055\271\325\307\376\364\301\037\130\313\270\155\234\172  
\164\347\230\051\253\021\265\343\160\240\241\315\114\210\231\223  
\214\221\160\342\253\017\034\276\223\251\377\143\325\344\007\140  
\323\243\277\235\133\011\361\325\216\343\123\364\216\143\372\077  
\247\333\264\146\337\142\146\326\321\156\101\215\362\055\265\352  
\167\112\237\235\130\342\053\131\300\100\043\355\055\050\202\105  
\076\171\124\222\046\230\340\200\110\250\067\357\360\326\171\140  
\026\336\254\350\016\315\156\254\104\027\070\057\111\332\341\105  
\076\052\271\066\123\317\072\120\006\367\056\350\304\127\111\154  
\141\041\030\325\004\255\170\074\054\072\200\153\247\353\257\025  
\024\351\330\211\301\271\070\154\342\221\154\212\377\144\271\167  
\045\127\060\300\033\044\243\341\334\351\337\107\174\265\264\044  
\010\005\060\354\055\275\013\277\105\277\120\271\251\363\353\230  
\001\022\255\310\210\306\230\064\137\215\012\074\306\351\325\225  
\225\155\336

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert Global Root CA"

# Issuer: CN=DigiCert Global Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:08:3b:e0:56:90:42:46:b1:a1:75:6a:c9:59:91:c7:4a

# Subject: CN=DigiCert Global Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Fri Nov 10 00:00:00 2006

# Not Valid After : Mon Nov 10 00:00:00 2031

```

Fingerprint (SHA-256):
43:48:A0:E9:44:4C:78:CB:26:5E:05:8D:5E:89:44:B4:D8:4F:96:62:BD:26:DB:25:7F:89:34:A4:43:C7:01:61
#
Fingerprint (SHA1): A8:98:5D:3A:65:E5:E5:C4:B2:D7:D6:6D:40:C6:DD:2F:B1:9C:54:36
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Global Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\250\230\135\072\145\345\345\304\262\327\326\155\100\306\335\057
\261\234\124\066
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\171\344\251\204\015\175\072\226\327\300\117\342\103\114\211\056
END
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\010\073\340\126\220\102\106\261\241\165\152\311\131\221
\307\112
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DigiCert High Assurance EV Root CA"
#
Issuer: CN=DigiCert High Assurance EV Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
Serial Number:02:ac:5c:26:6a:0b:40:9b:8f:0b:79:f2:ae:46:25:77
Subject: CN=DigiCert High Assurance EV Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
Not Valid Before: Fri Nov 10 00:00:00 2006
Not Valid After : Mon Nov 10 00:00:00 2031
Fingerprint (SHA-256):
74:31:E5:F4:C3:C1:CE:46:90:77:4F:0B:61:E0:54:40:88:3B:A9:A0:1E:D0:0B:A6:AB:D7:80:6E:D3:B1:18:CF
Fingerprint (SHA1): 5F:B7:EE:06:33:E2:59:DB:AD:0C:4C:9A:E6:D3:8F:1A:61:C7:DC:25
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE

```

```
CKA_PRIVATE
CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert High Assurance EV Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\053\060\051\006\003\125\004\003\023\042\104\151\147\151
\103\145\162\164\040\110\151\147\150\040\101\163\163\165\162\141
\156\143\145\040\105\126\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\053\060\051\006\003\125\004\003\023\042\104\151\147\151
\103\145\162\164\040\110\151\147\150\040\101\163\163\165\162\141
\156\143\145\040\105\126\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\002\254\134\046\152\013\100\233\217\013\171\362\256\106
\045\167
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\305\060\202\002\255\240\003\002\001\002\002\020\002
\254\134\046\152\013\100\233\217\013\171\362\256\106\045\167\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\154
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061
\053\060\051\006\003\125\004\003\023\042\104\151\147\151\103\145
\162\164\040\110\151\147\150\040\101\163\163\165\162\141\156\143
\145\040\105\126\040\122\157\157\164\040\103\101\060\036\027\015
\060\066\061\061\061\060\060\060\060\060\060\060\060\132\027\015\063
\061\061\061\061\060\060\060\060\060\060\060\060\132\060\154\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\025\060\023\006
\003\125\004\012\023\014\104\151\147\151\103\145\162\164\040\111
\156\143\061\031\060\027\006\003\125\004\013\023\020\167\167\167
\056\144\151\147\151\143\145\162\164\056\143\157\155\061\053\060
\051\006\003\125\004\003\023\042\104\151\147\151\103\145\162\164
\040\110\151\147\150\040\101\163\163\165\162\141\156\143\145\040
```

\105\126\040\122\157\157\164\040\103\101\060\202\001\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001  
\017\000\060\202\001\012\002\202\001\001\000\306\314\345\163\346  
\373\324\273\345\055\055\062\246\337\345\201\077\311\315\045\111  
\266\161\052\303\325\224\064\147\242\012\034\260\137\151\246\100  
\261\304\267\262\217\320\230\244\251\101\131\072\323\334\224\326  
\074\333\164\070\244\112\314\115\045\202\367\112\245\123\022\070  
\356\363\111\155\161\221\176\143\266\253\246\137\303\244\204\370  
\117\142\121\276\370\305\354\333\070\222\343\006\345\010\221\014  
\304\050\101\125\373\313\132\211\025\176\161\350\065\277\115\162  
\011\075\276\072\070\120\133\167\061\033\215\263\307\044\105\232  
\247\254\155\000\024\132\004\267\272\023\353\121\012\230\101\101  
\042\116\145\141\207\201\101\120\246\171\134\211\336\031\112\127  
\325\056\346\135\034\123\054\176\230\315\032\006\026\244\150\163  
\320\064\004\023\134\241\161\323\132\174\125\333\136\144\341\067  
\207\060\126\004\345\021\264\051\200\022\361\171\071\210\242\002  
\021\174\047\146\267\210\267\170\362\312\012\250\070\253\012\144  
\302\277\146\135\225\204\301\241\045\036\207\135\032\120\013\040  
\022\314\101\273\156\013\121\070\270\113\313\002\003\001\000\001  
\243\143\060\141\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\206\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024  
\261\076\303\151\003\370\277\107\001\324\230\046\032\010\002\357  
\143\144\053\303\060\037\006\003\125\035\043\004\030\060\026\200  
\024\261\076\303\151\003\370\277\107\001\324\230\046\032\010\002  
\357\143\144\053\303\060\015\006\011\052\206\110\206\367\015\001  
\001\005\005\000\003\202\001\001\000\034\032\006\227\334\327\234  
\237\074\210\146\006\010\127\041\333\041\107\370\052\147\252\277  
\030\062\166\100\020\127\301\212\363\172\331\021\145\216\065\372  
\236\374\105\265\236\331\114\061\113\270\221\350\103\054\216\263  
\170\316\333\343\123\171\161\326\345\041\224\001\332\125\207\232  
\044\144\366\212\146\314\336\234\067\315\250\064\261\151\233\043  
\310\236\170\042\053\160\103\343\125\107\061\141\031\357\130\305  
\205\057\116\060\366\240\061\026\043\310\347\342\145\026\063\313  
\277\032\033\240\075\370\312\136\213\061\213\140\010\211\055\014  
\006\134\122\267\304\371\012\230\321\025\137\237\022\276\174\066  
\143\070\275\104\244\177\344\046\053\012\304\227\151\015\351\214  
\342\300\020\127\270\310\166\022\221\125\362\110\151\330\274\052  
\002\133\017\104\324\040\061\333\364\272\160\046\135\220\140\236  
\274\113\027\011\057\264\313\036\103\150\311\007\047\301\322\134  
\367\352\041\271\150\022\234\074\234\277\236\374\200\134\233\143  
\315\354\107\252\045\047\147\240\067\363\000\202\175\124\327\251  
\370\351\056\023\243\167\350\037\112

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE



```

Trust for "DigiCert High Assurance EV Root CA"
Issuer: CN=DigiCert High Assurance EV Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
Serial Number:02:ac:5c:26:6a:0b:40:9b:8f:0b:79:f2:ae:46:25:77
Subject: CN=DigiCert High Assurance EV Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
Not Valid Before: Fri Nov 10 00:00:00 2006
Not Valid After : Mon Nov 10 00:00:00 2031
Fingerprint (SHA-256):
74:31:E5:F4:C3:C1:CE:46:90:77:4F:0B:61:E0:54:40:88:3B:A9:A0:1E:D0:0B:A6:AB:D7:80:6E:D3:B1:18:CF
Fingerprint (SHA1): 5F:B7:EE:06:33:E2:59:DB:AD:0C:4C:9A:E6:D3:8F:1A:61:C7:DC:25
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE
CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert High Assurance EV Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\137\267\356\006\063\342\131\333\255\014\114\232\346\323\217\032
\141\307\334\045
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\324\164\336\127\134\071\262\323\234\205\203\305\300\145\111\212
END
CKA_ISSUER MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\053\060\051\006\003\125\004\003\023\042\104\151\147\151
\103\145\162\164\040\110\151\147\150\040\101\163\163\165\162\141
\156\143\145\040\105\126\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\002\254\134\046\152\013\100\233\217\013\171\362\256\106
\045\167
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "SwissSign Gold CA - G2"
#
Issuer: CN=SwissSign Gold CA - G2,O=SwissSign AG,C=CH
Serial Number:00:bb:40:1c:43:f5:5e:4f:b0
Subject: CN=SwissSign Gold CA - G2,O=SwissSign AG,C=CH

```

```
Not Valid Before: Wed Oct 25 08:30:35 2006
Not Valid After : Sat Oct 25 08:30:35 2036
Fingerprint (SHA-256):
62:DD:0B:E9:B9:F5:0A:16:3E:A0:F8:E7:5C:05:3B:1E:CA:57:EA:55:C8:68:8F:64:7C:68:81:F2:C8:35:7B:95
Fingerprint (SHA1): D8:C5:38:8A:B7:30:1B:1B:6E:D4:7A:E6:45:25:3A:6F:9F:1A:27:61
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SwissSign Gold CA - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\037\060\035\006\003\125\004\003\023
\026\123\167\151\163\163\123\151\147\156\040\107\157\154\144\040
\103\101\040\055\040\107\062
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\037\060\035\006\003\125\004\003\023
\026\123\167\151\163\163\123\151\147\156\040\107\157\154\144\040
\103\101\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\273\100\034\103\365\136\117\260
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\272\060\202\003\242\240\003\002\001\002\002\011\000
\273\100\034\103\365\136\117\260\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\060\105\061\013\060\011\006\003\125
\004\006\023\002\103\110\061\025\060\023\006\003\125\004\012\023
\014\123\167\151\163\163\123\151\147\156\040\101\107\061\037\060
\035\006\003\125\004\003\023\026\123\167\151\163\163\123\151\147
\156\040\107\157\154\144\040\103\101\040\055\040\107\062\060\036
\027\015\060\066\061\060\062\065\060\070\063\060\063\065\132\027
\015\063\066\061\060\062\065\060\070\063\060\063\065\132\060\105
\061\013\060\011\006\003\125\004\006\023\002\103\110\061\025\060
\023\006\003\125\004\012\023\014\123\167\151\163\163\123\151\147
\156\040\101\107\061\037\060\035\006\003\125\004\003\023\026\123
\167\151\163\163\123\151\147\156\040\107\157\154\144\040\103\101
\040\055\040\107\062\060\202\002\042\060\015\006\011\052\206\110
\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002
\012\002\202\002\001\000\257\344\356\176\213\044\016\022\156\251
\120\055\026\104\073\222\222\134\312\270\135\204\222\102\023\052
```

\274\145\127\202\100\076\127\044\315\120\213\045\052\267\157\374  
\357\242\320\300\037\002\044\112\023\226\217\043\023\346\050\130  
\000\243\107\307\006\247\204\043\053\273\275\226\053\177\125\314  
\213\301\127\037\016\142\145\017\335\075\126\212\163\332\256\176  
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\076\051\165\347\176\247\142\130\257\045\064\245\101\307\075\274  
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\173\226\244\145\121\176\270\071\363\300\170\146\136\350\072\347  
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\057\162\145\160\157\163\151\164\157\162\171\056\163\167\151\163  
\163\163\151\147\156\056\143\157\155\057\060\015\006\011\052\206  
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\162\170\070\003\331\053\142\033\000\271\370\351\140\315\314\316  
\121\212\307\120\061\156\341\112\176\030\057\151\131\266\075\144  
\201\053\343\203\204\346\042\207\216\175\340\356\002\231\141\270

\036\364\270\053\210\022\026\204\302\061\223\070\226\061\246\271  
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\064\035\062\172\011\126\247\174\045\066\251\075\113\332\300\202  
\157\012\273\022\310\207\113\047\021\371\036\055\307\223\077\236  
\333\137\046\153\122\331\056\212\361\024\306\104\215\025\251\267  
\277\275\336\246\032\356\256\055\373\110\167\027\376\273\354\257  
\030\365\052\121\360\071\204\227\225\154\156\033\303\053\304\164  
\140\171\045\260\012\047\337\337\136\322\071\317\105\175\102\113  
\337\263\054\036\305\306\135\312\125\072\240\234\151\232\217\332  
\357\262\260\074\237\207\154\022\053\145\160\025\122\061\032\044  
\317\157\061\043\120\037\214\117\217\043\303\164\101\143\034\125  
\250\024\335\076\340\121\120\317\361\033\060\126\016\222\260\202  
\205\330\203\313\042\144\274\055\270\045\325\124\242\270\006\352  
\255\222\244\044\240\301\206\265\112\023\152\107\317\056\013\126  
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\367\152\240\102\154\013\070\316\327\165\120\062\222\302\337\053  
\060\042\110\320\325\101\070\045\135\244\351\135\237\306\224\165  
\320\105\375\060\227\103\217\220\253\012\307\206\163\140\112\151  
\055\336\245\170\327\006\332\152\236\113\076\167\072\040\023\042  
\001\320\277\150\236\143\140\153\065\115\013\155\272\241\075\300  
\223\340\177\043\263\125\255\162\045\116\106\371\322\026\357\260  
\144\301\001\236\351\312\240\152\230\016\317\330\140\362\057\111  
\270\344\102\341\070\065\026\364\310\156\117\367\201\126\350\272  
\243\276\043\257\256\375\157\003\340\002\073\060\166\372\033\155  
\101\317\001\261\351\270\311\146\364\333\046\363\072\244\164\362  
\111\044\133\311\260\320\127\301\372\076\172\341\227\311

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SwissSign Gold CA - G2"

# Issuer: CN=SwissSign Gold CA - G2,O=SwissSign AG,C=CH

# Serial Number:00:bb:40:1c:43:f5:5e:4f:b0

# Subject: CN=SwissSign Gold CA - G2,O=SwissSign AG,C=CH

# Not Valid Before: Wed Oct 25 08:30:35 2006

# Not Valid

After : Sat Oct 25 08:30:35 2036

# Fingerprint (SHA-256):

62:DD:0B:E9:B9:F5:0A:16:3E:A0:F8:E7:5C:05:3B:1E:CA:57:EA:55:C8:68:8F:64:7C:68:81:F2:C8:35:7B:95

# Fingerprint (SHA1): D8:C5:38:8A:B7:30:1B:1B:6E:D4:7A:E6:45:25:3A:6F:9F:1A:27:61

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SwissSign Gold CA - G2"

```

CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\330\305\070\212\267\060\033\033\156\324\172\346\105\045\072\157
\237\032\047\141
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\044\167\331\250\221\321\073\372\210\055\302\377\370\315\063\223
END
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\037\060\035\006\003\125\004\003\023
\026\123\167\151\163\163\123\151\147\156\040\107\157\154\144\040
\103\101\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\273\100\034\103\365\136\117\260
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "SwissSign Silver CA - G2"
#
Issuer: CN=SwissSign Silver CA - G2,O=SwissSign AG,C=CH
Serial Number:4f:1b:d4:2f:54:bb:2f:4b
Subject: CN=SwissSign Silver CA - G2,O=SwissSign AG,C=CH
Not Valid Before: Wed Oct 25 08:32:46 2006
Not Valid After : Sat Oct 25 08:32:46 2036
Fingerprint (SHA-256):
BE:6C:4D:A2:BB:B9:BA:59:B6:F3:93:97:68:37:42:46:C3:C0:05:99:3F:A9:8F:02:0D:1D:ED:BE:D4:8A:81:D5
Fingerprint (SHA1): 9B:AA:E5:9F:56:EE:21:CB:43:5A:BE:25:93:DF:A7:F0:40:D1:1D:CB
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SwissSign Silver CA - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023
\030\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145
\162\040\103\101\040\055\040\107\062
END
CKA_ID

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UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061  
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123  
\151\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023  
\030\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145  
\162\040\103\101\040\055\040\107\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\117\033\324\057\124\273\057\113

END

CKA\_VALUE MULTILINE\_OCTAL

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\015\001\001\005\005\000\060\107\061\013\060\011\006\003\125\004  
\006\023\002\103\110\061\025\060\023\006\003\125\004\012\023\014  
\123\167\151\163\163\123\151\147\156\040\101\107\061\041\060\037  
\006\003\125\004\003\023\030\123\167\151\163\163\123\151\147\156  
\040\123\151\154\166\145\162\040\103\101\040\055\040\107\062\060  
\036\027\015\060\066\061\060\062\065\060\070\063\062\064\066\132  
\027\015\063\066\061\060\062\065\060\070\063\062\064\066\132\060  
\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061\025  
\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123\151  
\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023\030  
\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145\162  
\040\103\101\040\055\040\107\062\060\202\002\042\060\015\006\011  
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\060\202\002\012\002\202\002\001\000\304\361\207\177\323\170\061  
\367\070\311\370\303\231\103\274\307\367\274\067\347\116\161\272  
\113\217\245\163\035\134\156\230\256\003\127\256\070\067\103\057  
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\177\105\221\151\331\176\273\170\162\301\006\017\052\316\217\205  
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\042\307\204\271\033\215\043\227\077\355\045\340\317\145\273\365  
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\151\031\171\304\037\176\227\005\277\305\351\044\121\136\324\325  
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\310\075\275\121\065\164\052\325\361\176\151\033\052\273\073\275  
\045\270\232\132\075\162\141\220\146\207\356\014\326\115\324\021  
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\070\312\127\020\015\275\060\057\307\245\346\101\240\332\256\005
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\212\060\372\215\345\232\153\025\001\116\147\252\332\142\126\076
\204\010\146\322\304\066\175\247\076\020\374\210\340\324\200\345
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\264\143\024\322\006\052\147\214\203\365\316\352\007\330\232\152
\036\354\344\012\273\052\114\353\011\140\071\316\312\142\330\056
\156
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SwissSign Silver CA - G2"

# Issuer: CN=SwissSign Silver CA - G2,O=SwissSign AG,C=CH

# Serial Number:4f:1b:d4:2f:54:bb:2f:4b

#

Subject: CN=SwissSign Silver CA - G2,O=SwissSign AG,C=CH

# Not Valid Before: Wed Oct 25 08:32:46 2006

# Not Valid After : Sat Oct 25 08:32:46 2036

# Fingerprint (SHA-256):

BE:6C:4D:A2:BB:B9:BA:59:B6:F3:93:97:68:37:42:46:C3:C0:05:99:3F:A9:8F:02:0D:1D:ED:BE:D4:8A:81:D5

# Fingerprint (SHA1): 9B:AA:E5:9F:56:EE:21:CB:43:5A:BE:25:93:DF:A7:F0:40:D1:1D:CB

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SwissSign Silver CA - G2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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\233\252\345\237\126\356\041\313\103\132\276\045\223\337\247\360
\100\321\035\313
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END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\340\006\241\311\175\317\311\374\015\300\126\165\226\330\142\023
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023
\030\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145
\162\040\103\101\040\055\040\107\062
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\010\117\033\324\057\124\273\057\113
```

END



```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
Certificate "SecureTrust CA"
```

```
#
```

```
Issuer: CN=SecureTrust CA,O=SecureTrust Corporation,C=US
```

```
Serial Number:0c:f0:8e:5c:08:16:a5:ad:42:7f:f0:eb:27:18:59:d0
```

```
Subject: CN=SecureTrust CA,O=SecureTrust Corporation,C=US
```

```
Not Valid Before: Tue Nov 07 19:31:18 2006
```

```
Not Valid After : Mon Dec 31 19:40:55 2029
```

```
Fingerprint (SHA-256):
```

```
F1:C1:B5:0A:E5:A2:0D:D8:03:0E:C9:F6:BC:24:82:3D:D3:67:B5:25:57:59:B4:E7:1B:61:FC:E9:F7:37:5D:73
```

```
Fingerprint (SHA1): 87:82:C6:C3:04:35:3B:CF:D2:96:92:D2:59:3E:7D:44:D9:34:FF:11
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL
```

```
CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "SecureTrust CA"
```

```
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
```

```
CKA_SUBJECT MULTILINE_OCTAL
```

```
\060\110\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\027\060\025\006\003\125\004\003\023\016\123\145\143\165
\162\145\124\162\165\163\164\040\103\101
```

```
END
```

```
CKA_ID UTF8 "0"
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\110\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\027\060\025\006\003\125\004\003\023\016\123\145\143\165
\162\145\124\162\165\163\164\040\103\101
```

```
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\014\360\216\134\010\026\245\255\102\177\360\353\047\030
\131\320
```

```
END
```

```
CKA_VALUE MULTILINE_OCTAL
```

```
\060\202\003\270\060\202\002\240\240\003\002\001\002\002\020\014
\360\216\134\010\026\245\255\102\177\360\353\047\030\131\320\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\110
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\040\060
\036\006\003\125\004\012\023\027\123\145\143\165\162\145\124\162
```

\165\163\164\040\103\157\162\160\157\162\141\164\151\157\156\061  
\027\060\025\006\003\125\004\003\023\016\123\145\143\165\162\145  
\124\162\165\163\164\040\103\101\060\036\027\015\060\066\061\061  
\060\067\061\071\063\061\061\070\132\027\015\062\071\061\062\063  
\061\061\071\064\060\065\065\132\060\110\061\013\060\011\006\003  
\125\004\006\023\002\125\123\061\040\060\036\006\003\125\004\012  
\023\027\123\145\143\165\162\145\124\162\165\163\164\040\103\157  
\162\160\157\162\141\164\151\157\156\061\027\060\025\006\003\125  
\004\003\023\016\123\145\143\165\162\145\124\162\165\163\164\040  
\103\101\060\202\001\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202  
\001\001\000\253\244\201\345\225\315\365\366\024\216\302\117\312  
\324\342\170\225\130\234\101\341\015\231\100\044\027\071\221\063  
\146\351\276\341\203\257\142\134\211\321\374\044\133\141\263\340  
\021\021\101\034\035\156\360\270\273\370\336\247\201\272\246\110  
\306\237\035\275\276\216\251\101\076\270\224\355\051\032\324\216  
\322\003\035\003\357\155\015\147\034\127\327\006\255\312\310\365  
\376\016\257\146\045\110\004\226\013\135\243\272\026\303\010\117  
\321\106\370\024\134\362\310\136\001\231\155\375\210\314\206\250  
\301\157\061\102\154\122\076\150\313\363\031\064\337\273\207\030  
\126\200\046\304\320\334\300\157\337\336\240\302\221\026\240\144  
\021\113\104\274\036\366\347\372\143\336\146\254\166\244\161\243  
\354\066\224\150\172\167\244\261\347\016\057\201\172\342\265\162  
\206\357\242\153\213\360\017\333\323\131\077\272\162\274\104\044  
\234\343\163\263\367\257\127\057\102\046\235\251\164\272\000\122  
\362\113\315\123\174\107\013\066\205\016\146\251\010\227\026\064  
\127\301\146\367\200\343\355\160\124\307\223\340\056\050\025\131  
\207\272\273\002\003\001\000\001\243\201\235\060\201\232\060\023  
\006\011\053\006\001\004\001\202\067\024\002\004\006\036\004\000  
\103\000\101\060\013\006\003\125\035\017\004\004\003\002\001\206  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\035\006\003\125\035\016\004\026\004\024\102\062\266\026  
\372\004\375\376\135\113\172\303\375\367\114\100\035\132\103\257  
\060\064\006\003\125\035\037\004\055\060\053\060\051\240\047\240  
\045\206\043\150\164\164\160\072\057\057\143\162\154\056\163\145  
\143\165\162\145\164\162\165\163\164\056\143\157\155\057\123\124  
\103\101\056\143\162\154\060\020\006\011\053\006\001\004\001\202  
\067\025\001\004\003\002\001\000\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\003\202\001\001\000\060\355\117\112  
\341\130\072\122\162\133\265\246\243\145\030\246\273\121\073\167  
\351\235\352\323\237\134\340\105\145\173\015\312\133\342\160\120  
\262\224\005\024\256\111\307\215\101\007\022\163\224\176\014\043  
\041\375\274\020\177\140\020\132\162\365\230\016\254\354\271\177  
\335\172\157\135\323\034\364\377\210\005\151\102\251\005\161\310  
\267\254\046\350\056\264\214\152\377\161\334\270\261\337\231\274  
\174\041\124\053\344\130\242\273\127\051\256\236\251\243\031\046  
\017\231\056\010\260\357\375\151\317\231\032\011\215\343\247\237  
\053\311\066\064\173\044\263\170\114\225\027\244\006\046\036\266

```
\144\122\066\137\140\147\331\234\305\005\164\013\347\147\043\322
\010\374\210\351\256\213\177\341\060\364\067\176\375\306\062\332
\055\236\104\060\060\154\356\007\336\322\064\374\322\377\100\366
\113\364\146\106\006\124\246\362\062\012\143\046\060\153\233\321
\334\213\107\272\341\271\325\142\320\242\240\364\147\005\170\051
\143\032\157\004\326\370\306\114\243\232\261\067\264\215\345\050
\113\035\236\054\302\270\150\274\355\002\356\061
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SecureTrust CA"

#

Issuer: CN=SecureTrust CA,O=SecureTrust Corporation,C=US

# Serial Number:0c:f0:8e:5c:08:16:a5:ad:42:7f:f0:eb:27:18:59:d0

# Subject: CN=SecureTrust CA,O=SecureTrust Corporation,C=US

# Not Valid Before: Tue Nov 07 19:31:18 2006

# Not Valid After : Mon Dec 31 19:40:55 2029

# Fingerprint (SHA-256):

F1:C1:B5:0A:E5:A2:0D:D8:03:0E:C9:F6:BC:24:82:3D:D3:67:B5:25:57:59:B4:E7:1B:61:FC:E9:F7:37:5D:73

# Fingerprint (SHA1): 87:82:C6:C3:04:35:3B:CF:D2:96:92:D2:59:3E:7D:44:D9:34:FF:11

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SecureTrust CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\207\202\306\303\004\065\073\317\322\226\222\322\131\076\175\104
\331\064\377\021
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\334\062\303\247\155\045\127\307\150\011\235\352\055\251\242\321
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\110\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\027\060\025\006\003\125\004\003\023\016\123\145\143\165
\162\145\124\162\165\163\164\040\103\101
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\020\014\360\216\134\010\026\245\255\102\177\360\353\047\030
\131\320
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
Certificate "Secure Global CA"
```

```
#
```

```
Issuer: CN=Secure Global CA,O=SecureTrust Corporation,C=US
```

```
Serial Number:07:56:22:a4:e8:d4:8a:89:4d:f4:13:c8:f0:f8:ea:a5
```

```
Subject: CN=Secure Global CA,O=SecureTrust Corporation,C=US
```

```
Not Valid Before: Tue Nov 07 19:42:28 2006
```

```
Not Valid After : Mon Dec 31 19:52:06 2029
```

```
Fingerprint (SHA-256):
```

```
42:00:F5:04:3A:C8:59:0E:BB:52:7D:20:9E:D1:50:30:29:FB:CB:D4:1C:A1:B5:06:EC:27:F1:5A:DE:7D:AC:69
```

```
Fingerprint (SHA1): 3A:44:73:5A:E5:81:90:1F:24:86:61:46:1E:3B:9C:C4:5F:F5:3A:1B
```

```
CKA_CLASS
```

```
CK_OBJECT_CLASS CKO_CERTIFICATE
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Secure Global CA"
```

```
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
```

```
CKA_SUBJECT MULTILINE_OCTAL
```

```
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
```

```
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
```

```
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
```

```
\156\061\031\060\027\006\003\125\004\003\023\020\123\145\143\165
```

```
\162\145\040\107\154\157\142\141\154\040\103\101
```

```
END
```

```
CKA_ID UTF8 "0"
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
```

```
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
```

```
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
```

```
\156\061\031\060\027\006\003\125\004\003\023\020\123\145\143\165
```

```
\162\145\040\107\154\157\142\141\154\040\103\101
```

```
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\007\126\042\244\350\324\212\211\115\364\023\310\360\370
```

```
\352\245
```

```
END
```

```
CKA_VALUE
```

```
MULTILINE_OCTAL
```

```
\060\202\003\274\060\202\002\244\240\003\002\001\002\002\020\007
```

```
\126\042\244\350\324\212\211\115\364\023\310\360\370\352\245\060
```

```
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\112
```

```
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\040\060
```

```
\036\006\003\125\004\012\023\027\123\145\143\165\162\145\124\162
```

\165\163\164\040\103\157\162\160\157\162\141\164\151\157\156\061  
\031\060\027\006\003\125\004\003\023\020\123\145\143\165\162\145  
\040\107\154\157\142\141\154\040\103\101\060\036\027\015\060\066  
\061\061\060\067\061\071\064\062\062\070\132\027\015\062\071\061  
\062\063\061\061\071\065\062\060\066\132\060\112\061\013\060\011  
\006\003\125\004\006\023\002\125\123\061\040\060\036\006\003\125  
\004\012\023\027\123\145\143\165\162\145\124\162\165\163\164\040  
\103\157\162\160\157\162\141\164\151\157\156\061\031\060\027\006  
\003\125\004\003\023\020\123\145\143\165\162\145\040\107\154\157  
\142\141\154\040\103\101\060\202\001\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202  
\001\012\002\202\001\001\000\257\065\056\330\254\154\125\151\006  
\161\345\023\150\044\263\117\330\314\041\107\370\361\140\070\211  
\211\003\351\275\352\136\106\123\011\334\134\365\132\350\367\105  
\052\002\353\061\141\327\051\063\114\316\307\174\012\067\176\017  
\272\062\230\341\035\227\257\217\307\334\311\070\226\363\333\032  
\374\121\355\150\306\320\156\244\174\044\321\256\102\310\226\120  
\143\056\340\376\165\376\230\247\137\111\056\225\343\071\063\144  
\216\036\244\137\220\322\147\074\262\331\376\101\271\125\247\011  
\216\162\005\036\213\335\104\205\202\102\320\111\300\035\140\360  
\321\027\054\225\353\366\245\301\222\243\305\302\247\010\140\015  
\140\004\020\226\171\236\026\064\346\251\266\372\045\105\071\310  
\036\145\371\223\365\252\361\122\334\231\230\075\245\206\032\014  
\065\063\372\113\245\004\006\025\034\061\200\357\252\030\153\302  
\173\327\332\316\371\063\040\325\365\275\152\063\055\201\004\373  
\260\134\324\234\243\342\134\035\343\251\102\165\136\173\324\167  
\357\071\124\272\311\012\030\033\022\231\111\057\210\113\375\120  
\142\321\163\347\217\172\103\002\003\001\000\001\243\201\235\060  
\201\232\060\023\006\011\053\006\001\004\001\202\067\024\002\004  
\006\036\004\000\103\000\101\060\013\006\003\125\035\017\004\004  
\003\002\001\206\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024  
\257\104\004\302\101\176\110\203\333\116\071\002\354\354\204\172  
\346\316\311\244\060\064\006\003\125\035\037\004\055\060\053\060  
\051\240\047\240\045\206\043\150\164\164\160\072\057\057\143\162  
\154\056\163\145\143\165\162\145\164\162\165\163\164\056\143\157  
\155\057\123\107\103\101\056\143\162\154\060\020\006\011\053\006  
\001\004\001\202\067\025\001\004\003\002\001\000\060\015\006\011  
\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000  
\143\032\010\100\175\244\136\123\015\167\330\172\256\037\015\013  
\121\026\003\357\030\174\310\343\257\152\130\223\024\140\221\262  
\204\334\210\116\276\071\212\072\363\346\202\211\135\001\067\263  
\253\044\244\025\016\222\065\132\112\104\136\116\127\372\165\316  
\037\110\316\146\364\074\100\046\222\230\154\033\356\044\106\014  
\027\263\122\245\333\245\221\221\317\067\323\157\347\047\010\072  
\116\031\037\072\247\130\134\027\317\171\077\213\344\247\323\046  
\043\235\046\017\130\151\374\107\176\262\320\215\213\223\277\051  
\117\103\151\164\166\147\113\317\007\214\346\002\367\265\341\264

```
\103\265\113\055\024\237\371\334\046\015\277\246\107\164\006\330
\210\321\072\051\060\204\316\322\071\200\142\033\250\307\127\111
\274\152\125\121\147\025\112\276\065\007\344\325\165\230\067\171
\060\024\333\051\235\154\305\151\314\107\125\242\060\367\314\134
\177\302\303\230\034\153\116\026\200\353\172\170\145\105\242\000
\032\257\014\015\125\144\064\110\270\222\271\361\264\120\051\362
\117\043\037\332\154\254\037\104\341\335\043\170\121\133\307\026
END
```

```
CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
Trust for "Secure Global CA"
Issuer: CN=Secure Global CA,O=SecureTrust Corporation,C=US
Serial Number:07:56:22:a4:e8:d4:8a:89:4d:f4:13:c8:f0:f8:ea:a5
Subject: CN=Secure Global CA,O=SecureTrust Corporation,C=US
Not Valid Before: Tue Nov 07 19:42:28 2006
Not Valid After : Mon Dec 31 19:52:06 2029
Fingerprint (SHA-256):
42:00:F5:04:3A:C8:59:0E:BB:52:7D:20:9E:D1:50:30:29:FB:CB:D4:1C:A1:B5:06:EC:27:F1:5A:DE:7D:AC:69
Fingerprint (SHA1): 3A:44:73:5A:E5:81:90:1F:24:86:61:46:1E:3B:9C:C4:5F:F5:3A:1B
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Secure Global CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\072\104\163\132\345\201\220\037\044\206\141\106\036\073\234\304
\137\365\072\033
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\317\364\047\015\324\355\334\145\026\111\155\075\332\277\156\336
END
```

```
CKA_ISSUER
MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\031\060\027\006\003\125\004\003\023\020\123\145\143\165
\162\145\040\107\154\157\142\141\154\040\103\101
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\007\126\042\244\350\324\212\211\115\364\023\310\360\370
\352\245
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "COMODO Certification Authority"
#
Issuer: CN=COMODO Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
Serial Number:4e:81:2d:8a:82:65:e0:0b:02:ee:3e:35:02:46:e5:3d
Subject: CN=COMODO Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
Not Valid Before: Fri Dec 01 00:00:00 2006
Not Valid After : Mon Dec 31 23:59:59 2029
Fingerprint (SHA-256):
0C:2C:D6:3D:F7:80:6F:A3:99:ED:E8:09:11:6B:57:5B:F8:79:89:F0:65:18:F9:80:8C:86:05:03:17:8B:AF:66
Fingerprint (SHA1): 66:31:BF:9E:F7:4F:9E:B6:C9:D5:A6:0C:BA:6A:BE:D1:F7:BD:EF:7B
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "COMODO Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\201\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\047\060\045\006
\003\125\004\003\023\036\103\117\115\117\104\117\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\201\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\047\060\045\006
\003\125\004\003\023\036\103\117\115\117\104\117\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\116\201\055\212\202\145\340\013\002\356\076\065\002\106

```

\345\075

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\035\060\202\003\005\240\003\002\001\002\002\020\116  
\201\055\212\202\145\340\013\002\356\076\065\002\106\345\075\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201  
\201\061\013\060\011\006\003\125\004\006\023\002\107\102\061\033  
\060\031\006\003\125\004\010\023\022\107\162\145\141\164\145\162  
\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016\006  
\003\125\004\007\023\007\123\141\154\146\157\162\144\061\032\060  
\030\006\003\125\004\012\023\021\103\117\115\117\104\117\040\103  
\101\040\114\151\155\151\164\145\144\061\047\060\045\006\003\125  
\004\003\023\036\103\117\115\117\104\117\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\060\036\027\015\060\066\061\062\060\061\060\060\060\060  
\060\060\132\027\015\062\071\061\062\063\061\062\063\065\071\065  
\071\132\060\201\201\061\013\060\011\006\003\125\004\006\023\002  
\107\102\061\033\060\031\006\003\125\004\010\023\022\107\162\145  
\141\164\145\162\040\115\141\156\143\150\145\163\164\145\162\061  
\020\060\016\006\003\125\004\007\023\007\123\141\154\146\157\162  
\144\061\032\060\030\006\003\125\004\012\023\021\103\117\115\117  
\104\117\040\103\101\040\114\151\155\151\164\145\144\061\047\060  
\045\006\003\125\004\003\023\036\103\117\115\117\104\117\040\103  
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164  
\150\157\162\151\164\171\060\202\001\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202  
\001\012\002\202\001\001\000\320\100\213\213\162\343\221\033\367  
\121\301\033\124\004\230\323\251\277\301\346\212\135\073\207\373  
\273\210\316\015\343\057\077\006\226\360\242\051\120\231\256\333  
\073\241\127\260\164\121\161\315\355\102\221\115\101\376\251\310  
\330\152\206\167\104\273\131\146\227\120\136\264\324\054\160\104  
\317\332\067\225\102\151\074\060\304\161\263\122\360\041\115\241  
\330\272\071\174\034\236\243\044\235\362\203\026\230\252\026\174  
\103\233\025\133\267\256\064\221\376\324\142\046\030\106\232\077  
\353\301\371\361\220\127\353\254\172\015\213\333\162\060\152\146  
\325\340\106\243\160\334\150\331\377\004\110\211\167\336\265\351  
\373\147\155\101\351\274\071\275\062\331\142\002\361\261\250\075  
\156\067\234\342\057\342\323\242\046\213\306\270\125\103\210\341  
\043\076\245\322\044\071\152\107\253\000\324\241\263\251\045\376  
\015\077\247\035\272\323\121\301\013\244\332\254\070\357\125\120  
\044\005\145\106\223\064\117\055\215\255\306\324\041\031\322\216  
\312\005\141\161\007\163\107\345\212\031\022\275\004\115\316\116  
\234\245\110\254\273\046\367\002\003\001\000\001\243\201\216\060  
\201\213\060\035\006\003\125\035\016\004\026\004\024\013\130\345  
\213\306\114\025\067\244\100\251\060\251\041\276\107\066\132\126  
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\111\006\003\125\035\037\004\102\060\100\060\076\240



\074\240\072\206\070\150\164\164\160\072\057\057\143\162\154\056  
\143\157\155\157\144\157\143\141\056\143\157\155\057\103\117\115  
\117\104\117\103\145\162\164\151\146\151\143\141\164\151\157\156  
\101\165\164\150\157\162\151\164\171\056\143\162\154\060\015\006  
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001  
\000\076\230\236\233\366\033\351\327\071\267\170\256\035\162\030  
\111\323\207\344\103\202\353\077\311\252\365\250\265\357\125\174  
\041\122\145\371\325\015\341\154\364\076\214\223\163\221\056\002  
\304\116\007\161\157\300\217\070\141\010\250\036\201\012\300\057  
\040\057\101\213\221\334\110\105\274\361\306\336\272\166\153\063  
\310\000\055\061\106\114\355\347\235\317\210\224\377\063\300\126  
\350\044\206\046\270\330\070\070\337\052\153\335\022\314\307\077  
\107\027\114\242\302\006\226\011\326\333\376\077\074\106\101\337  
\130\342\126\017\074\073\301\034\223\065\331\070\122\254\356\310  
\354\056\060\116\224\065\264\044\037\113\170\151\332\362\002\070  
\314\225\122\223\360\160\045\131\234\040\147\304\356\371\213\127  
\141\364\222\166\175\077\204\215\125\267\350\345\254\325\361\365  
\031\126\246\132\373\220\034\257\223\353\345\034\324\147\227\135  
\004\016\276\013\203\246\027\203\271\060\022\240\305\063\025\005  
\271\015\373\307\005\166\343\330\112\215\374\064\027\243\306\041  
\050\276\060\105\061\036\307\170\276\130\141\070\254\073\342\001  
\145

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "COMODO Certification Authority"

# Issuer: CN=COMODO Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater Manchester,C=GB

# Serial Number:4e:81:2d:8a:82:65:e0:0b:02:ee:3e:35:02:46:e5:3d

# Subject: CN=COMODO Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater Manchester,C=GB

# Not Valid Before: Fri Dec 01 00:00:00 2006

# Not Valid After : Mon Dec 31 23:59:59 2029

# Fingerprint (SHA-256):

0C:2C:D6:3D:F7:80:6F:A3:99:ED:E8:09:11:6B:57:5B:F8:79:89:F0:65:18:F9:80:8C:86:05:03:17:8B:AF:66

# Fingerprint (SHA1): 66:31:BF:9E:F7:4F:9E:B6:C9:D5:A6:0C:BA:6A:BE:D1:F7:BD:EF:7B

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE

CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "COMODO Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE OCTAL

\146\061\277\236\367\117\236\266\311\325\246\014\272\152\276\321

\367\275\357\173

```

END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\134\110\334\367\102\162\354\126\224\155\034\314\161\065\200\165
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\201\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\047\060\045\006
\003\125\004\003\023\036\103\117\115\117\104\117\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\116\201\055\212\202\145\340\013\002\356\076\065\002\106
\345\075
END
CKA_TRUST_SERVER_AUTH CK_TRUST
CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "COMODO ECC Certification Authority"
#
Issuer: CN=COMODO ECC Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
Serial Number:1f:47:af:aa:62:00:70:50:54:4c:01:9e:9b:63:99:2a
Subject: CN=COMODO ECC Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
Not Valid Before: Thu Mar 06 00:00:00 2008
Not Valid After : Mon Jan 18 23:59:59 2038
Fingerprint (SHA-256):
17:93:92:7A:06:14:54:97:89:AD:CE:2F:8F:34:F7:F0:B6:6D:0F:3A:E3:A3:B8:4D:21:EC:15:DB:BA:4F:AD:C7
Fingerprint (SHA1): 9F:74:4E:9F:2B:4D:BA:EC:0F:31:2C:50:B6:56:3B:8E:2D:93:C3:11
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "COMODO ECC Certification Authority"
CKA_CERTIFICATE_TYPE
CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164

```

```
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\105\103\103
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\105\103\103
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\020\037\107\257\252\142\000\160\120\124\114\001\236\233\143
\231\052
```

END

CKA\_VALUE MULTILINE\_OCTAL

```
\060\202\002\211\060\202\002\017\240\003\002\001\002\002\020\037
\107\257\252\142\000\160\120\124\114\001\236\233\143\231\052\060
\012\006\010\052\206\110\316\075\004\003\003\060\201\205\061\013
\060\011\006\003\125\004\006\023\002\107\102\061\033\060\031\006
\003\125\004\010\023\022\107\162\145\141\164\145\162\040\115\141
\156\143\150\145\163\164\145\162\061\020\060\016\006\003\125\004
\007\023\007\123\141\154\146\157\162\144\061\032\060\030\006\003
\125\004\012\023\021\103\117\115\117\104\117\040\103\101\040\114
\151\155\151\164\145\144\061\053\060\051\006\003\125\004\003\023
\042\103\117\115\117\104\117\040\105\103\103\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171\060\036\027\015\060\070\060\063\060\066\060\060\060
\060\060\060\132\027\015\063\070\060\061\061\070\062\063\065\071
\065\071\132\060\201\205\061\013\060\011\006\003\125\004\006\023
\002\107\102\061\033\060\031\006\003\125\004\010\023\022\107\162
\145\141\164\145\162\040\115\141\156\143\150\145\163\164\145\162
\061\020\060\016\006\003\125\004\007\023\007\123\141\154\146\157
\162\144\061\032\060\030\006\003\125\004\012\023\021\103\117\115
\117\104\117\040\103\101\040\114\151\155\151\164\145\144\061\053
\060\051\006\003\125\004\003\023\042\103\117\115\117\104\117\040
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\060\166\060\020\006
```

```
\007\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003
\142\000\004\003\107\173\057\165\311\202\025\205\373\165\344\221
\026\324\253\142\231\365\076\122\013\006\316\101\000\177\227\341
\012\044\074\035\001\004\356\075\322\215\011\227\014\340\165\344
\372\373\167\212\052\365\003\140\113\066\213\026\043\026\255\011
\161\364\112\364\050\120\264\376\210\034\156\077\154\057\057\011
\131\133\245\133\013\063\231\342\303\075\211\371\152\054\357\262
\323\006\351\243\102\060\100\060\035\006\003\125\035\016\004\026
\004\024\165\161\247\031\110\031\274\235\235\352\101\107\337\224
\304\110\167\231\323\171\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\012\006\010\052\206\110\316\075
\004\003\003\003\150\000\060\145\002\061\000\357\003\133\172\254
\267\170\012\162\267\210\337\377\265\106\024\011\012\372\240\346
\175\010\306\032\207\275\030\250\163\275\046\312\140\014\235\316
\231\237\317\134\017\060\341\276\024\061\352\002\060\024\364\223
\074\111\247\063\172\220\106\107\263\143\175\023\233\116\267\157
\030\067\200\123\376\335\040\340\065\232\066\321\307\001\271\346
\334\335\363\377\035\054\072\026\127\331\222\071\326
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "COMODO ECC Certification Authority"

# Issuer: CN=COMODO ECC Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater Manchester,C=GB

# Serial Number:1f:47:af:aa:62:00:70:50:54:4c:01:9e:9b:63:99:2a

# Subject: CN=COMODO ECC Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater Manchester,C=GB

# Not Valid Before: Thu Mar 06 00:00:00 2008

# Not Valid After : Mon Jan 18 23:59:59 2038

# Fingerprint (SHA-256):

17:93:92:7A:06:14:54:97:89:AD:CE:2F:8F:34:F7:F0:B6:6D:0F:3A:E3:A3:B8:4D:21:EC:15:DB:BA:4F:AD:C7

# Fingerprint (SHA1): 9F:74:4E:9F:2B:4D:BA:EC:0F:31:2C:50:B6:56:3B:8E:2D:93:C3:11

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "COMODO ECC Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\237\164\116\237\053\115\272\354\017\061\054\120\266\126\073\216
\055\223\303\021
```

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

```
\174\142\377\164\235\061\123\136\150\112\325\170\252\036\277\043
```

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102  
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164  
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060  
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061  
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117  
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006  
\003\125\004\003\023\042\103\117\115\117\104\117\040\105\103\103  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\037\107\257\252\142\000\160\120\124\114\001\236\233\143  
\231\052

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING

CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "OISTE WISeKey Global Root GA CA"

#

# Issuer: CN=OISTE WISeKey Global Root GA CA,OU=OISTE Foundation Endorsed,OU=Copyright (c)  
2005,O=WISeKey,C=CH

# Serial Number:41:3d:72:c7:f4:6b:1f:81:43:7d:f1:d2:28:54:df:9a

# Subject: CN=OISTE WISeKey Global Root GA CA,OU=OISTE Foundation Endorsed,OU=Copyright (c)  
2005,O=WISeKey,C=CH

# Not Valid Before: Sun Dec 11 16:03:44 2005

# Not Valid After : Fri Dec 11 16:09:51 2037

# Fingerprint (SHA-256):

41:C9:23:86:6A:B4:CA:D6:B7:AD:57:80:81:58:2E:02:07:97:A6:CB:DF:4F:FF:78:CE:83:96:B3:89:37:D7:F5

# Fingerprint (SHA1): 59:22:A1:E1:5A:EA:16:35:21:F8:98:39:6A:46:46:B0:44:1B:0F:A9

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "OISTE WISeKey Global Root GA CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\212\061\013\060\011\006\003\125\004\006\023\002\103\110  
\061\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113  
\145\171\061\033\060\031\006\003\125\004\013\023\022\103\157\160  
\171\162\151\147\150\164\040\050\143\051\040\062\060\060\065\061  
\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040  
\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162

```
\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111
\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142
\141\154\040\122\157\157\164\040\107\101\040\103\101
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\212\061\013\060\011\006\003\125\004\006\023\002\103\110
\061\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113
\145\171\061\033\060\031\006\003\125\004\013\023\022\103\157\160
\171\162\151\147\150\164\040\050\143\051\040\062\060\060\065\061
\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040
\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162
\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111
\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142
\141\154\040\122\157\157\164\040\107\101\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\101\075\162\307\364\153\037\201\103\175\361\322\050\124
\337\232
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\361\060\202\002\331\240\003\002\001\002\002\020\101
\075\162\307\364\153\037\201\103\175\361\322\050\124\337\232\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201
\212\061\013\060\011\006\003\125\004\006\023\002\103\110\061\020
\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145\171
\061\033\060\031\006\003\125\004\013\023\022\103\157\160\171\162
\151\147\150\164\040\050\143\051\040\062\060\060\065\061\042\060
\040\006\003\125\004\013\023\031\117\111\123\124\105\040\106\157
\165\156\144\141\164\151\157\156\040\105\156\144\157\162\163\145
\144\061\050\060\046\006\003\125\004\003\023\037\117\111\123\124
\105\040\127\111\123\145\113\145\171\040\107\154\157\142\141\154
\040\122\157\157\164\040\107\101\040\103\101\060\036\027\015\060
\065\061\062\061\061\061\066\060\063\064\064\132\027\015\063\067
\061\062\061\061\061\066\060\071\065\061\132\060\201\212\061\013
\060\011\006\003\125\004\006\023\002\103\110\061\020\060\016\006
\003\125\004\012\023\007\127\111\123\145\113\145\171\061\033\060
\031\006\003\125\004\013\023\022\103\157\160\171\162\151\147\150
\164\040\050\143\051\040\062\060\060\065\061\042\060\040\006\003
\125\004\013\023\031\117\111\123\124\105\040\106\157\165\156\144
\141\164\151\157\156\040\105\156\144\157\162\163\145\144\061\050
\060\046\006\003\125\004\003\023\037\117\111\123\124\105\040\127
\111\123\145\113\145\171\040\107\154\157\142\141\154\040\122\157
\157\164\040\107\101\040\103\101\060\202\001\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000
\060\202\001\012\002\202\001\001\000\313\117\263\000\233\075\066
```

\335\371\321\111\152\153\020\111\037\354\330\053\262\306\370\062  
\201\051\103\225\114\232\031\043\041\025\105\336\343\310\034\121  
\125\133\256\223\350\067\377\053\153\351\324\352\276\052\335\250  
\121\053\327\146\303\141\134\140\002\310\365\316\162\173\073\270  
\362\116\145\010\232\315\244\152\031\301\001\273\163\246\327\366  
\303\335\315\274\244\213\265\231\141\270\001\242\243\324\115\324  
\005\075\221\255\370\264\010\161\144\257\160\361\034\153\176\366  
\303\167\235\044\163\173\344\014\214\341\331\066\341\231\213\005  
\231\013\355\105\061\011\312\302\000\333\367\162\240\226\252\225  
\207\320\216\307\266\141\163\015\166\146\214\334\033\264\143\242  
\237\177\223\023\060\361\241\047\333\331\377\054\125\210\221\240  
\340\117\007\260\050\126\214\030\033\227\104\216\211\335\340\027  
\156\347\052\357\217\071\012\061\204\202\330\100\024\111\056\172  
\101\344\247\376\343\144\314\301\131\161\113\054\041\247\133\175  
\340\035\321\056\201\233\303\330\150\367\275\226\033\254\160\261  
\026\024\013\333\140\271\046\001\005\002\003\001\000\001\243\121  
\060\117\060\013\006\003\125\035\017\004\004\003\002\001\206\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\035\006\003\125\035\016\004\026\004\024\263\003\176\256\066  
\274\260\171\321\334\224\046\266\021\276\041\262\151\206\224\060  
\020\006\011\053\006\001\004\001\202\067\025\001\004\003\002\001  
\000\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000  
\003\202\001\001\000\113\241\377\013\207\156\263\371\301\103\261  
\110\363\050\300\035\056\311\011\101\372\224\000\034\244\244\253  
\111\117\217\075\036\357\115\157\275\274\244\366\362\046\060\311  
\020\312\035\210\373\164\031\037\205\105\275\260\154\121\371\066  
\176\333\365\114\062\072\101\117\133\107\317\350\013\055\266\304  
\031\235\164\305\107\306\073\152\017\254\024\333\074\364\163\234  
\251\005\337\000\334\164\170\372\370\065\140\131\002\023\030\174  
\274\373\115\260\040\155\103\273\140\060\172\147\063\134\305\231  
\321\370\055\071\122\163\373\214\252\227\045\134\162\331\010\036  
\253\116\074\343\201\061\237\003\246\373\300\376\051\210\125\332  
\204\325\120\003\266\342\204\243\246\066\252\021\072\001\341\030  
\113\326\104\150\263\075\371\123\164\204\263\106\221\106\226\000  
\267\200\054\266\341\343\020\342\333\242\347\050\217\001\226\142  
\026\076\000\343\034\245\066\201\030\242\114\122\166\300\021\243  
\156\346\035\272\343\132\276\066\123\305\076\165\217\206\151\051  
\130\123\265\234\273\157\237\134\305\030\354\335\057\341\230\311  
\374\276\337\012\015

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "OISTE WISEKey Global Root GA CA"

# Issuer: CN=OISTE WISEKey Global Root GA CA,OU=OISTE Foundation Endorsed,OU=Copyright (c)

2005,O=WISEKey,C=CH

```

Serial Number:41:3d:72:c7:f4:6b:1f:81:43:7d:f1:d2:28:54:df:9a
Subject: CN=OISTE WISeKey Global Root GA CA,OU=OISTE Foundation Endorsed,OU=Copyright (c)
2005,O=WISeKey,C=CH
Not Valid Before: Sun Dec 11 16:03:44 2005
Not Valid After : Fri
Dec 11 16:09:51 2037
Fingerprint (SHA-256):
41:C9:23:86:6A:B4:CA:D6:B7:AD:57:80:81:58:2E:02:07:97:A6:CB:DF:4F:FF:78:CE:83:96:B3:89:37:D7:F5
Fingerprint (SHA1): 59:22:A1:E1:5A:EA:16:35:21:F8:98:39:6A:46:46:B0:44:1B:0F:A9
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "OISTE WISeKey Global Root GA CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\131\042\241\341\132\352\026\065\041\370\230\071\152\106\106\260
\104\033\017\251
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\274\154\121\063\247\351\323\146\143\124\025\162\033\041\222\223
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\212\061\013\060\011\006\003\125\004\006\023\002\103\110
\061\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113
\145\171\061\033\060\031\006\003\125\004\013\023\022\103\157\160
\171\162\151\147\150\164\040\050\143\051\040\062\060\060\065\061
\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040
\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162
\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111
\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142
\141\154\040\122\157\157\164\040\107\101\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\101\075\162\307\364\153\037\201\103\175\361\322\050\124
\337\232
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Certigna"
#
Issuer: CN=Certigna,O=Dhimyotis,C=FR
Serial Number:00:fe:dc:e3:01:0f:c9:48:ff
Subject: CN=Certigna,O=Dhimyotis,C=FR

```



```
Not Valid Before: Fri Jun 29 15:13:05 2007
Not Valid After : Tue Jun 29 15:13:05 2027
Fingerprint (SHA-256):
E3:B6:A2:DB:2E:D7:CE:48:84:2F:7A:C5:32:41:C7:B7:1D:54:14:4B:FB:40:C1:1F:3F:1D:0B:42:F5:EE:A1:2D
Fingerprint (SHA1): B1:2E:13:63:45:86:A4:6F:1A:B2:60:68:37:58:2D:C4:AC:FD:94:97
CKA_CLASS
CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certigna"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\064\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\021\060\017\006\003\125\004\003\014\010\103\145
\162\164\151\147\156\141
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\064\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\021\060\017\006\003\125\004\003\014\010\103\145
\162\164\151\147\156\141
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\376\334\343\001\017\311\110\377
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\250\060\202\002\220\240\003\002\001\002\002\011\000
\376\334\343\001\017\311\110\377\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\060\064\061\013\060\011\006\003\125
\004\006\023\002\106\122\061\022\060\020\006\003\125\004\012\014
\011\104\150\151\155\171\157\164\151\163\061\021\060\017\006\003
\125\004\003\014\010\103\145\162\164\151\147\156\141\060\036\027
\015\060\067\060\066\062\071\061\065\061\063\060\065\132\027\015
\062\067\060\066\062\071\061\065\061\063\060\065\132\060\064\061
\013\060\011\006\003\125\004\006\023\002\106\122\061\022\060\020
\006\003\125\004\012\014\011\104\150\151\155\171\157\164\151\163
\061\021\060\017\006\003\125\004\003\014\010\103\145\162\164\151
\147\156\141\060\202\001\042\060\015\006\011\052\206\110\206\367
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002
\202\001\001\000\310\150\361\311\326\326\263\064\165\046\202\036
\354\264\276\352\134\341\046\355\021\107\141\341\242\174\026\170
\100\041\344\140\236\132\310\143\341\304\261\226\222\377\030\155
\151\043\341\053\142\367\335\342\066\057\221\007\271\110\317\016
\354\171\266\054\347\064\113\160\010\045\243\074\207\033\031\362
\201\007\017\070\220\031\323\021\376\206\264\362\321\136\036\036
```

\226\315\200\154\316\073\061\223\266\362\240\320\251\225\022\175  
\245\232\314\153\310\204\126\212\063\251\347\042\025\123\026\360  
\314\027\354\127\137\351\242\012\230\011\336\343\137\234\157\334  
\110\343\205\013\025\132\246\272\237\254\110\343\011\262\367\364  
\062\336\136\064\276\034\170\135\102\133\316\016\042\217\115\220  
\327\175\062\030\263\013\054\152\277\216\077\024\021\211\040\016  
\167\024\265\075\224\010\207\367\045\036\325\262\140\000\354\157  
\052\050\045\156\052\076\030\143\027\045\077\076\104\040\026\366  
\046\310\045\256\005\112\264\347\143\054\363\214\026\123\176\134  
\373\021\032\010\301\106\142\237\042\270\361\302\215\151\334\372  
\072\130\006\337\002\003\001\000\001\243\201\274\060\201\271\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\035\006\003\125\035\016\004\026\004\024\032\355\376\101\071  
\220\264\044\131\276\001\362\122\325\105\366\132\071\334\021\060  
\144\006\003\125\035\043\004\135\060\133\200\024\032\355\376\101  
\071\220\264\044\131\276\001\362\122\325\105\366\132\071\334\021  
\241\070\244\066\060\064\061\013\060\011\006\003\125\004\006\023  
\002\106\122\061\022\060\020\006\003\125\004\012\014\011\104\150  
\151\155\171\157\164\151\163\061\021\060\017\006\003\125\004\003  
\014\010\103\145\162\164\151\147\156\141\202\011\000\376\334\343  
\001\017\311\110\377\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\006\060\021\006\011\140\206\110\001\206\370\102  
\001\001\004\004\003\002\000\007\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\003\202\001\001\000\205\003\036\222  
\161\366\102\257\341\243\141\236\353\363\300\017\362\245\324\332  
\225\346\326\276\150\066\075\176\156\037\114\212\357\321\017\041  
\155\136\245\122\143\316\022\370\357\052\332\157\353\067\376\023  
\002\307\313\073\076\042\153\332\141\056\177\324\162\075\335\060  
\341\036\114\100\031\214\017\327\234\321\203\060\173\230\131\334  
\175\306\271\014\051\114\241\063\242\353\147\072\145\204\323\226  
\342\355\166\105\160\217\265\053\336\371\043\326\111\156\074\024  
\265\306\237\065\036\120\320\301\217\152\160\104\002\142\313\256  
\035\150\101\247\252\127\350\123\252\007\322\006\366\325\024\006  
\013\221\003\165\054\154\162\265\141\225\232\015\213\271\015\347  
\365\337\124\315\336\346\330\326\011\010\227\143\345\301\056\260  
\267\104\046\300\046\300\257\125\060\236\073\325\066\052\031\004  
\364\134\036\377\317\054\267\377\320\375\207\100\021\325\021\043  
\273\110\300\041\251\244\050\055\375\025\370\260\116\053\364\060  
\133\041\374\021\221\064\276\101\357\173\235\227\165\377\227\225  
\300\226\130\057\352\273\106\327\273\344\331\056

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certigna"

# Issuer: CN=Certigna,O=Dhimyotis,C=FR

```

Serial Number:00:fe:dc:e3:01:0f:c9:48:ff
Subject: CN=Certigna,O=Dhimyotis,C=FR
Not Valid Before: Fri Jun 29 15:13:05 2007
#
Not Valid After : Tue Jun 29 15:13:05 2027
Fingerprint (SHA-256):
E3:B6:A2:DB:2E:D7:CE:48:84:2F:7A:C5:32:41:C7:B7:1D:54:14:4B:FB:40:C1:1F:3F:1D:0B:42:F5:EE:A1:2D
Fingerprint (SHA1): B1:2E:13:63:45:86:A4:6F:1A:B2:60:68:37:58:2D:C4:AC:FD:94:97
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certigna"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\261\056\023\143\105\206\244\157\032\262\140\150\067\130\055\304
\254\375\224\227
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\253\127\246\133\175\102\202\031\265\330\130\046\050\136\375\377
END
CKA_ISSUER MULTILINE_OCTAL
\060\064\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\021\060\017\006\003\125\004\003\014\010\103\145
\162\164\151\147\156\141
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\376\334\343\001\017\311\110\377
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "ePKI Root Certification Authority"
#
Issuer: OU=ePKI Root Certification Authority,O="Chunghwa Telecom Co., Ltd.",C=TW
Serial Number: 15:c8:bd:65:47:5c:af:b8:97:00:5e:e4:06:d2:bc:9d
Subject: OU=ePKI Root Certification Authority,O="Chunghwa Telecom Co., Ltd.",C=TW
Not Valid Before: Mon Dec 20 02:31:27 2004
Not Valid After : Wed Dec 20 02:31:27 2034
Fingerprint (SHA-256):
C0:A6:F4:DC:63:A2:4B:FD:CF:54:EF:2A:6A:08:2A:0A:72:DE:35:80:3E:2F:F5:FF:52:7A:E5:D8:72:06:DF:D5
Fingerprint (SHA1): 67:65:0D:F1:7E:8E:7E:5B:82:40:A4:F4:56:4B:CF:E2:3D:69:C6:F0
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE

```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ePKI Root Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT
MULTILINE_OCTAL
\060\136\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\052\060\050\006\003\125\004\013\014\041\145
\120\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\136\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\052\060\050\006\003\125\004\013\014\041\145
\120\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\025\310\275\145\107\134\257\270\227\000\136\344\006\322
\274\235
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\260\060\202\003\230\240\003\002\001\002\002\020\025
\310\275\145\107\134\257\270\227\000\136\344\006\322\274\235\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\136
\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043\060
\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167\141
\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114\164
\144\056\061\052\060\050\006\003\125\004\013\014\041\145\120\113
\111\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060\036
\027\015\060\064\061\062\062\060\060\062\063\061\062\067\132\027
\015\063\064\061\062\062\060\060\062\063\061\062\067\132\060\136
\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043\060
\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167\141
\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114\164
\144\056\061\052\060\050\006\003\125\004\013\014\041\145\120\113
\111\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060\202
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\341
\045\017\356\215\333\210\063\165\147\315\255\037\175\072\116\155
\235\323\057\024\363\143\164\313\001\041\152\067\352\204\120\007
```

\113\046\133\011\103\154\041\236\152\310\325\003\365\140\151\217  
\314\360\042\344\037\347\367\152\042\061\267\054\025\362\340\376  
\000\152\103\377\207\145\306\265\032\301\247\114\155\042\160\041  
\212\061\362\227\164\211\011\022\046\034\236\312\331\022\242\225  
\074\332\351\147\277\010\240\144\343\326\102\267\105\357\227\364  
\366\365\327\265\112\025\002\130\175\230\130\113\140\274\315\327  
\015\232\023\063\123\321\141\371\172\325\327\170\263\232\063\367  
\000\206\316\035\115\224\070\257\250\354\170\121\160\212\134\020  
\203\121\041\367\021\075\064\206\136\345\110\315\227\201\202\065  
\114\031\354\145\366\153\305\005\241\356\107\023\326\263\041\047  
\224\020\012\331\044\073\272\276\104\023\106\060\077\227\074\330  
\327\327\152\356\073\070\343\053\324\227\016\271\033\347\007\111  
\177\067\052\371\167\170\317\124\355\133\106\235\243\200\016\221  
\103\301\326\133\137\024\272\237\246\215\044\107\100\131\277\162  
\070\262\066\154\067\377\231\321\135\016\131\012\253\151\367\300  
\262\004\105\172\124\000\256\276\123\366\265\347\341\370\074\243  
\061\322\251\376\041\122\144\305\246\147\360\165\007\006\224\024  
\201\125\306\047\344\001\217\027\301\152\161\327\276\113\373\224  
\130\175\176\021\063\261\102\367\142\154\030\326\317\011\150\076  
\177\154\366\036\217\142\255\245\143\333\011\247\037\042\102\101  
\036\157\231\212\076\327\371\077\100\172\171\260\245\001\222\322  
\235\075\010\025\245\020\001\055\263\062\166\250\225\015\263\172  
\232\373\007\020\170\021\157\341\217\307\272\017\045\032\164\052  
\345\034\230\101\231\337\041\207\350\225\006\152\012\263\152\107  
\166\145\366\072\317\217\142\027\031\173\012\050\315\032\322\203  
\036\041\307\054\277\276\377\141\150\267\147\033\273\170\115\215  
\316\147\345\344\301\216\267\043\146\342\235\220\165\064\230\251  
\066\053\212\232\224\271\235\354\314\212\261\370\045\211\134\132  
\266\057\214\037\155\171\044\247\122\150\303\204\065\342\146\215  
\143\016\045\115\325\031\262\346\171\067\247\042\235\124\061\002  
\003\001\000\001\243\152\060\150\060\035\006\003\125\035\016\004  
\026\004\024\036\014\367\266\147\362\341\222\046\011\105\300\125  
\071\056\167\077\102\112\242\060\014\006\003\125\035\023\004\005  
\060\003\001\001\377\060\071\006\004\147\052\007\000\004\061\060  
\057\060\055\002\001\000\060\011\006\005\053\016\003\002\032\005  
\000\060\007\006\005\147\052\003\000\000\004\024\105\260\302\307  
\012\126\174\356\133\170\014\225\371\030\123\301\246\034\330\020  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003  
\202\002\001\000\011\263\203\123\131\001\076\225\111\271\361\201  
\272\371\166\040\043\265\047\140\164\324\152\231\064\136\154\000  
\123\331\237\362\246\261\044\007\104\152\052\306\245\216\170\022  
\350\107\331\130\033\023\052\136\171\233\237\012\052\147\246\045  
\077\006\151\126\163\303\212\146\110\373\051\201\127\164\006\312  
\234\352\050\350\070\147\046\053\361\325\265\077\145\223\370\066  
\135\216\215\215\100\040\207\031\352\357\047\300\075\264\071\017  
\045\173\150\120\164\125\234\014\131\175\132\075\101\224\045\122  
\010\340\107\054\025\061\031\325\277\007\125\306\273\022\265\227  
\364\137\203\205\272\161\301\331\154\201\021\166\012\012\260\277

```
\202\227\367\352\075\372\372\354\055\251\050\224\073\126\335\322
\121\056\256\300\275\010\025\214\167\122\064\226\326\233\254\323
\035\216\141\017\065\173\233\256\071\151\013\142\140\100\040\066
\217\257\373\066\356\055\010\112\035\270\277\233\134\370\352\245
\033\240\163\246\330\370\156\340\063\004\137\150\252\047\207\355
\331\301\220\234\355\275\343\152\065\257\143\337\253\030\331\272
\346\351\112\352\120\212\017\141\223\036\342\055\031\342\060\224
\065\222\135\016\266\007\257\031\200\217\107\220\121\113\056\115
\335\205\342\322\012\122\012\027\232\374\032\260\120\002\345\001
\243\143\067\041\114\104\304\233\121\231\021\016\163\234\006\217
\124\056\247\050\136\104\071\207\126\055\067\275\205\104\224\341
\014\113\054\234\303\222\205\064\141\313\017\270\233\112\103\122
\376\064\072\175\270\351\051\334\166\251\310\060\370\024\161\200
\306\036\066\110\164\042\101\134\207\202\350\030\161\213\101\211
\104\347\176\130\133\250\270\215\023\351\247\154\303\107\355\263
\032\235\142\256\215\202\352\224\236\335\131\020\303\255\335\342
\115\343\061\325\307\354\350\362\260\376\222\036\026\012\032\374
\331\363\370\047\266\311\276\035\264\154\144\220\177\364\344\304
\133\327\067\256\102\016\335\244\032\157\174\210\124\305\026\156
\341\172\150\056\370\072\277\015\244\074\211\073\170\247\116\143
\203\004\041\010\147\215\362\202\111\320\133\375\261\315\017\203
\204\324\076\040\205\367\112\075\053\234\375\052\012\011\115\352
\201\370\021\234
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "ePKI Root Certification Authority"

# Issuer: OU=ePKI Root Certification Authority,O="Chunghwa Telecom Co., Ltd.",C=TW

# Serial Number:15:c8:bd:65:47:5c:af:b8:97:00:5e:e4:06:d2:bc:9d

# Subject: OU=ePKI Root Certification Authority,O="Chunghwa Telecom Co., Ltd.",C=TW

# Not Valid Before: Mon Dec 20 02:31:27 2004

# Not Valid After : Wed Dec 20 02:31:27 2034

# Fingerprint (SHA-256):

C0:A6:F4:DC:63:A2:4B:FD:CF:54:EF:2A:6A:08:2A:0A:72:DE:35:80:3E:2F:F5:FF:52:7A:E5:D8:72:06:DF:D5

# Fingerprint (SHA1): 67:65:0D:F1:7E:8E:7E:5B:82:40:A4:F4:56:4B:CF:E2:3D:69:C6:F0

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "ePKI Root Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\147\145\015\361\176\216\176\133\202\100\244\364\126\113\317\342
```

```
\075\151\306\360
```

END

```

CKA_CERT_MD5_HASH MULTILINE_OCTAL
\033\056\000\312\046\006\220\075\255\376\157\025\150\323\153\263
END
CKA_ISSUER
MULTILINE_OCTAL
\060\136\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\052\060\050\006\003\125\004\013\014\041\145
\120\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\025\310\275\145\107\134\257\270\227\000\136\344\006\322
\274\235
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "certSIGN ROOT CA"
#
Issuer: OU=certSIGN ROOT CA,O=certSIGN,C=RO
Serial Number:20:06:05:16:70:02
Subject: OU=certSIGN ROOT CA,O=certSIGN,C=RO
Not Valid Before: Tue Jul 04 17:20:04
2006
Not Valid After : Fri Jul 04 17:20:04 2031
Fingerprint (SHA-256):
EA:A9:62:C4:FA:4A:6B:AF:EB:E4:15:19:6D:35:1C:CD:88:8D:4F:53:F3:FA:8A:E6:D7:C4:66:A9:4E:60:42:BB
Fingerprint (SHA1): FA:B7:EE:36:97:26:62:FB:2D:B0:2A:F6:BF:03:FD:E8:7C:4B:2F:9B
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "certSIGN ROOT CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123\111
\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145\162
\164\123\111\107\116\040\122\117\117\124\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117\061

```

\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123\111  
\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145\162  
\164\123\111\107\116\040\122\117\117\124\040\103\101

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\006\040\006\005\026\160\002

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\070\060\202\002\040\240\003\002\001\002\002\006\040  
\006\005\026\160\002\060\015\006\011\052\206\110\206\367\015\001  
\001\005\005\000\060\073\061\013\060\011\006\003\125\004\006\023  
\002\122\117\061\021\060\017\006\003\125\004\012\023\010\143\145  
\162\164\123\111\107\116\061\031\060\027\006\003\125\004\013\023  
\020\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103  
\101\060\036\027\015\060\066\060\067\060\064\061\067\062\060\060  
\064\132\027\015\063\061\060\067\060\064\061\067\062\060\060\064  
\132\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117  
\061\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123  
\111\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145  
\162\164\123\111\107\116\040\122\117\117\124\040\103\101\060\202  
\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005  
\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000\267  
\063\271\176\310\045\112\216\265\333\264\050\033\252\127\220\350  
\321\042\323\144\272\323\223\350\324\254\206\141\100\152\140\127  
\150\124\204\115\274\152\124\002\005\377\337\233\232\052\256\135  
\007\217\112\303\050\177\357\373\053\372\171\361\307\255\360\020  
\123\044\220\213\146\311\250\210\253\257\132\243\000\351\276\272  
\106\356\133\163\173\054\027\202\201\136\142\054\241\002\145\263  
\275\305\053\000\176\304\374\003\063\127\015\355\342\372\316\135  
\105\326\070\315\065\266\262\301\320\234\201\112\252\344\262\001  
\134\035\217\137\231\304\261\255\333\210\041\353\220\010\202\200  
\363\060\243\103\346\220\202\256\125\050\111\355\133\327\251\020  
\070\016\376\217\114\133\233\106\352\101\365\260\010\164\303\320  
\210\063\266\174\327\164\337\334\204\321\103\016\165\071\241\045  
\100\050\352\170\313\016\054\056\071\235\214\213\156\026\034\057  
\046\202\020\342\343\145\224\012\004\300\136\367\135\133\370\020  
\342\320\272\172\113\373\336\067\000\000\032\133\050\343\322\234  
\163\076\062\207\230\241\311\121\057\327\336\254\063\263\117\002  
\003\001\000\001\243\102\060\100\060\017\006\003\125\035\023\001  
\001\377\004\005\060\003\001\001\377\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\001\306\060\035\006\003\125\035\016  
\004\026\004\024\340\214\233\333\045\111\263\361\174\206\326\262  
\102\207\013\320\153\240\331\344\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\003\202\001\001\000\076\322\034\211  
\056\065\374\370\165\335\346\177\145\210\364\162\114\311\054\327  
\062\116\363\335\031\171\107\275\216\073\133\223\017\120\111\044  
\023\153\024\006\162\357\011\323\241\241\343\100\204\311\347\030



```
\062\164\074\110\156\017\237\113\324\367\036\323\223\206\144\124
\227\143\162\120\325\125\317\372\040\223\002\242\233\303\043\223
\116\026\125\166\240\160\171\155\315\041\037\317\057\055\274\031
\343\210\061\370\131\032\201\011\310\227\246\164\307\140\304\133
\314\127\216\262\165\375\033\002\011\333\131\157\162\223\151\367
\061\101\326\210\070\277\207\262\275\026\171\371\252\344\276\210
\045\335\141\047\043\034\265\061\007\004\066\264\032\220\275\240
\164\161\120\211\155\274\024\343\017\206\256\361\253\076\307\240
\011\314\243\110\321\340\333\144\347\222\265\317\257\162\103\160
\213\371\303\204\074\023\252\176\222\233\127\123\223\372\160\302
\221\016\061\371\233\147\135\351\226\070\136\137\263\163\116\210
\025\147\336\236\166\020\142\040\276\125\151\225\103\000\071\115
\366\356\260\132\116\111\104\124\130\137\102\203
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "certSIGN ROOT CA"

# Issuer: OU=certSIGN ROOT CA,O=certSIGN,C=RO

# Serial Number:20:06:05:16:70:02

# Subject: OU=certSIGN ROOT CA,O=certSIGN,C=RO

# Not Valid Before: Tue Jul 04 17:20:04 2006

# Not Valid After : Fri Jul 04 17:20:04 2031

# Fingerprint (SHA-256):

EA:A9:62:C4:FA:4A:6B:AF:EB:E4:15:19:6D:35:1C:CD:88:8D:4F:53:F3:FA:8A:E6:D7:C4:66:A9:4E:60:42:BB

#

Fingerprint (SHA1): FA:B7:EE:36:97:26:62:FB:2D:B0:2A:F6:BF:03:FD:E8:7C:4B:2F:9B

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "certSIGN ROOT CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\372\267\356\066\227\046\142\373\055\260\052\366\277\003\375\350
```

```
\174\113\057\233
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\030\230\300\326\351\072\374\371\260\365\014\367\113\001\104\027
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117\061
```

```
\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123\111
```

```
\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145\162
```

```
\164\123\111\107\116\040\122\117\117\124\040\103\101
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\006\040\006\005\026\160\002

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED  
CK\_BBOOL CK\_FALSE

#

# Certificate "NetLock Arany (Class Gold) Ftanúsítvány"

#

# Issuer: CN=NetLock Arany (Class Gold) F..tan...s..tv..ny,OU=Tan...s..tv..nykiad..k (Certification Services),O=NetLock Kft.,L=Budapest,C=HU

# Serial Number:49:41:2c:e4:00:10

# Subject: CN=NetLock Arany (Class Gold) F..tan...s..tv..ny,OU=Tan...s..tv..nykiad..k (Certification Services),O=NetLock Kft.,L=Budapest,C=HU

# Not Valid Before: Thu Dec 11 15:08:21 2008

# Not Valid After : Wed Dec 06 15:08:21 2028

# Fingerprint (SHA-256):

6C:61:DA:C3:A2:DE:F0:31:50:6B:E0:36:D2:A6:FE:40:19:94:FB:D1:3D:F9:C8:D4:66:59:92:74:C4:46:EC:98

# Fingerprint (SHA1): 06:08:3F:59:3F:15:A1:04:A0:69:A4:6B:A9:03:D0:06:B7:97:09:91

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "NetLock Arany (Class Gold) Ftanúsítvány"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\247\061\013\060\011\006\003\125\004\006\023\002\110\125  
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160  
\145\163\164\061\025\060\023\006\003\125\004\012\014\014\116\145  
\164\114\157\143\153\040\113\146\164\056\061\067\060\065\006\003  
\125\004\013\014\056\124\141\156\303\272\163\303\255\164\166\303  
\241\156\171\153\151\141\144\303\263\153\040\050\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\123\145\162\166\151\143  
\145\163\051\061\065\060\063\006\003\125\004\003\014\054\116\145  
\164\114\157\143\153\040\101\162\141\156\171\040\050\103\154\141  
\163\163\040\107\157\154\144\051\040\106\305\221\164\141\156\303  
\272\163\303\255\164\166\303\241\156\171

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\247\061\013\060\011\006\003\125\004\006\023\002\110\125  
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160  
\145\163\164\061\025\060\023\006\003\125\004\012\014\014\116\145  
\164\114\157\143\153\040\113\146\164\056\061\067\060\065\006\003  
\125\004\013\014\056\124\141\156\303\272\163\303\255\164\166\303

\241\156\171\153\151\141\144\303\263\153\040\050\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\123\145\162\166\151\143  
\145\163\051\061\065\060\063\006\003\125\004\003\014\054\116\145  
\164\114\157\143\153\040\101\162\141\156\171\040\050\103\154\141  
\163\163\040\107\157\154\144\051\040\106\305\221\164\141\156\303  
\272\163\303\255\164\166\303\241\156\171

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\006\111\101\054\344\000\020

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\025\060\202\002\375\240\003\002\001\002\002\006\111  
\101\054\344\000\020\060\015\006\011\052\206\110\206\367\015\001  
\001\013\005\000\060\201\247\061\013\060\011\006\003\125\004\006  
\023\002\110\125\061\021\060\017\006\003\125\004\007\014\010\102  
\165\144\141\160\145\163\164\061\025\060\023\006\003\125\004\012  
\014\014\116\145\164\114\157\143\153\040\113\146\164\056\061\067  
\060\065\006\003\125\004\013\014\056\124\141\156\303\272\163\303  
\255\164\166\303\241\156\171\153\151\141\144\303\263\153\040\050  
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145  
\162\166\151\143\145\163\051\061\065\060\063\006\003\125\004\003  
\014\054\116\145\164\114\157\143\153\040\101\162\141\156\171\040  
\050\103\154\141\163\163\040\107\157\154\144\051\040\106\305\221  
\164\141\156\303\272\163\303\255\164\166\303\241\156\171\060\036  
\027\015\060\070\061\062\061\061\061\065\060\070\062\061\132\027  
\015\062\070\061\062\060\066\061\065\060\070\062\061\132\060\201  
\247\061\013\060\011\006\003\125\004\006\023\002\110\125\061\021  
\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145\163  
\164\061\025\060\023\006\003\125\004\012\014\014\116\145\164\114  
\157\143\153\040\113\146\164\056\061\067\060\065\006\003\125\004  
\013\014\056\124\141\156\303\272\163\303\255\164\166\303\241\156  
\171\153\151\141\144\303\263\153\040\050\103\145\162\164\151\146  
\151\143\141\164\151\157\156\040\123\145\162\166\151\143\145\163  
\051\061\065\060\063\006\003\125\004\003\014\054\116\145\164\114  
\157\143\153\040\101\162\141\156\171\040\050\103\154\141\163\163  
\040\107\157\154\144\051\040\106\305\221\164\141\156\303\272\163  
\303\255\164\166\303\241\156\171\060\202\001\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000  
\060\202\001\012\002\202\001\001\000\304\044\136\163\276\113\155  
\024\303\241\364\343\227\220\156\322\060\105\036\074\356\147\331  
\144\340\032\212\177\312\060\312\203\343\040\301\343\364\072\323  
\224\137\032\174\133\155\277\060\117\204\047\366\237\037\111\274  
\306\231\012\220\362\017\365\177\103\204\067\143\121\213\172\245  
\160\374\172\130\315\216\233\355\303\106\154\204\160\135\332\363  
\001\220\043\374\116\060\251\176\341\047\143\347\355\144\074\240  
\270\311\063\143\376\026\220\377\260\270\375\327\250\300\300\224  
\103\013\266\325\131\246\236\126\320\044\037\160\171\257\333\071

\124\015\145\165\331\025\101\224\001\257\136\354\366\215\361\377  
\255\144\376\040\232\327\134\353\376\246\037\010\144\243\213\166  
\125\255\036\073\050\140\056\207\045\350\252\257\037\306\144\106  
\040\267\160\177\074\336\110\333\226\123\267\071\167\344\032\342  
\307\026\204\166\227\133\057\273\031\025\205\370\151\205\365\231  
\247\251\362\064\247\251\266\246\003\374\157\206\075\124\174\166  
\004\233\153\371\100\135\000\064\307\056\231\165\235\345\210\003  
\252\115\370\003\322\102\166\300\033\002\003\000\250\213\243\105  
\060\103\060\022\006\003\125\035\023\001\001\377\004\010\060\006  
\001\001\377\002\001\004\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004  
\024\314\372\147\223\360\266\270\320\245\300\036\363\123\375\214  
\123\337\203\327\226\060\015\006\011\052\206\110\206\367\015\001  
\001\013\005\000\003\202\001\001\000\253\177\356\034\026\251\234  
\074\121\000\240\300\021\010\005\247\231\346\157\001\210\124\141  
\156\361\271\030\255\112\255\376\201\100\043\224\057\373\165\174  
\057\050\113\142\044\201\202\013\365\141\361\034\156\270\141\070  
\353\201\372\142\241\073\132\142\323\224\145\304\341\346\155\202  
\370\057\045\160\262\041\046\301\162\121\037\214\054\303\204\220  
\303\132\217\272\317\364\247\145\245\353\230\321\373\005\262\106  
\165\025\043\152\157\205\143\060\200\360\325\236\037\051\034\302  
\154\260\120\131\135\220\133\073\250\015\060\317\277\175\177\316  
\361\235\203\275\311\106\156\040\246\371\141\121\272\041\057\173  
\276\245\025\143\241\324\225\207\361\236\271\363\211\363\075\205  
\270\270\333\276\265\271\051\371\332\067\005\000\111\224\003\204  
\104\347\277\103\061\317\165\213\045\321\364\246\144\365\222\366  
\253\005\353\075\351\245\013\066\142\332\314\006\137\066\213\266  
\136\061\270\052\373\136\366\161\337\104\046\236\304\346\015\221  
\264\056\165\225\200\121\152\113\060\246\260\142\241\223\361\233  
\330\316\304\143\165\077\131\107\261

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "NetLock Arany (Class Gold) Ftanúsítvány"

# Issuer:

CN=NetLock Arany (Class Gold) F.tan..s..tv..ny,OU=Tan..s..tv..nykiad..k (Certification Services),O=NetLock Kft.,L=Budapest,C=HU

# Serial Number:49:41:2c:e4:00:10

# Subject: CN=NetLock Arany (Class Gold) F.tan..s..tv..ny,OU=Tan..s..tv..nykiad..k (Certification Services),O=NetLock Kft.,L=Budapest,C=HU

# Not Valid Before: Thu Dec 11 15:08:21 2008

# Not Valid After : Wed Dec 06 15:08:21 2028

# Fingerprint (SHA-256):

6C:61:DA:C3:A2:DE:F0:31:50:6B:E0:36:D2:A6:FE:40:19:94:FB:D1:3D:F9:C8:D4:66:59:92:74:C4:46:EC:98

# Fingerprint (SHA1): 06:08:3F:59:3F:15:A1:04:A0:69:A4:6B:A9:03:D0:06:B7:97:09:91

```

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "NetLock Arany (Class Gold) Ftanúsítvány"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\006\010\077\131\077\025\241\004\240\151\244\153\251\003\320\006
\267\227\011\221
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\305\241\267\377\163\335\326\327\064\062\030\337\374\074\255\210
END
CKA_ISSUER
MULTILINE_OCTAL
\060\201\247\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\025\060\023\006\003\125\004\012\014\014\116\145
\164\114\157\143\153\040\113\146\164\056\061\067\060\065\006\003
\125\004\013\014\056\124\141\156\303\272\163\303\255\164\166\303
\241\156\171\153\151\141\144\303\263\153\040\050\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\123\145\162\166\151\143
\145\163\051\061\065\060\063\006\003\125\004\003\014\054\116\145
\164\114\157\143\153\040\101\162\141\156\171\040\050\103\154\141
\163\163\040\107\157\154\144\051\040\106\305\221\164\141\156\303
\272\163\303\255\164\166\303\241\156\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\006\111\101\054\344\000\020
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

#
Certificate "Hongkong Post Root CA 1"
#
Issuer: CN=Hongkong Post Root CA 1,O=Hongkong Post,C=HK
Serial Number: 1000 (0x3e8)
Subject: CN=Hongkong Post Root CA 1,O=Hongkong Post,C=HK
Not Valid Before: Thu May 15 05:13:14 2003
Not Valid After : Mon May 15 04:52:29 2023
Fingerprint (SHA-256):
F9:E6:7D:33:6C:51:00:2A:C0:54:C6:32:02:2D:66:DD:A2:E7:E3:FF:F1:0A:D0:61:ED:31:D8:BB:B4:10:CF:B2
Fingerprint (SHA1): D6:DA:A8:20:8D:09:D2:15:4D:24:B5:2F:CB:34:6E:B2:58:B2:8A:58
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE

```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Hongkong Post Root CA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040
\122\157\157\164\040\103\101\040\061
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040
\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\003\350
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\060\060\202\002\030\240\003\002\001\002\002\002\003
\350\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040
\122\157\157\164\040\103\101\040\061\060\036\027\015\060\063\060
\065\061\065\060\065\061\063\061\064\132\027\015\062\063\060\065
\061\065\060\064\065\062\062\071\132\060\107\061\013\060\011\006
\003\125\004\006\023\002\110\113\061\026\060\024\006\003\125\004
\012\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164
\061\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153
\157\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101
\040\061\060\202\001\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202
\001\001\000\254\377\070\266\351\146\002\111\343\242\264\341\220
\371\100\217\171\371\342\275\171\376\002\275\356\044\222\035\042
\366\332\205\162\151\376\327\077\011\324\335\221\265\002\234\320
\215\132\341\125\303\120\206\271\051\046\302\343\331\240\361\151
\003\050\040\200\105\042\055\126\247\073\124\225\126\042\131\037
\050\337\037\040\075\155\242\066\276\043\240\261\156\265\261\047
\077\071\123\011\352\253\152\350\164\262\302\145\134\216\277\174
\303\170\204\315\236\026\374\365\056\117\040\052\010\237\167\363
\305\036\304\232\122\146\036\110\136\343\020\006\217\042\230\341
```

\145\216\033\135\043\146\073\270\245\062\121\310\206\252\241\251  
\236\177\166\224\302\246\154\267\101\360\325\310\006\070\346\324  
\014\342\363\073\114\155\120\214\304\203\047\301\023\204\131\075  
\236\165\164\266\330\002\136\072\220\172\300\102\066\162\354\152  
\115\334\357\304\000\337\023\030\127\137\046\170\310\326\012\171  
\167\277\367\257\267\166\271\245\013\204\027\135\020\352\157\341  
\253\225\021\137\155\074\243\134\115\203\133\362\263\031\212\200  
\213\013\207\002\003\001\000\001\243\046\060\044\060\022\006\003  
\125\035\023\001\001\377\004\010\060\006\001\001\377\002\001\003  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\306  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003  
\202\001\001\000\016\106\325\074\256\342\207\331\136\201\213\002  
\230\101\010\214\114\274\332\333\356\047\033\202\347\152\105\354  
\026\213\117\205\240\363\262\160\275\132\226\272\312\156\155\356  
\106\213\156\347\052\056\226\263\031\063\353\264\237\250\262\067  
\356\230\250\227\266\056\266\147\047\324\246\111\375\034\223\145  
\166\236\102\057\334\042\154\232\117\362\132\025\071\261\161\327  
\053\121\350\155\034\230\300\331\052\364\241\202\173\325\311\101  
\242\043\001\164\070\125\213\017\271\056\147\242\040\004\067\332  
\234\013\323\027\041\340\217\227\171\064\157\204\110\002\040\063  
\033\346\064\104\237\221\160\364\200\136\204\103\302\051\322\154  
\022\024\344\141\215\254\020\220\236\204\120\273\360\226\157\105  
\237\212\363\312\154\117\372\021\072\025\025\106\303\315\037\203  
\133\055\101\022\355\120\147\101\023\075\041\253\224\212\252\116  
\174\301\261\373\247\326\265\047\057\227\253\156\340\035\342\321  
\034\054\037\104\342\374\276\221\241\234\373\326\051\123\163\206  
\237\123\330\103\016\135\326\143\202\161\035\200\164\312\366\342  
\002\153\331\132

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Hongkong Post Root CA

1"

# Issuer: CN=Hongkong Post Root CA 1,O=Hongkong Post,C=HK

# Serial Number: 1000 (0x3e8)

# Subject: CN=Hongkong Post Root CA 1,O=Hongkong Post,C=HK

# Not Valid Before: Thu May 15 05:13:14 2003

# Not Valid After : Mon May 15 04:52:29 2023

# Fingerprint (SHA-256):

F9:E6:7D:33:6C:51:00:2A:C0:54:C6:32:02:2D:66:DD:A2:E7:E3:FF:F1:0A:D0:61:ED:31:D8:BB:B4:10:CF:B2

# Fingerprint (SHA1): D6:DA:A8:20:8D:09:D2:15:4D:24:B5:2F:CB:34:6E:B2:58:B2:8A:58

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

```

CKA_LABEL UTF8 "Hongkong Post Root CA 1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\326\332\250\040\215\011\322\025\115\044\265\057\313\064\156\262
\130\262\212\130
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\250\015\157\071\170\271\103\155\167\102\155\230\132\314\043\312
END
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040
\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\002\003\350
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "SecureSign RootCA11"
#
Issuer: CN=SecureSign RootCA11,O="Japan Certification Services, Inc.",C=JP
Serial Number: 1 (0x1)
Subject: CN=SecureSign RootCA11,O="Japan Certification Services, Inc.",C=JP
Not Valid Before: Wed Apr 08 04:56:47 2009
Not Valid After : Sun Apr 08 04:56:47 2029
Fingerprint (SHA-256):
BF:0F:EE:FB:9E:3A:58:1A:D5:F9:E9:DB:75:89:98:57:43:D2:61:08:5C:4D:31:4F:6F:5D:72:59:AA:42:16:12
Fingerprint (SHA1): 3B:C4:9F:48:F8:F3:73:A0:9C:1E:BD:F8:5B:B1:C3:65:C7:D8:11:B3
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN
CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SecureSign RootCA11"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\053\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145
\162\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032
\006\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147

```



```
\156\040\122\157\157\164\103\101\061\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\053\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145
\162\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032
\006\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147
\156\040\122\157\157\164\103\101\061\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\155\060\202\002\125\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061\053
\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145\162
\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032\006
\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147\156
\040\122\157\157\164\103\101\061\061\060\036\027\015\060\071\060
\064\060\070\060\064\065\066\064\067\132\027\015\062\071\060\064
\060\070\060\064\065\066\064\067\132\060\130\061\013\060\011\006
\003\125\004\006\023\002\112\120\061\053\060\051\006\003\125\004
\012\023\042\112\141\160\141\156\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\123\145\162\166\151\143\145\163\054
\040\111\156\143\056\061\034\060\032\006\003\125\004\003\023\023
\123\145\143\165\162\145\123\151\147\156\040\122\157\157\164\103
\101\061\061\060\202\001\042\060\015\006\011\052\206\110\206\367
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002
\202\001\001\000\375\167\252\245\034\220\005\073\313\114\233\063
\213\132\024\105\244\347\220\026\321\337\127\322\041\020\244\027
\375\337\254\326\037\247\344\333\174\367\354\337\270\003\332\224
\130\375\135\162\174\214\077\137\001\147\164\025\226\343\002\074
\207\333\256\313\001\216\302\363\146\306\205\105\364\002\306\072
\265\142\262\257\372\234\277\244\346\324\200\060\230\363\015\266
\223\217\251\324\330\066\362\260\374\212\312\054\241\025\063\225
\061\332\300\033\362\356\142\231\206\143\077\277\335\223\052\203
\250\166\271\023\037\267\316\116\102\205\217\042\347\056\032\362
\225\011\262\005\265\104\116\167\241\040\275\251\362\116\012\175
\120\255\365\005\015\105\117\106\161\375\050\076\123\373\004\330
\055\327\145\035\112\033\372\317\073\260\061\232\065\156\310\213
\006\323\000\221\362\224\010\145\114\261\064\006\000\172\211\342
\360\307\003\131\317\325\326\350\247\062\263\346\230\100\206\305
\315\047\022\213\314\173\316\267\021\074\142\140\007\043\076\053
```

```
\100\156\224\200\011\155\266\263\157\167\157\065\010\120\373\002
\207\305\076\211\002\003\001\000\001\243\102\060\100\060\035\006
\003\125\035\016\004\026\004\024\133\370\115\117\262\245\206\324
\072\322\361\143\232\240\276\011\366\127\267\336\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\015\006
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001
\000\240\241\070\026\146\056\247\126\037\041\234\006\372\035\355
\271\042\305\070\046\330\116\117\354\243\177\171\336\106\041\241
\207\167\217\007\010\232\262\244\305\257\017\062\230\013\174\146
\051\266\233\175\045\122\111\103\253\114\056\053\156\172\160\257
\026\016\343\002\154\373\102\346\030\235\105\330\125\310\350\073
\335\347\341\364\056\013\034\064\134\154\130\112\373\214\210\120
\137\225\034\277\355\253\042\265\145\263\205\272\236\017\270\255
\345\172\033\212\120\072\035\275\015\274\173\124\120\013\271\102
\257\125\240\030\201\255\145\231\357\276\344\234\277\304\205\253
\101\262\124\157\334\045\315\355\170\342\216\014\215\011\111\335
\143\173\132\151\226\002\041\250\275\122\131\351\175\065\313\310
\122\312\177\201\376\331\153\323\367\021\355\045\337\370\347\371
\244\372\162\227\204\123\015\245\320\062\030\121\166\131\024\154
\017\353\354\137\200\214\165\103\203\303\205\230\377\114\236\055
\015\344\167\203\223\116\265\226\007\213\050\023\233\214\031\215
\101\047\111\100\356\336\346\043\104\071\334\241\042\326\272\003
\362
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SecureSign RootCA11"

# Issuer: CN=SecureSign RootCA11,O="Japan Certification Services, Inc.",C=JP

# Serial Number: 1 (0x1)

# Subject: CN=SecureSign RootCA11,O="Japan Certification Services, Inc.",C=JP

#

Not Valid Before: Wed Apr 08 04:56:47 2009

# Not Valid After : Sun Apr 08 04:56:47 2029

# Fingerprint (SHA-256):

BF:0F:EE:FB:9E:3A:58:1A:D5:F9:E9:DB:75:89:98:57:43:D2:61:08:5C:4D:31:4F:6F:5D:72:59:AA:42:16:12

# Fingerprint (SHA1): 3B:C4:9F:48:F8:F3:73:A0:9C:1E:BD:F8:5B:B1:C3:65:C7:D8:11:B3

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SecureSign RootCA11"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\073\304\237\110\370\363\163\240\234\036\275\370\133\261\303\145
```

```
\307\330\021\263
```

```

END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\267\122\164\342\222\264\200\223\362\165\344\314\327\362\352\046
END
CKA_ISSUER MULTILINE_OCTAL
\060\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\053\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145
\162\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032
\006\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147
\156\040\122\157\157\164\103\101\061\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Microsec e-Szigno Root CA 2009"
#
Issuer: E=info@e-szigno.hu,CN=Microsec e-Szigno Root CA 2009,O=Microsec Ltd.,L=Budapest,C=HU
Serial Number:00:c2:7e:43:04:4e:47:3f:19
Subject: E=info@e-szigno.hu,CN=Microsec e-Szigno Root CA 2009,O=Microsec Ltd.,L=Budapest,C=HU
Not Valid Before: Tue Jun 16 11:30:18 2009
Not Valid After : Sun Dec 30 11:30:18 2029
Fingerprint (SHA-256):
3C:5F:81:FE:A5:FA:B8:2C:64:BF:A2:EA:EC:AF:CD:E8:E0:77:FC:86:20:A7:CA:E5:37:16:3D:F3:6E:DB:F3:78
Fingerprint (SHA1): 89:DF:74:FE:5C:F4:0F:4A:80:F9:E3:37:7D:54:DA:91:E1:01:31:8E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE
CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsec e-Szigno Root CA 2009"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151
\143\162\157\163\145\143\040\114\164\144\056\061\047\060\045\006
\003\125\004\003\014\036\115\151\143\162\157\163\145\143\040\145
\055\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040
\062\060\060\071\061\037\060\035\006\011\052\206\110\206\367\015
\001\011\001\026\020\151\156\146\157\100\145\055\163\172\151\147

```

\156\157\056\150\165

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\110\125  
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160  
\145\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151  
\143\162\157\163\145\143\040\114\164\144\056\061\047\060\045\006  
\003\125\004\003\014\036\115\151\143\162\157\163\145\143\040\145  
\055\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040  
\062\060\060\071\061\037\060\035\006\011\052\206\110\206\367\015  
\001\011\001\026\020\151\156\146\157\100\145\055\163\172\151\147  
\156\157\056\150\165

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\011\000\302\176\103\004\116\107\077\031

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\012\060\202\002\362\240\003\002\001\002\002\011\000  
\302\176\103\004\116\107\077\031\060\015\006\011\052\206\110\206  
\367\015\001\001\013\005\000\060\201\202\061\013\060\011\006\003  
\125\004\006\023\002\110\125\061\021\060\017\006\003\125\004\007  
\014\010\102\165\144\141\160\145\163\164\061\026\060\024\006\003  
\125\004\012\014\015\115\151\143\162\157\163\145\143\040\114\164  
\144\056\061\047\060\045\006\003\125\004\003\014\036\115\151\143  
\162\157\163\145\143\040\145\055\123\172\151\147\156\157\040\122  
\157\157\164\040\103\101\040\062\060\060\071\061\037\060\035\006  
\011\052\206\110\206\367\015\001\011\001\026\020\151\156\146\157  
\100\145\055\163\172\151\147\156\157\056\150\165\060\036\027\015  
\060\071\060\066\061\066\061\061\063\060\061\070\132\027\015\062  
\071\061\062\063\060\061\061\063\060\061\070\132\060\201\202\061  
\013\060\011\006\003\125\004\006\023\002\110\125\061\021\060\017  
\006\003\125\004\007\014\010\102\165\144\141\160\145\163\164\061  
\026\060\024\006\003\125\004\012\014\015\115\151\143\162\157\163  
\145\143\040\114\164\144\056\061\047\060\045\006\003\125\004\003  
\014\036\115\151\143\162\157\163\145\143\040\145\055\123\172\151  
\147\156\157\040\122\157\157\164\040\103\101\040\062\060\060\071  
\061\037\060\035\006\011\052\206\110\206\367\015\001\011\001\026  
\020\151\156\146\157\100\145\055\163\172\151\147\156\157\056\150  
\165\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001  
\001\000\351\370\217\363\143\255\332\206\330\247\340\102\373\317  
\221\336\246\046\370\231\245\143\160\255\233\256\312\063\100\175  
\155\226\156\241\016\104\356\341\023\235\224\102\122\232\275\165  
\205\164\054\250\016\035\223\266\030\267\214\054\250\317\373\134  
\161\271\332\354\376\350\176\217\344\057\035\262\250\165\207\330  
\267\241\345\073\317\231\112\106\320\203\031\175\300\241\022\034

\225\155\112\364\330\307\245\115\063\056\205\071\100\165\176\024  
\174\200\022\230\120\307\101\147\270\240\200\141\124\246\154\116  
\037\340\235\016\007\351\311\272\063\347\376\300\125\050\054\002  
\200\247\031\365\236\334\125\123\003\227\173\007\110\377\231\373  
\067\212\044\304\131\314\120\020\143\216\252\251\032\260\204\032  
\206\371\137\273\261\120\156\244\321\012\314\325\161\176\037\247  
\033\174\365\123\156\042\137\313\053\346\324\174\135\256\326\302  
\306\114\345\005\001\331\355\127\374\301\043\171\374\372\310\044  
\203\225\363\265\152\121\001\320\167\326\351\022\241\371\032\203  
\373\202\033\271\260\227\364\166\006\063\103\111\240\377\013\265  
\372\265\002\003\001\000\001\243\201\200\060\176\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006  
\003\125\035\016\004\026\004\024\313\017\306\337\102\103\314\075  
\313\265\110\043\241\032\172\246\052\273\064\150\060\037\006\003  
\125\035\043\004\030\060\026\200\024\313\017\306\337\102\103\314  
\075\313\265\110\043\241\032\172\246\052\273\064\150\060\033\006  
\003\125\035\021\004\024\060\022\201\020\151\156\146\157\100\145  
\055\163\172\151\147\156\157\056\150\165\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\003\202\001\001\000\311\321  
\016\136\056\325\314\263\174\076\313\374\075\377\015\050\225\223  
\004\310\277\332\315\171\270\103\220\360\244\276\357\362\357\041  
\230\274\324\324\135\006\366\356\102\354\060\154\240\252\251\312  
\361\257\212\372\077\013\163\152\076\352\056\100\176\037\256\124  
\141\171\353\056\010\067\327\043\363\214\237\276\035\261\341\244  
\165\333\240\342\124\024\261\272\034\051\244\030\366\022\272\242  
\024\024\343\061\065\310\100\377\267\340\005\166\127\301\034\131  
\362\370\277\344\355\045\142\134\204\360\176\176\037\263\276\371  
\267\041\021\314\003\001\126\160\247\020\222\036\033\064\201\036  
\255\234\032\303\004\074\355\002\141\326\036\006\363\137\072\207  
\362\053\361\105\207\345\075\254\321\307\127\204\275\153\256\334  
\330\371\266\033\142\160\013\075\066\311\102\362\062\327\172\141  
\346\322\333\075\317\310\251\311\233\334\333\130\104\327\157\070  
\257\177\170\323\243\255\032\165\272\034\301\066\174\217\036\155  
\034\303\165\106\256\065\005\246\366\134\075\041\356\126\360\311  
\202\042\055\172\124\253\160\303\175\042\145\202\160\226

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Microsec e-Szigno Root CA 2009"

# Issuer: E=info@e-szigno.hu,CN=Microsec e-Szigno Root CA 2009,O=Microsec Ltd.,L=Budapest,C=HU

# Serial Number:00:c2:7e:43:04:4e:47:3f:19

# Subject: E=info@e-szigno.hu,CN=Microsec

e-Szigno Root CA 2009,O=Microsec Ltd.,L=Budapest,C=HU

# Not Valid Before: Tue Jun 16 11:30:18 2009

```
Not Valid After : Sun Dec 30 11:30:18 2029
Fingerprint (SHA-256):
3C:5F:81:FE:A5:FA:B8:2C:64:BF:A2:EA:EC:AF:CD:E8:E0:77:FC:86:20:A7:CA:E5:37:16:3D:F3:6E:DB:F3:78
Fingerprint (SHA1): 89:DF:74:FE:5C:F4:0F:4A:80:F9:E3:37:7D:54:DA:91:E1:01:31:8E
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsec e-Szigno Root CA 2009"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\211\337\164\376\134\364\017\112\200\371\343\067\175\124\332\221
\341\001\061\216
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\370\111\364\003\274\104\055\203\276\110\151\175\051\144\374\261
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151
\143\162\157\163\145\143\040\114\164\144\056\061\047\060\045\006
\003\125\004\003\014\036\115\151\143\162\157\163\145\143\040\145
\055\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040
\062\060\060\071\061\037\060\035\006\011\052\206\110\206\367\015
\001\011\001\026\020\151\156\146\157\100\145\055\163\172\151\147
\156\157\056\150\165
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\011\000\302\176\103\004\116\107\077\031
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GlobalSign Root CA - R3"
#
Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R3
Serial Number:04:00:00:00:00:01:21:58:53:08:a2
Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R3
Not Valid Before: Wed Mar 18 10:00:00 2009
Not Valid After : Sun Mar 18 10:00:00 2029
Fingerprint (SHA-256):
CB:B5:22:D7:B7:F1:27:AD:6A:01:13:86:5B:DF:1C:D4:10:2E:7D:07:59:AF:63:5A:7C:F4:72:0D:C9:63:C5:3B
#
```

Fingerprint (SHA1): D6:9B:56:11:48:F0:1C:77:C5:45:78:C1:09:26:DF:5B:85:69:76:AD

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GlobalSign Root CA - R3"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157  
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040  
\055\040\122\063\061\023\060\021\006\003\125\004\012\023\012\107  
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125  
\004\003\023\012\107\154\157\142\141\154\123\151\147\156

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157  
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040  
\055\040\122\063\061\023\060\021\006\003\125\004\012\023\012\107  
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125  
\004\003\023\012\107\154\157\142\141\154\123\151\147\156

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\013\004\000\000\000\000\001\041\130\123\010\242

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\137\060\202\002\107\240\003\002\001\002\002\013\004  
\000\000\000\000\001\041\130\123\010\242\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\060\114\061\040\060\036\006  
\003\125\004\013\023\027\107\154\157\142\141\154\123\151\147\156  
\040\122\157\157\164\040\103\101\040\055\040\122\063\061\023\060  
\021\006\003\125\004\012\023\012\107\154\157\142\141\154\123\151  
\147\156\061\023\060\021\006\003\125\004\003\023\012\107\154\157  
\142\141\154\123\151\147\156\060\036\027\015\060\071\060\063\061\070  
\070\061\060\060\060\060\060\132\027\015\062\071\060\063\061\070  
\061\060\060\060\060\060\132\060\114\061\040\060\036\006\003\125  
\004\013\023\027\107\154\157\142\141\154\123\151\147\156\040\122  
\157\157\164\040\103\101\040\055\040\122\063\061\023\060\021\006  
\003\125\004\012\023\012\107\154\157\142\141\154\123\151\147\156  
\061\023\060\021\006\003\125\004\003\023\012\107\154\157\142\141  
\154\123\151\147\156\060\202\001\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001  
\012\002\202\001\001\000\314\045\166\220\171\006\170\042\026\365  
\300\203\266\204\312\050\236\375\005\166\021\305\255\210\162\374  
\106\002\103\307\262\212\235\004\137\044\313\056\113\341\140\202  
\106\341\122\253\014\201\107\160\154\335\144\321\353\365\054\243  
\017\202\075\014\053\256\227\327\266\024\206\020\171\273\073\023

\200\167\214\010\341\111\322\152\142\057\037\136\372\226\150\337  
\211\047\225\070\237\006\327\076\311\313\046\131\015\163\336\260  
\310\351\046\016\203\025\306\357\133\213\322\004\140\312\111\246  
\050\366\151\073\366\313\310\050\221\345\235\212\141\127\067\254  
\164\024\334\164\340\072\356\162\057\056\234\373\320\273\277\365  
\075\000\341\006\063\350\202\053\256\123\246\072\026\163\214\335  
\101\016\040\072\300\264\247\241\351\262\117\220\056\062\140\351  
\127\313\271\004\222\150\150\345\070\046\140\165\262\237\167\377  
\221\024\357\256\040\111\374\255\100\025\110\321\002\061\141\031  
\136\270\227\357\255\167\267\144\232\172\277\137\301\023\357\233  
\142\373\015\154\340\124\151\026\251\003\332\156\351\203\223\161  
\166\306\151\205\202\027\002\003\001\000\001\243\102\060\100\060  
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\035\006\003\125\035\016\004\026\004\024\217\360\113\177\250  
\056\105\044\256\115\120\372\143\232\213\336\342\335\033\274\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202  
\001\001\000\113\100\333\300\120\252\376\310\014\357\367\226\124  
\105\111\273\226\000\011\101\254\263\023\206\206\050\007\063\312  
\153\346\164\271\272\000\055\256\244\012\323\365\361\361\017\212  
\277\163\147\112\203\307\104\173\170\340\257\156\154\157\003\051  
\216\063\071\105\303\216\344\271\127\154\252\374\022\226\354\123  
\306\055\344\044\154\271\224\143\373\334\123\150\147\126\076\203  
\270\317\065\041\303\311\150\376\316\332\302\123\252\314\220\212  
\351\360\135\106\214\225\335\172\130\050\032\057\035\336\315\000  
\067\101\217\355\104\155\327\123\050\227\176\363\147\004\036\025  
\327\212\226\264\323\336\114\047\244\114\033\163\163\166\364\027  
\231\302\037\172\016\343\055\010\255\012\034\054\377\074\253\125  
\016\017\221\176\066\353\303\127\111\276\341\056\055\174\140\213  
\303\101\121\023\043\235\316\367\062\153\224\001\250\231\347\054  
\063\037\072\073\045\322\206\100\316\073\054\206\170\311\141\057  
\024\272\356\333\125\157\337\204\356\005\011\115\275\050\330\162  
\316\323\142\120\145\036\353\222\227\203\061\331\263\265\312\107  
\130\077\137

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign Root CA - R3"

# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R3

# Serial Number:04:00:00:00:00:01:21:58:53:08:a2

#

Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R3

# Not Valid Before: Wed Mar 18 10:00:00 2009

# Not Valid After : Sun Mar 18 10:00:00 2029

# Fingerprint (SHA-256):



```

CB:B5:22:D7:B7:F1:27:AD:6A:01:13:86:5B:DF:1C:D4:10:2E:7D:07:59:AF:63:5A:7C:F4:72:0D:C9:63:C5:3B
Fingerprint (SHA1): D6:9B:56:11:48:F0:1C:77:C5:45:78:C1:09:26:DF:5B:85:69:76:AD
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root CA - R3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\326\233\126\021\110\360\034\167\305\105\170\301\011\046\337\133
\205\151\166\255
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\305\337\270\111\312\005\023\125\356\055\272\032\303\076\260\050
END
CKA_ISSUER MULTILINE_OCTAL
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\063\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\013\004\000\000\000\000\001\041\130\123\010\242
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Autoridad de Certificacion Firmaprofesional CIF A62634068"
#
Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
Serial Number:53:ec:3b:ee:fb:b2:48:5f
Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
Not Valid Before: Wed May 20 08:38:15 2009
Not Valid After : Tue Dec 31 08:38:15 2030
Fingerprint (SHA-256):
04:04:80:28:BF:1F:28:64:D4:8F:9A:D4:D8:32:94:36:6A:82:88:56:55:3F:3B:14:30:3F:90:14:7F:5D:40:EF
Fingerprint (SHA1): AE:C5:FB:3F:C8:E1:BF:C4:E5:4F:03:07:5A:9A:E8:00:B7:F7:B6:FA
CKA_CLASS
CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Autoridad de Certificacion Firmaprofesional CIF A62634068"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

```

CKA\_SUBJECT MULTILINE\_OCTAL

\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061  
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151  
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141  
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163  
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064  
\060\066\070

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061  
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151  
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141  
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163  
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064  
\060\066\070

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\010\123\354\073\356\373\262\110\137

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\006\024\060\202\003\374\240\003\002\001\002\002\010\123  
\354\073\356\373\262\110\137\060\015\006\011\052\206\110\206\367  
\015\001\001\005\005\000\060\121\061\013\060\011\006\003\125\004  
\006\023\002\105\123\061\102\060\100\006\003\125\004\003\014\071  
\101\165\164\157\162\151\144\141\144\040\144\145\040\103\145\162  
\164\151\146\151\143\141\143\151\157\156\040\106\151\162\155\141  
\160\162\157\146\145\163\151\157\156\141\154\040\103\111\106\040  
\101\066\062\066\063\064\060\066\070\060\036\027\015\060\071\060  
\065\062\060\060\070\063\070\061\065\132\027\015\063\060\061\062  
\063\061\060\070\063\070\061\065\132\060\121\061\013\060\011\006  
\003\125\004\006\023\002\105\123\061\102\060\100\006\003\125\004  
\003\014\071\101\165\164\157\162\151\144\141\144\040\144\145\040  
\103\145\162\164\151\146\151\143\141\143\151\157\156\040\106\151  
\162\155\141\160\162\157\146\145\163\151\157\156\141\154\040\103  
\111\106\040\101\066\062\066\063\064\060\066\070\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\312\226\153  
\216\352\370\373\361\242\065\340\177\114\332\340\303\122\327\175  
\266\020\310\002\136\263\103\052\304\117\152\262\312\034\135\050  
\232\170\021\032\151\131\127\257\265\040\102\344\213\017\346\337  
\133\246\003\222\057\365\021\344\142\327\062\161\070\331\004\014  
\161\253\075\121\176\017\007\337\143\005\134\351\277\224\157\301  
\051\202\300\264\332\121\260\301\074\273\255\067\112\134\312\361  
\113\066\016\044\253\277\303\204\167\375\250\120\364\261\347\306  
\057\322\055\131\215\172\012\116\226\151\122\002\252\066\230\354  
\374\372\024\203\014\067\037\311\222\067\177\327\201\055\345\304

\271\340\076\064\376\147\364\076\146\321\323\364\100\317\136\142  
\064\017\160\006\076\040\030\132\316\367\162\033\045\154\223\164  
\024\223\243\163\261\016\252\207\020\043\131\137\040\005\031\107  
\355\150\216\222\022\312\135\374\326\053\262\222\074\040\317\341  
\137\257\040\276\240\166\177\166\345\354\032\206\141\063\076\347  
\173\264\077\240\017\216\242\271\152\157\271\207\046\157\101\154  
\210\246\120\375\152\143\013\365\223\026\033\031\217\262\355\233  
\233\311\220\365\001\014\337\031\075\017\076\070\043\311\057\217  
\014\321\002\376\033\125\326\116\320\215\074\257\117\244\363\376  
\257\052\323\005\235\171\010\241\313\127\061\264\234\310\220\262  
\147\364\030\026\223\072\374\107\330\321\170\226\061\037\272\053  
\014\137\135\231\255\143\211\132\044\040\166\330\337\375\253\116  
\246\042\252\235\136\346\047\212\175\150\051\243\347\212\270\332  
\021\273\027\055\231\235\023\044\106\367\305\342\330\237\216\177  
\307\217\164\155\132\262\350\162\365\254\356\044\020\255\057\024  
\332\377\055\232\106\161\107\276\102\337\273\001\333\364\177\323  
\050\217\061\131\133\323\311\002\246\264\122\312\156\227\373\103  
\305\010\046\157\212\364\273\375\237\050\252\015\325\105\363\023  
\072\035\330\300\170\217\101\147\074\036\224\144\256\173\013\305  
\350\331\001\210\071\032\227\206\144\101\325\073\207\014\156\372  
\017\306\275\110\024\277\071\115\324\236\101\266\217\226\035\143  
\226\223\331\225\006\170\061\150\236\067\006\073\200\211\105\141  
\071\043\307\033\104\243\025\345\034\370\222\060\273\002\003\001  
\000\001\243\201\357\060\201\354\060\022\006\003\125\035\023\001  
\001\377\004\010\060\006\001\001\377\002\001\001\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003  
\125\035\016\004\026\004\024\145\315\353\253\065\036\000\076\176  
\325\164\300\034\264\163\107\016\032\144\057\060\201\246\006\003  
\125\035\040\004\201\236\060\201\233\060\201\230\006\004\125\035  
\040\000\060\201\217\060\057\006\010\053\006\001\005\005\007\002  
\001\026\043\150\164\164\160\072\057\057\167\167\167\056\146\151  
\162\155\141\160\162\157\146\145\163\151\157\156\141\154\056\143  
\157\155\057\143\160\163\060\134\006\010\053\006\001\005\005\007  
\002\002\060\120\036\116\000\120\000\141\000\163\000\145\000\157  
\000\040\000\144\000\145\000\040\000\154\000\141\000\040\000\102  
\000\157\000\156\000\141\000\156\000\157\000\166\000\141\000\040  
\000\064\000\067\000\040\000\102\000\141\000\162\000\143\000\145  
\000\154\000\157\000\156\000\141\000\040\000\060\000\070\000\060  
\000\061\000\067\060\015\006\011\052\206\110\206\367\015\001\001  
\005\005\000\003\202\002\001\000\027\175\240\371\264\335\305\305  
\353\255\113\044\265\241\002\253\335\245\210\112\262\017\125\113  
\053\127\214\073\345\061\335\376\304\062\361\347\133\144\226\066  
\062\030\354\245\062\167\327\343\104\266\300\021\052\200\271\075  
\152\156\174\233\323\255\374\303\326\243\346\144\051\174\321\341  
\070\036\202\053\377\047\145\257\373\026\025\304\056\161\204\345  
\265\377\372\244\107\275\144\062\273\366\045\204\242\047\102\365  
\040\260\302\023\020\021\315\020\025\272\102\220\052\322\104\341  
\226\046\353\061\110\022\375\052\332\311\006\317\164\036\251\113

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\325\207\050\371\171\064\222\076\056\104\350\366\217\117\217\065
\077\045\263\071\334\143\052\220\153\040\137\304\122\022\116\227
\054\052\254\235\227\336\110\362\243\146\333\302\322\203\225\246
\146\247\236\045\017\351\013\063\221\145\012\132\303\331\124\022
\335\257\303\116\016\037\046\136\015\334\263\215\354\325\201\160
\336\322\117\044\005\363\154\116\365\114\111\146\215\321\377\322
\013\045\101\110\376\121\204\306\102\257\200\004\317\320\176\144
\111\344\362\337\242\354\261\114\300\052\035\347\264\261\145\242
\304\274\361\230\364\252\160\007\143\264\270\332\073\114\372\100
\042\060\133\021\246\360\005\016\306\002\003\110\253\206\233\205
\335\333\335\352\242\166\200\163\175\365\234\004\304\105\215\347
\271\034\213\236\352\327\165\321\162\261\336\165\104\347\102\175
\342\127\153\175\334\231\274\075\203\050\352\200\223\215\305\114
\145\301\160\201\270\070\374\103\061\262\366\003\064\107\262\254
\373\042\006\313\036\335\027\107\034\137\146\271\323\032\242\332
\021\261\244\274\043\311\344\276\207\377\271\224\266\370\135\040
\112\324\137\347\275\150\173\145\362\025\036\322\072\251\055\351
\330\153\044\254\227\130\104\107\255\131\030\361\041\145\160\336
\316\064\140\250\100\361\363\074\244\303\050\043\214\376\047\063
\103\100\240\027\074\353\352\073\260\162\246\243\271\112\113\136
\026\110\364\262\274\310\214\222\305\235\237\254\162\066\274\064
\200\064\153\251\213\222\300\270\027\355\354\166\123\365\044\001
\214\263\042\350\113\174\125\306\235\372\243\024\273\145\205\156
\156\117\022\176\012\074\235\225
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Autoridad de Certificacion Firmaprofesional CIF A62634068"

# Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES

# Serial Number:53:ec:3b:ee:fb:b2:48:5f

# Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES

# Not Valid Before: Wed May 20 08:38:15 2009

# Not Valid After : Tue Dec 31 08:38:15 2030

# Fingerprint (SHA-256):

04:04:80:28:BF:1F:28:64:D4:8F:9A:D4:D8:32:94:36:6A:82:88:56:55:3F:3B:14:30:3F:90:14:7F:5D:40:EF

#

Fingerprint (SHA1): AE:C5:FB:3F:C8:E1:BF:C4:E5:4F:03:07:5A:9A:E8:00:B7:F7:B6:FA

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Autoridad de Certificacion Firmaprofesional CIF A62634068"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\256\305\373\077\310\341\277\304\345\117\003\007\132\232\350\000
```

```
\267\367\266\372
```

```

END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\163\072\164\172\354\273\243\226\246\302\344\342\310\233\300\303
END
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\123\354\073\356\373\262\110\137
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Izenpe.com"
#
Issuer: CN=Izenpe.com,O=IZENPE S.A.,C=ES
Serial Number:00:b0:b7:5a:16:48:5f:bf:e1:cb:f5:8b:d7:19:e6:7d
Subject: CN=Izenpe.com,O=IZENPE S.A.,C=ES
Not Valid Before: Thu Dec 13 13:08:28 2007
Not Valid After : Sun Dec 13 08:27:25 2037
Fingerprint (SHA-256):
25:30:CC:8E:98:32:15:02:BA:D9:6F:9B:1F:BA:1B:09:9E:2D:29:9E:0F:45:48:BB:91:4F:36:3B:C0:D4:53:1F
Fingerprint (SHA1): 2F:78:3D:25:52:18:A7:4A:65:39:71:B5:2C:A2:9C:45:15:6F:E9:19
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Izenpe.com"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\070\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\024\060\022\006\003\125\004\012\014\013\111\132\105\116\120\105
\040\123\056\101\056\061\023\060\021\006\003\125\004\003\014\012
\111\172\145\156\160\145\056\143\157\155
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\070\061\013\060\011\006\003\125\004\006\023\002\105\123\061

```

\024\060\022\006\003\125\004\012\014\013\111\132\105\116\120\105  
\040\123\056\101\056\061\023\060\021\006\003\125\004\003\014\012  
\111\172\145\156\160\145\056\143\157\155

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\000\260\267\132\026\110\137\277\341\313\365\213\327\031  
\346\175

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\361\060\202\003\331\240\003\002\001\002\002\020\000  
\260\267\132\026\110\137\277\341\313\365\213\327\031\346\175\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\070  
\061\013\060\011\006\003\125\004\006\023\002\105\123\061\024\060  
\022\006\003\125\004\012\014\013\111\132\105\116\120\105\040\123  
\056\101\056\061\023\060\021\006\003\125\004\003\014\012\111\172  
\145\156\160\145\056\143\157\155\060\036\027\015\060\067\061\062  
\061\063\061\063\060\070\062\070\132\027\015\063\067\061\062\061  
\063\060\070\062\067\062\065\132\060\070\061\013\060\011\006\003  
\125\004\006\023\002\105\123\061\024\060\022\006\003\125\004\012  
\014\013\111\132\105\116\120\105\040\123\056\101\056\061\023\060  
\021\006\003\125\004\003\014\012\111\172\145\156\160\145\056\143  
\157\155\060\202\002\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202  
\002\001\000\311\323\172\312\017\036\254\247\206\350\026\145\152  
\261\302\033\105\062\161\225\331\376\020\133\314\257\347\245\171  
\001\217\211\303\312\362\125\161\367\167\276\167\224\363\162\244  
\054\104\330\236\222\233\024\072\241\347\044\220\012\012\126\216  
\305\330\046\224\341\331\110\341\055\076\332\012\162\335\243\231  
\025\332\201\242\207\364\173\156\046\167\211\130\255\326\353\014  
\262\101\172\163\156\155\333\172\170\101\351\010\210\022\176\207  
\056\146\021\143\154\124\373\074\235\162\300\274\056\377\302\267  
\335\015\166\343\072\327\367\264\150\276\242\365\343\201\156\301  
\106\157\135\215\340\115\306\124\125\211\032\063\061\012\261\127  
\271\243\212\230\303\354\073\064\305\225\101\151\176\165\302\074  
\040\305\141\272\121\107\240\040\220\223\241\220\113\363\116\174  
\205\105\124\232\321\005\046\101\260\265\115\035\063\276\304\003  
\310\045\174\301\160\333\073\364\011\055\124\047\110\254\057\341  
\304\254\076\310\313\222\114\123\071\067\043\354\323\001\371\340  
\011\104\115\115\144\300\341\015\132\207\042\274\255\033\243\376  
\046\265\025\363\247\374\204\031\351\354\241\210\264\104\151\204  
\203\363\211\321\164\006\251\314\013\326\302\336\047\205\120\046  
\312\027\270\311\172\207\126\054\032\001\036\154\276\023\255\020  
\254\265\044\365\070\221\241\326\113\332\361\273\322\336\107\265  
\361\274\201\366\131\153\317\031\123\351\215\025\313\112\313\251  
\157\104\345\033\101\317\341\206\247\312\320\152\237\274\114\215  
\006\063\132\242\205\345\220\065\240\142\134\026\116\360\343\242  
\372\003\032\264\054\161\263\130\054\336\173\013\333\032\017\353  
\336\041\037\006\167\006\003\260\311\357\231\374\300\271\117\013

\206\050\376\322\271\352\343\332\245\303\107\151\022\340\333\360  
\366\031\213\355\173\160\327\002\326\355\207\030\050\054\004\044  
\114\167\344\110\212\032\306\073\232\324\017\312\372\165\322\001  
\100\132\215\171\277\213\317\113\317\252\026\301\225\344\255\114  
\212\076\027\221\324\261\142\345\202\345\200\004\244\003\176\215  
\277\332\177\242\017\227\117\014\323\015\373\327\321\345\162\176  
\034\310\167\377\133\232\017\267\256\005\106\345\361\250\026\354  
\107\244\027\002\003\001\000\001\243\201\366\060\201\363\060\201  
\260\006\003\125\035\021\004\201\250\060\201\245\201\017\151\156  
\146\157\100\151\172\145\156\160\145\056\143\157\155\244\201\221  
\060\201\216\061\107\060\105\006\003\125\004\012\014\076\111\132  
\105\116\120\105\040\123\056\101\056\040\055\040\103\111\106\040  
\101\060\061\063\063\067\062\066\060\055\122\115\145\162\143\056  
\126\151\164\157\162\151\141\055\107\141\163\164\145\151\172\040  
\124\061\060\065\065\040\106\066\062\040\123\070\061\103\060\101  
\006\003\125\004\011\014\072\101\166\144\141\040\144\145\154\040  
\115\145\144\151\164\145\162\162\141\156\145\157\040\105\164\157  
\162\142\151\144\145\141\040\061\064\040\055\040\060\061\060\061  
\060\040\126\151\164\157\162\151\141\055\107\141\163\164\145\151  
\172\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\006\060\035\006\003\125\035\016\004\026\004\024\035\034\145  
\016\250\362\045\173\264\221\317\344\261\261\346\275\125\164\154  
\005\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000  
\003\202\002\001\000\170\246\014\026\112\237\114\210\072\300\313  
\016\245\026\175\237\271\110\137\030\217\015\142\066\366\315\031  
\153\254\253\325\366\221\175\256\161\363\077\263\016\170\205\233  
\225\244\047\041\107\102\112\174\110\072\365\105\174\263\014\216  
\121\170\254\225\023\336\306\375\175\270\032\220\114\253\222\003  
\307\355\102\001\316\017\330\261\372\242\222\341\140\155\256\172  
\153\011\252\306\051\356\150\111\147\060\200\044\172\061\026\071  
\133\176\361\034\056\335\154\011\255\362\061\301\202\116\271\273  
\371\276\277\052\205\077\300\100\243\072\131\374\131\113\074\050  
\044\333\264\025\165\256\015\210\272\056\163\300\275\130\207\345  
\102\362\353\136\356\036\060\042\231\313\067\321\304\041\154\201  
\354\276\155\046\346\034\344\102\040\236\107\260\254\203\131\160  
\054\065\326\257\066\064\264\315\073\370\062\250\357\343\170\211  
\373\215\105\054\332\234\270\176\100\034\141\347\076\242\222\054  
\113\362\315\372\230\266\051\377\363\362\173\251\037\056\240\223  
\127\053\336\205\003\371\151\067\313\236\170\152\005\264\305\061  
\170\211\354\172\247\205\341\271\173\074\336\276\036\171\204\316  
\237\160\016\131\302\065\056\220\052\061\331\344\105\172\101\244  
\056\023\233\064\016\146\173\111\253\144\227\320\106\303\171\235  
\162\120\143\246\230\133\006\275\110\155\330\071\203\160\350\065  
\360\005\321\252\274\343\333\310\002\352\174\375\202\332\302\133  
\122\065\256\230\072\255\272\065\223\043\247\037\110\335\065\106  
\230\262\020\150\344\245\061\302\012\130\056\031\201\020\311\120  
\165\374\352\132\026\316\021\327\356\357\120\210\055\141\377\077

```
\102\163\005\224\103\325\216\074\116\001\072\031\245\037\106\116
\167\320\135\345\201\042\041\207\376\224\175\204\330\223\255\326
\150\103\110\262\333\353\163\044\347\221\177\124\244\266\200\076
\235\243\074\114\162\302\127\304\240\324\314\070\047\316\325\006
\236\242\110\331\351\237\316\202\160\066\223\232\073\337\226\041
\343\131\267\014\332\221\067\360\375\131\132\263\231\310\151\154
\103\046\001\065\143\140\125\211\003\072\165\330\272\112\331\124
\377\356\336\200\330\055\321\070\325\136\055\013\230\175\076\154
\333\374\046\210\307
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Izenpe.com"

#

Issuer: CN=Izenpe.com,O=IZENPE S.A.,C=ES

# Serial Number:00:b0:b7:5a:16:48:5f:bf:e1:cb:f5:8b:d7:19:e6:7d

# Subject: CN=Izenpe.com,O=IZENPE S.A.,C=ES

# Not Valid Before: Thu Dec 13 13:08:28 2007

# Not Valid After : Sun Dec 13 08:27:25 2037

# Fingerprint (SHA-256):

25:30:CC:8E:98:32:15:02:BA:D9:6F:9B:1F:BA:1B:09:9E:2D:29:9E:0F:45:48:BB:91:4F:36:3B:C0:D4:53:1F

# Fingerprint (SHA1): 2F:78:3D:25:52:18:A7:4A:65:39:71:B5:2C:A2:9C:45:15:6F:E9:19

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Izenpe.com"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\057\170\075\045\122\030\247\112\145\071\161\265\054\242\234\105
\025\157\351\031
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\246\260\315\205\200\332\134\120\064\243\071\220\057\125\147\163
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\070\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\024\060\022\006\003\125\004\012\014\013\111\132\105\116\120\105
\040\123\056\101\056\061\023\060\021\006\003\125\004\003\014\012
\111\172\145\156\160\145\056\143\157\155
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\020\000\260\267\132\026\110\137\277\341\313\365\213\327\031
\346\175
```

END



```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
Certificate "Chambers of Commerce Root - 2008"
```

```
#
```

```
Issuer: CN=Chambers of Commerce Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
(see current address at www.camerfirma.com/address),C=EU
```

```
Serial Number:00:a3:da:42:7e:a4:b1:ae:da
```

```
Subject: CN=Chambers of Commerce Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
(see current address at www.camerfirma.com/address),C=EU
```

```
Not Valid Before: Fri Aug 01 12:29:50 2008
```

```
Not Valid After : Sat Jul 31 12:29:50 2038
```

```
Fingerprint (SHA-256):
```

```
06:3E:4A:FA:C4:91:DF:D3:32:F3:08:9B:85:42:E9:46:17:D8:93:D7:FE:94:4E:10:A7:93:7E:E2:9D:96:93:C0
```

```
#
```

```
Fingerprint (SHA1): 78:6A:74:AC:76:AB:14:7F:9C:6A:30:50:BA:9E:A8:7E:FE:9A:CE:3C
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Chambers of Commerce Root - 2008"
```

```
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
```

```
CKA_SUBJECT MULTILINE_OCTAL
```

```
\060\201\256\061\013\060\011\006\003\125\004\006\023\002\105\125
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155
\141\040\123\056\101\056\061\051\060\047\006\003\125\004\003\023
\040\103\150\141\155\142\145\162\163\040\157\146\040\103\157\155
\155\145\162\143\145\040\122\157\157\164\040\055\040\062\060\060
\070
```

```
END
```

```
CKA_ID
```

```
UTF8 "0"
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\256\061\013\060\011\006\003\125\004\006\023\002\105\125
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
```

\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125  
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155  
\141\040\123\056\101\056\061\051\060\047\006\003\125\004\003\023  
\040\103\150\141\155\142\145\162\163\040\157\146\040\103\157\155  
\155\145\162\143\145\040\122\157\157\164\040\055\040\062\060\060  
\070

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\011\000\243\332\102\176\244\261\256\332

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\007\117\060\202\005\067\240\003\002\001\002\002\011\000  
\243\332\102\176\244\261\256\332\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\060\201\256\061\013\060\011\006\003  
\125\004\006\023\002\105\125\061\103\060\101\006\003\125\004\007  
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CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Chambers of Commerce Root - 2008"

# Issuer: CN=Chambers of Commerce Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid  
(see current address at [www.camerfirma.com/address](http://www.camerfirma.com/address)),C=EU

# Serial Number:00:a3:da:42:7e:a4:b1:ae:da

#

Subject: CN=Chambers of Commerce Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid  
(see current address at [www.camerfirma.com/address](http://www.camerfirma.com/address)),C=EU

# Not Valid Before: Fri Aug 01 12:29:50 2008

# Not Valid After : Sat Jul 31 12:29:50 2038

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Fingerprint (SHA-256):
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Fingerprint (SHA1): 78:6A:74:AC:76:AB:14:7F:9C:6A:30:50:BA:9E:A8:7E:FE:9A:CE:3C
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Chambers of Commerce Root - 2008"
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\376\232\316\074
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CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Global Chambersign Root - 2008"
#
Issuer: CN=Global Chambersign
Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid (see current address at
www.camerfirma.com/address),C=EU
Serial Number:00:c9:cd:d3:e9:d5:7d:23:ce
Subject: CN=Global Chambersign Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
(see current address at www.camerfirma.com/address),C=EU
Not Valid Before: Fri Aug 01 12:31:40 2008

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Not Valid After : Sat Jul 31 12:31:40 2038
Fingerprint (SHA-256):
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Fingerprint (SHA1): 4A:BD:EE:EC:95:0D:35:9C:89:AE:C7:52:A1:2C:5B:29:F6:D6:AA:0C
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
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\326\371\016\216\131\361\375\033\063\265\051\073\027\073\101\266  
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\227\230\356\315\214\037\373\234\121\256\213\160\275\047\237\161  
\300\153\254\175\220\146\350\327\135\072\015\260\325\302\215\325  
\310\235\235\301\155\320\320\277\121\344\343\370\303\070\066\256  
\326\247\165\346\257\204\103\135\223\222\014\152\007\336\073\035  
\230\042\326\254\301\065\333\243\240\045\377\162\265\166\035\336  
\155\351\054\146\054\122\204\320\105\222\316\034\345\345\063\035  
\334\007\123\124\243\252\202\073\232\067\057\334\335\240\144\351

\346\335\275\256\374\144\205\035\074\247\311\006\336\204\377\153  
\350\153\032\074\305\242\263\102\373\213\011\076\137\010\122\307  
\142\304\324\005\161\277\304\144\344\370\241\203\350\076\022\233  
\250\036\324\066\115\057\161\366\215\050\366\203\251\023\322\141  
\301\221\273\110\300\064\217\101\214\113\114\333\151\022\377\120  
\224\234\040\203\131\163\355\174\241\362\361\375\335\367\111\323  
\103\130\240\126\143\312\075\075\345\065\126\131\351\016\312\040  
\314\053\113\223\051\017\002\003\001\000\001\243\202\001\152\060  
\202\001\146\060\022\006\003\125\035\023\001\001\377\004\010\060  
\006\001\001\377\002\001\014\060\035\006\003\125\035\016\004\026  
\004\024\271\011\312\234\036\333\323\154\072\153\256\355\124\361  
\133\223\006\065\056\136\060\201\341\006\003\125\035\043\004\201  
\331\060\201\326\200\024\271\011\312\234\036\333\323\154\072\153  
\256\355\124\361\133\223\006\065\056\136\241\201\262\244\201\257  
\060\201\254\061\013\060\011\006\003\125\004\006\023\002\105\125  
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151  
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141  
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141  
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144  
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011  
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125  
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155  
\141\040\123\056\101\056\061\047\060\045\006\003\125\004\003\023  
\036\107\154\157\142\141\154\040\103\150\141\155\142\145\162\163  
\151\147\156\040\122\157\157\164\040\055\040\062\060\060\070\202  
\011\000\311\315\323\351\325\175\043\316\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\006\060\075\006\003\125\035  
\040\004\066\060\064\060\062\006\004\125\035\040\000\060\052\060  
\050\006\010\053\006\001\005\005\007\002\001\026\034\150\164\164  
\160\072\057\057\160\157\154\151\143\171\056\143\141\155\145\162  
\146\151\162\155\141\056\143\157\155\060\015\006\011\052\206\110  
\206\367\015\001\001\005\005\000\003\202\002\001\000\200\210\177  
\160\336\222\050\331\005\224\106\377\220\127\251\361\057\337\032  
\015\153\372\174\016\034\111\044\171\047\330\106\252\157\051\131  
\122\210\160\022\352\335\075\365\233\123\124\157\341\140\242\250  
\011\271\354\353\131\174\306\065\361\334\030\351\361\147\345\257  
\272\105\340\011\336\312\104\017\302\027\016\167\221\105\172\063  
\137\137\226\054\150\213\301\107\217\230\233\075\300\354\313\365  
\325\202\222\204\065\321\276\066\070\126\162\061\133\107\055\252  
\027\244\143\121\353\012\001\255\177\354\165\236\313\241\037\361  
\177\022\261\271\344\144\177\147\326\043\052\364\270\071\135\230  
\350\041\247\341\275\075\102\032\164\232\160\257\150\154\120\135  
\111\317\377\373\016\135\346\054\107\327\201\072\131\000\265\163  
\153\143\040\366\061\105\010\071\016\364\160\176\100\160\132\077  
\320\153\102\251\164\075\050\057\002\155\165\162\225\011\215\110  
\143\306\306\043\127\222\223\136\065\301\215\371\012\367\054\235  
\142\034\366\255\174\335\246\061\036\266\261\307\176\205\046\372  
\244\152\265\332\143\060\321\357\223\067\262\146\057\175\005\367



```
\347\267\113\230\224\065\300\331\072\051\301\235\262\120\063\035
\112\251\132\246\311\003\357\355\364\347\250\156\212\264\127\204
\353\244\077\320\356\252\252\207\133\143\350\223\342\153\250\324
\270\162\170\153\033\355\071\344\135\313\233\252\207\325\117\116
\000\376\331\152\237\074\061\017\050\002\001\175\230\350\247\260
\242\144\236\171\370\110\362\025\251\314\346\310\104\353\077\170
\231\362\173\161\076\074\361\230\247\305\030\022\077\346\273\050
\063\102\351\105\012\174\155\362\206\171\057\305\202\031\175\011
\211\174\262\124\166\210\256\336\301\363\314\341\156\333\061\326
\223\256\231\240\357\045\152\163\230\211\133\072\056\023\210\036
\277\300\222\224\064\033\343\047\267\213\036\157\102\377\347\351
\067\233\120\035\055\242\371\002\356\313\130\130\072\161\274\150
\343\252\301\257\034\050\037\242\334\043\145\077\201\352\256\231
\323\330\060\317\023\015\117\025\311\204\274\247\110\055\370\060
\043\167\330\106\113\171\155\366\214\355\072\177\140\021\170\364
\351\233\256\325\124\300\164\200\321\013\102\237\301
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Global Chambersign Root - 2008"

# Issuer: CN=Global Chambersign Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid (see current address at [www.camerfirma.com/address](http://www.camerfirma.com/address)),C=EU

# Serial Number:00:c9:cd:d3:e9:d5:7d:23:ce

# Subject: CN=Global Chambersign Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid (see current address at [www.camerfirma.com/address](http://www.camerfirma.com/address)),C=EU

# Not Valid Before: Fri Aug 01 12:31:40 2008

# Not Valid After : Sat Jul 31 12:31:40 2038

# Fingerprint (SHA-256):

13:63:35:43:93:34:A7:69:80:16:A0:D3:24:DE:72:28:4E:07:9D:7B:52:20:BB:8F:BD:74:78:16:EE:BE:BA:CA

# Fingerprint (SHA1): 4A:BD:EE:EC:95:0D:35:9C:89:AE:C7:52:A1:2C:5B:29:F6:D6:AA:0C

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL

CK\_FALSE

CKA\_LABEL UTF8 "Global Chambersign Root - 2008"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\112\275\356\354\225\015\065\234\211\256\307\122\241\054\133\051
\366\326\252\014
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\236\200\377\170\001\014\056\301\066\275\376\226\220\156\010\363
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\254\061\013\060\011\006\003\125\004\006\023\002\105\125
```

```
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155
\141\040\123\056\101\056\061\047\060\045\006\003\125\004\003\023
\036\107\154\157\142\141\154\040\103\150\141\155\142\145\162\163
\151\147\156\040\122\157\157\164\040\055\040\062\060\060\070
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\011\000\311\315\323\351\325\175\043\316
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Go Daddy Root Certificate Authority - G2"

#

# Issuer: CN=Go Daddy Root Certificate Authority - G2,O="GoDaddy.com, Inc.",L=Scottsdale,ST=Arizona,C=US

# Serial Number: 0 (0x0)

# Subject: CN=Go Daddy Root Certificate Authority - G2,O="GoDaddy.com, Inc.",L=Scottsdale,ST=Arizona,C=US

# Not Valid Before: Tue Sep 01 00:00:00 2009

# Not Valid After : Thu Dec 31 23:59:59 2037

# Fingerprint (SHA-256):

45:14:0B:32:47:EB:9C:C8:C5:B4:F0:D7:B5:30:91:F7:32:92:08:9E:6E:5A:63:E2:74:9D:D3:AC:A9:19:8E:DA

# Fingerprint (SHA1): 47:BE:AB:C9:22:EA:E8:0E:78:78:34:62:A7:9F:45:C2:54:FD:E6:8B

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE

CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Go Daddy Root Certificate Authority - G2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\201\203\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\032\060\030\006\003\125\004\012
\023\021\107\157\104\141\144\144\171\056\143\157\155\054\040\111
\156\143\056\061\061\060\057\006\003\125\004\003\023\050\107\157
\040\104\141\144\144\171\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164
```

```
\171\040\055\040\107\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\203\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\032\060\030\006\003\125\004\012
\023\021\107\157\104\141\144\144\171\056\143\157\155\054\040\111
\156\143\056\061\061\060\057\006\003\125\004\003\023\050\107\157
\040\104\141\144\144\171\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164
\171\040\055\040\107\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\305\060\202\002\255\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\203\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157\156
\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157\164
\164\163\144\141\154\145\061\032\060\030\006\003\125\004\012\023
\021\107\157\104\141\144\144\171\056\143\157\155\054\040\111\156
\143\056\061\061\060\057\006\003\125\004\003\023\050\107\157\040
\104\141\144\144\171\040\122\157\157\164\040\103\145\162\164\151
\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171
\040\055\040\107\062\060\036\027\015\060\071\060\071\060\061\060
\060\060\060\060\060\132\027\015\063\067\061\062\063\061\062\063
\065\071\065\071\132\060\201\203\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\020\060\016\006\003\125\004\010\023\007
\101\162\151\172\157\156\141\061\023\060\021\006\003\125\004\007
\023\012\123\143\157\164\164\163\144\141\154\145\061\032\060\030
\006\003\125\004\012\023\021\107\157\104\141\144\144\171\056\143
\157\155\054\040\111\156\143\056\061\061\060\057\006\003\125\004
\003\023\050\107\157\040\104\141\144\144\171\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\040\055\040\107\062\060\202\001\042\060
\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202
\001\017\000\060\202\001\012\002\202\001\001\000\277\161\142\010
\361\372\131\064\367\033\311\030\243\367\200\111\130\351\042\203
\023\246\305\040\103\001\073\204\361\346\205\111\237\047\352\366
\204\033\116\240\264\333\160\230\307\062\001\261\005\076\007\116
\356\364\372\117\057\131\060\042\347\253\031\126\153\342\200\007
\374\363\026\165\200\071\121\173\345\371\065\266\164\116\251\215
\202\023\344\266\077\251\003\203\372\242\276\212\025\152\177\336
```

\013\303\266\031\024\005\312\352\303\250\004\224\073\106\174\062  
\015\363\000\146\042\310\215\151\155\066\214\021\030\267\323\262  
\034\140\264\070\372\002\214\316\323\335\106\007\336\012\076\353  
\135\174\310\174\373\260\053\123\244\222\142\151\121\045\005\141  
\032\104\201\214\054\251\103\226\043\337\254\072\201\232\016\051  
\305\034\251\351\135\036\266\236\236\060\012\071\316\361\210\200  
\373\113\135\314\062\354\205\142\103\045\064\002\126\047\001\221  
\264\073\160\052\077\156\261\350\234\210\001\175\237\324\371\333  
\123\155\140\235\277\054\347\130\253\270\137\106\374\316\304\033  
\003\074\011\353\111\061\134\151\106\263\340\107\002\003\001\000  
\001\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004  
\024\072\232\205\007\020\147\050\266\357\366\275\005\101\156\040  
\301\224\332\017\336\060\015\006\011\052\206\110\206\367\015\001  
\001\013\005\000\003\202\001\001\000\231\333\135\171\325\371\227  
\131\147\003\141\361\176\073\006\061\165\055\241\040\216\117\145  
\207\264\367\246\234\274\330\351\057\320\333\132\356\317\164\214  
\163\264\070\102\332\005\173\370\002\165\270\375\245\261\327\256  
\366\327\336\023\313\123\020\176\212\106\321\227\372\267\056\053  
\021\253\220\260\047\200\371\350\237\132\351\067\237\253\344\337  
\154\263\205\027\235\075\331\044\117\171\221\065\326\137\004\353  
\200\203\253\232\002\055\265\020\364\330\220\307\004\163\100\355  
\162\045\240\251\237\354\236\253\150\022\231\127\306\217\022\072  
\011\244\275\104\375\006\025\067\301\233\344\062\243\355\070\350  
\330\144\363\054\176\024\374\002\352\237\315\377\007\150\027\333  
\042\220\070\055\172\215\321\124\361\151\343\137\063\312\172\075  
\173\012\343\312\177\137\071\345\342\165\272\305\166\030\063\316  
\054\360\057\114\255\367\261\347\316\117\250\304\233\112\124\006  
\305\177\175\325\010\017\342\034\376\176\027\270\254\136\366\324  
\026\262\103\011\014\115\366\247\153\264\231\204\145\312\172\210  
\342\342\104\276\134\367\352\034\365

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Go Daddy Root Certificate Authority - G2"

# Issuer: CN=Go Daddy Root Certificate Authority - G2,O="GoDaddy.com, Inc.",L=Scottsdale,ST=Arizona,C=US

# Serial Number: 0 (0x0)

# Subject: CN=Go Daddy Root Certificate Authority - G2,O="GoDaddy.com, Inc.",L=Scottsdale,ST=Arizona,C=US

# Not Valid Before: Tue Sep 01 00:00:00 2009

# Not Valid After : Thu Dec 31 23:59:59 2037

# Fingerprint (SHA-256):

45:14:0B:32:47:EB:9C:C8:C5:B4:F0:D7:B5:30:91:F7:32:92:08:9E:6E:5A:63:E2:74:9D:D3:AC:A9:19:8E:DA

# Fingerprint

```

(SHA1): 47:BE:AB:C9:22:EA:E8:0E:78:78:34:62:A7:9F:45:C2:54:FD:E6:8B
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Go Daddy Root Certificate Authority - G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\107\276\253\311\042\352\350\016\170\170\064\142\247\237\105\302
\124\375\346\213
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\200\072\274\042\301\346\373\215\233\073\047\112\062\033\232\001
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\203\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\032\060\030\006\003\125\004\012
\023\021\107\157\104\141\144\144\171\056\143\157\155\054\040\111
\156\143\056\061\061\060\057\006\003\125\004\003\023\050\107\157
\040\104\141\144\144\171\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164
\171\040\055\040\107\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Starfield Root Certificate Authority - G2"
#
Issuer: CN=Starfield Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
Serial Number: 0 (0x0)
Subject: CN=Starfield Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
Not Valid Before: Tue Sep 01 00:00:00 2009
Not Valid After : Thu Dec 31 23:59:59 2037
Fingerprint (SHA-256):
2C:E1:CB:0B:F9:D2:F9:E1:02:99:3F:BE:21:51:52:C3:B2:DD:0C:AB:DE:1C:68:E5:31:9B:83:91:54:DB:B7:F5
Fingerprint (SHA1): B5:1C:06:7C:EE:2B:0C:3D:F8:55:AB:2D:92:F4:FE:39:D4:E7:0F:0E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN

```

```
CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Starfield Root Certificate Authority - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062
\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145
\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040
\107\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062
\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145
\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040
\107\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\335\060\202\002\305\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157\156
\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157\164
\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012\023
\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150\156
\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062\060
\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145\154
\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\062\060\036\027\015\060\071\060\071\060\061\060\060\060\060\060
\060\132\027\015\063\067\061\062\063\061\062\063\065\071\065\071
```

\132\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125  
\123\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172  
\157\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143  
\157\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004  
\012\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143  
\150\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061  
\062\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151  
\145\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151  
\143\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055  
\040\107\062\060\202\001\042\060\015\006\011\052\206\110\206\367  
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002  
\202\001\001\000\275\355\301\003\374\366\217\374\002\261\157\133  
\237\110\331\235\171\342\242\267\003\141\126\030\303\107\266\327  
\312\075\065\056\211\103\367\241\151\233\336\212\032\375\023\040  
\234\264\111\167\062\051\126\375\271\354\214\335\042\372\162\334  
\047\141\227\356\366\132\204\354\156\031\271\211\054\334\204\133  
\325\164\373\153\137\305\211\245\020\122\211\106\125\364\270\165  
\034\346\177\344\124\256\113\370\125\162\127\002\031\370\027\161  
\131\353\036\050\007\164\305\235\110\276\154\264\364\244\260\363  
\144\067\171\222\300\354\106\136\177\341\155\123\114\142\257\315  
\037\013\143\273\072\235\373\374\171\000\230\141\164\317\046\202  
\100\143\363\262\162\152\031\015\231\312\324\016\165\314\067\373  
\213\211\301\131\361\142\177\137\263\137\145\060\370\247\267\115  
\166\132\036\166\136\064\300\350\226\126\231\212\263\360\177\244  
\315\275\334\062\061\174\221\317\340\137\021\370\153\252\111\134  
\321\231\224\321\242\343\143\133\011\166\265\126\142\341\113\164  
\035\226\324\046\324\010\004\131\320\230\016\016\346\336\374\303  
\354\037\220\361\002\003\001\000\001\243\102\060\100\060\017\006  
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035  
\006\003\125\035\016\004\026\004\024\174\014\062\037\247\331\060  
\177\304\175\150\243\142\250\241\316\253\007\133\047\060\015\006  
\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001\001  
\000\021\131\372\045\117\003\157\224\231\073\232\037\202\205\071  
\324\166\005\224\136\341\050\223\155\142\135\011\302\240\250\324  
\260\165\070\361\064\152\235\344\237\212\206\046\121\346\054\321  
\306\055\156\225\040\112\222\001\354\270\212\147\173\061\342\147  
\056\214\225\003\046\056\103\235\112\061\366\016\265\014\273\267  
\342\067\177\042\272\000\243\016\173\122\373\153\273\073\304\323  
\171\121\116\315\220\364\147\007\031\310\074\106\172\015\001\175  
\305\130\347\155\346\205\060\027\232\044\304\020\340\004\367\340  
\362\177\324\252\012\377\102\035\067\355\224\345\144\131\022\040  
\167\070\323\062\076\070\201\165\226\163\372\150\217\261\313\316  
\037\305\354\372\234\176\317\176\261\361\007\055\266\374\277\312  
\244\277\320\227\005\112\274\352\030\050\002\220\275\124\170\011  
\041\161\323\321\175\035\331\026\260\251\141\075\320\012\000\042  
\374\307\173\313\011\144\105\013\073\100\201\367\175\174\062\365  
\230\312\130\216\175\052\356\220\131\163\144\371\066\164\136\045

```

\241\365\146\005\056\177\071\025\251\052\373\120\213\216\205\151
\364
END
CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Starfield Root Certificate Authority - G2"
Issuer: CN=Starfield Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
Serial Number: 0 (0x0)
Subject: CN=Starfield Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
#
Not Valid Before: Tue Sep 01 00:00:00 2009
Not Valid After : Thu Dec 31 23:59:59 2037
Fingerprint (SHA-256):
2C:E1:CB:0B:F9:D2:F9:E1:02:99:3F:BE:21:51:52:C3:B2:DD:0C:AB:DE:1C:68:E5:31:9B:83:91:54:DB:B7:F5
Fingerprint (SHA1): B5:1C:06:7C:EE:2B:0C:3D:F8:55:AB:2D:92:F4:FE:39:D4:E7:0F:0E
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Starfield Root Certificate Authority - G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\265\034\006\174\356\053\014\075\370\125\253\055\222\364\376\071
\324\347\017\016
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\326\071\201\306\122\176\226\151\374\374\312\146\355\005\362\226
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062
\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145
\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040
\107\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\000
END

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CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Starfield Services Root Certificate Authority - G2"
#
Issuer: CN=Starfield Services Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
Serial Number: 0 (0x0)
Subject: CN=Starfield Services Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
Not Valid Before:
Tue Sep 01 00:00:00 2009
Not Valid After : Thu Dec 31 23:59:59 2037
Fingerprint (SHA-256):
56:8D:69:05:A2:C8:87:08:A4:B3:02:51:90:ED:CF:ED:B1:97:4A:60:6A:13:C6:E5:29:0F:CB:2A:E6:3E:DA:B5
Fingerprint (SHA1): 92:5A:8F:8D:2C:6D:04:E0:66:5F:59:6A:FF:22:D8:63:E8:25:6F:3F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Starfield Services Root Certificate Authority - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\073
\060\071\006\003\125\004\003\023\062\123\164\141\162\146\151\145
\154\144\040\123\145\162\166\151\143\145\163\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\040\055\040\107\062
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\073
\060\071\006\003\125\004\003\023\062\123\164\141\162\146\151\145
\154\144\040\123\145\162\166\151\143\145\163\040\122\157\157\164

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\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164  
\150\157\162\151\164\171\040\055\040\107\062  
END  
CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\001\000  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\003\357\060\202\002\327\240\003\002\001\002\002\001\000  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157\156  
\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157\164  
\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012\023  
\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150\156  
\157\154\157\147\151\145\163\054\040\111\156\143\056\061\073\060  
\071\006\003\125\004\003\023\062\123\164\141\162\146\151\145\154  
\144\040\123\145\162\166\151\143\145\163\040\122\157\157\164\040  
\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150  
\157\162\151\164\171\040\055\040\107\062\060\036\027\015\060\071  
\060\071\060\061\060\060\060\060\060\060\132\027\015\063\067\061  
\062\063\061\062\063\065\071\065\071\132\060\201\230\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\020\060\016\006\003  
\125\004\010\023\007\101\162\151\172\157\156\141\061\023\060\021  
\006\003\125\004\007\023\012\123\143\157\164\164\163\144\141\154  
\145\061\045\060\043\006\003\125\004\012\023\034\123\164\141\162  
\146\151\145\154\144\040\124\145\143\150\156\157\154\157\147\151  
\145\163\054\040\111\156\143\056\061\073\060\071\006\003\125\004  
\003\023\062\123\164\141\162\146\151\145\154\144\040\123\145\162  
\166\151\143\145\163\040\122\157\157\164\040\103\145\162\164\151  
\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171  
\040\055\040\107\062\060\202\001\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001  
\012\002\202\001\001\000\325\014\072\304\052\371\116\342\365\276  
\031\227\137\216\210\123\261\037\077\313\317\237\040\023\155\051  
\072\310\017\175\074\367\153\166\070\143\331\066\140\250\233\136  
\134\000\200\262\057\131\177\366\207\371\045\103\206\347\151\033  
\122\232\220\341\161\343\330\055\015\116\157\366\310\111\331\266  
\363\032\126\256\053\266\164\024\353\317\373\046\343\032\272\035  
\226\056\152\073\130\224\211\107\126\377\045\240\223\160\123\203  
\332\204\164\024\303\147\236\004\150\072\337\216\100\132\035\112  
\116\317\103\221\073\347\126\326\000\160\313\122\356\173\175\256  
\072\347\274\061\371\105\366\302\140\317\023\131\002\053\200\314  
\064\107\337\271\336\220\145\155\002\317\054\221\246\246\347\336  
\205\030\111\174\146\116\243\072\155\251\265\356\064\056\272\015  
\003\270\063\337\107\353\261\153\215\045\331\233\316\201\321\105  
\106\062\226\160\207\336\002\016\111\103\205\266\154\163\273\144  
\352\141\101\254\311\324\124\337\207\057\307\042\262\046\314\237  
\131\124\150\237\374\276\052\057\304\125\034\165\100\140\027\205

```
\002\125\071\213\177\005\002\003\001\000\001\243\102\060\100\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006
\060\035\006\003\125\035\016\004\026\004\024\234\137\000\337\252
\001\327\060\053\070\210\242\270\155\112\234\362\021\221\203\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202
\001\001\000\113\066\246\204\167\151\335\073\031\237\147\043\010
\157\016\141\311\375\204\334\137\330\066\201\315\330\033\101\055
\237\140\335\307\032\150\331\321\156\206\341\210\043\317\023\336
\103\317\342\064\263\004\235\037\051\325\277\370\136\310\325\301
\275\356\222\157\062\164\362\221\202\057\275\202\102\172\255\052
\267\040\175\115\274\172\125\022\302\025\352\275\367\152\225\056
\154\164\237\317\034\264\362\305\001\243\205\320\162\076\255\163
\253\013\233\165\014\155\105\267\216\224\254\226\067\265\240\320
\217\025\107\016\343\350\203\335\217\375\357\101\001\167\314\047
\251\142\205\063\362\067\010\357\161\317\167\006\336\310\031\035
\210\100\317\175\106\035\377\036\307\341\316\377\043\333\306\372
\215\125\116\251\002\347\107\021\106\076\364\375\275\173\051\046
\273\251\141\142\067\050\266\055\052\366\020\206\144\311\160\247
\322\255\267\051\160\171\352\074\332\143\045\237\375\150\267\060
\354\160\373\165\212\267\155\140\147\262\036\310\271\351\330\250
\157\002\213\147\015\115\046\127\161\332\040\374\301\112\120\215
\261\050\272
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Starfield Services Root Certificate Authority - G2"

# Issuer: CN=Starfield Services Root Certificate Authority - G2,O="Starfield Technologies,  
Inc.",L=Scottsdale,ST=Arizona,C=US

# Serial Number: 0 (0x0)

# Subject: CN=Starfield Services Root Certificate Authority - G2,O="Starfield Technologies,  
Inc.",L=Scottsdale,ST=Arizona,C=US

# Not Valid Before: Tue Sep 01 00:00:00 2009

# Not Valid After : Thu Dec 31 23:59:59 2037

# Fingerprint (SHA-256):

56:8D:69:05:A2:C8:87:08:A4:B3:02:51:90:ED:CF:ED:B1:97:4A:60:6A:13:C6:E5:29:0F:CB:2A:E6:3E:DA:B5

# Fingerprint (SHA1): 92:5A:8F:8D:2C:6D:04:E0:66:5F:59:6A:FF:22:D8:63:E8:25:6F:3F

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Starfield Services Root  
Certificate Authority - G2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\222\132\217\215\054\155\004\340\146\137\131\152\377\042\330\143
```

```

\350\045\157\077
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\027\065\164\257\173\141\034\353\364\371\074\342\356\100\371\242
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\073
\060\071\006\003\125\004\003\023\062\123\164\141\162\146\151\145
\154\144\040\123\145\162\166\151\143\145\163\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION
CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "AffirmTrust Commercial"
#
Issuer: CN=AffirmTrust Commercial,O=AffirmTrust,C=US
Serial Number:77:77:06:27:26:a9:b1:7c
Subject: CN=AffirmTrust Commercial,O=AffirmTrust,C=US
Not Valid Before: Fri Jan 29 14:06:06 2010
Not Valid After : Tue Dec 31 14:06:06 2030
Fingerprint (SHA-256):
03:76:AB:1D:54:C5:F9:80:3C:E4:B2:E2:01:A0:EE:7E:EF:7B:57:B6:36:E8:A9:3C:9B:8D:48:60:C9:6F:5F:A7
Fingerprint (SHA1): F9:B5:B6:32:45:5F:9C:BE:EC:57:5F:80:DC:E9:6E:2C:C7:B2:78:B7
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Commercial"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\103\157\155\155

```

\145\162\143\151\141\154

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155  
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026  
\101\146\146\151\162\155\124\162\165\163\164\040\103\157\155\155  
\145\162\143\151\141\154

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\167\167\006\047\046\251\261\174

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\114\060\202\002\064\240\003\002\001\002\002\010\167  
\167\006\047\046\251\261\174\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\060\104\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\024\060\022\006\003\125\004\012\014\013  
\101\146\146\151\162\155\124\162\165\163\164\061\037\060\035\006  
\003\125\004\003\014\026\101\146\146\151\162\155\124\162\165\163  
\164\040\103\157\155\155\145\162\143\151\141\154\060\036\027\015  
\061\060\060\061\062\071\061\064\060\066\060\066\132\027\015\063  
\060\061\062\063\061\061\064\060\066\060\066\132\060\104\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\024\060\022\006  
\003\125\004\012\014\013\101\146\146\151\162\155\124\162\165\163  
\164\061\037\060\035\006\003\125\004\003\014\026\101\146\146\151  
\162\155\124\162\165\163\164\040\103\157\155\155\145\162\143\151  
\141\154\060\202\001\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202  
\001\001\000\366\033\117\147\007\053\241\025\365\006\042\313\037  
\001\262\343\163\105\006\104\111\054\273\111\045\024\326\316\303  
\267\253\054\117\306\101\062\224\127\372\022\247\133\016\342\217  
\037\036\206\031\247\252\265\055\271\137\015\212\302\257\205\065  
\171\062\055\273\034\142\067\362\261\133\112\075\312\315\161\137  
\351\102\276\224\350\310\336\371\042\110\144\306\345\253\306\053  
\155\255\005\360\372\325\013\317\232\345\360\120\244\213\073\107  
\245\043\133\172\172\370\063\077\270\357\231\227\343\040\301\326  
\050\211\317\224\373\271\105\355\343\100\027\021\324\164\360\013  
\061\342\053\046\152\233\114\127\256\254\040\076\272\105\172\005  
\363\275\233\151\025\256\175\116\040\143\304\065\166\072\007\002  
\311\067\375\307\107\356\350\361\166\035\163\025\362\227\244\265  
\310\172\171\331\102\252\053\177\134\376\316\046\117\243\146\201  
\065\257\104\272\124\036\034\060\062\145\235\346\074\223\136\120  
\116\172\343\072\324\156\314\032\373\371\322\067\256\044\052\253  
\127\003\042\050\015\111\165\177\267\050\332\165\277\216\343\334  
\016\171\061\002\003\001\000\001\243\102\060\100\060\035\006\003  
\125\035\016\004\026\004\024\235\223\306\123\213\136\312\257\077

```
\237\036\017\345\231\225\274\044\366\224\217\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011
\052\206\110\206\367\015\001\001\013\005\000\003\202\001\001\000
\130\254\364\004\016\315\300\015\377\012\375\324\272\026\137\051
\275\173\150\231\130\111\322\264\035\067\115\177\047\175\106\006
\135\103\306\206\056\076\163\262\046\175\117\223\251\266\304\052
\232\253\041\227\024\261\336\214\323\253\211\025\330\153\044\324
\361\026\256\330\244\134\324\177\121\216\355\030\001\261\223\143
\275\274\370\141\200\232\236\261\316\102\160\342\251\175\006\045
\175\047\241\376\157\354\263\036\044\332\343\113\125\032\000\073
\065\264\073\331\327\135\060\375\201\023\211\362\302\006\053\355
\147\304\216\311\103\262\134\153\025\211\002\274\142\374\116\362
\265\063\252\262\157\323\012\242\120\343\366\073\350\056\104\302
\333\146\070\251\063\126\110\361\155\033\063\215\015\214\077\140
\067\235\323\312\155\176\064\176\015\237\162\166\213\033\237\162
\375\122\065\101\105\002\226\057\034\262\232\163\111\041\261\111
\107\105\107\264\357\152\064\021\311\115\232\314\131\267\326\002
\236\132\116\145\265\224\256\033\337\051\260\026\361\277\000\236
\007\072\027\144\265\004\265\043\041\231\012\225\073\227\174\357
END
```

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "AffirmTrust Commercial"

# Issuer: CN=AffirmTrust Commercial,O=AffirmTrust,C=US

# Serial Number:77:77:06:27:26:a9:b1:7c

# Subject: CN=AffirmTrust Commercial,O=AffirmTrust,C=US

# Not Valid Before: Fri Jan 29 14:06:06 2010

# Not Valid After : Tue Dec 31 14:06:06 2030

# Fingerprint (SHA-256):

03:76:AB:1D:54:C5:F9:80:3C:E4:B2:E2:01:A0:EE:7E:EF:7B:57:B6:36:E8:A9:3C:9B:8D:48:60:C9:6F:5F:A7

# Fingerprint (SHA1): F9:B5:B6:32:45:5F:9C:BE:EC:57:5F:80:DC:E9:6E:2C:C7:B2:78:B7

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "AffirmTrust Commercial"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\371\265\266\062\105\137\234\276\354\127\137\200\334\351\156\054
\307\262\170\267
```

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

```
\202\222\272\133\357\315\212\157\246\075\125\371\204\366\326\267
END
```

```

CKA_ISSUER MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\103\157\155\155
\145\162\143\151\141\154
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\167\167\006\047\046\251\261\174
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "AffirmTrust Networking"
#
Issuer: CN=AffirmTrust Networking,O=AffirmTrust,C=US
Serial Number:7c:4f:04:39:1c:d4:99:2d
Subject: CN=AffirmTrust Networking,O=AffirmTrust,C=US
Not Valid Before: Fri Jan 29 14:08:24 2010
Not Valid After : Tue Dec
31 14:08:24 2030
Fingerprint (SHA-256):
0A:81:EC:5A:92:97:77:F1:45:90:4A:F3:8D:5D:50:9F:66:B5:E2:C5:8F:CD:B5:31:05:8B:0E:17:F3:F0:B4:1B
Fingerprint (SHA1): 29:36:21:02:8B:20:ED:02:F5:66:C5:32:D1:D6:ED:90:9F:45:00:2F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Networking"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\116\145\164\167
\157\162\153\151\156\147
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\116\145\164\167
\157\162\153\151\156\147
END

```

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\010\174\117\004\071\034\324\231\055

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\114\060\202\002\064\240\003\002\001\002\002\010\174  
\117\004\071\034\324\231\055\060\015\006\011\052\206\110\206\367  
\015\001\001\005\005\000\060\104\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\024\060\022\006\003\125\004\012\014\013  
\101\146\146\151\162\155\124\162\165\163\164\061\037\060\035\006  
\003\125\004\003\014\026\101\146\146\151\162\155\124\162\165\163  
\164\040\116\145\164\167\157\162\153\151\156\147\060\036\027\015  
\061\060\060\061\062\071\061\064\060\070\062\064\132\027\015\063  
\060\061\062\063\061\061\064\060\070\062\064\132\060\104\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\024\060\022\006  
\003\125\004\012\014\013\101\146\146\151\162\155\124\162\165\163  
\164\061\037\060\035\006\003\125\004\003\014\026\101\146\146\151  
\162\155\124\162\165\163\164\040\116\145\164\167\157\162\153\151  
\156\147\060\202\001\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202  
\001\001\000\264\204\314\063\027\056\153\224\154\153\141\122\240  
\353\243\317\171\224\114\345\224\200\231\313\125\144\104\145\217  
\147\144\342\006\343\134\067\111\366\057\233\204\204\036\055\362  
\140\235\060\116\314\204\205\342\054\317\036\236\376\066\253\063  
\167\065\104\330\065\226\032\075\066\350\172\016\330\325\107\241  
\152\151\213\331\374\273\072\256\171\132\325\364\326\161\273\232  
\220\043\153\232\267\210\164\207\014\036\137\271\236\055\372\253  
\123\053\334\273\166\076\223\114\010\010\214\036\242\043\034\324  
\152\255\042\272\231\001\056\155\145\313\276\044\146\125\044\113  
\100\104\261\033\327\341\302\205\300\336\020\077\075\355\270\374  
\361\361\043\123\334\277\145\227\157\331\371\100\161\215\175\275  
\225\324\316\276\240\136\047\043\336\375\246\320\046\016\000\051  
\353\074\106\360\075\140\277\077\120\322\334\046\101\121\236\024  
\067\102\004\243\160\127\250\033\207\355\055\372\173\356\214\012  
\343\251\146\211\031\313\101\371\335\104\066\141\317\342\167\106  
\310\175\366\364\222\201\066\375\333\064\361\162\176\363\014\026  
\275\264\025\002\003\001\000\001\243\102\060\100\060\035\006\003  
\125\035\016\004\026\004\024\007\037\322\347\234\332\302\156\242  
\100\264\260\172\120\020\120\164\304\310\275\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011  
\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000  
\211\127\262\026\172\250\302\375\326\331\233\233\064\302\234\264  
\062\024\115\247\244\337\354\276\247\276\370\103\333\221\067\316  
\264\062\056\120\125\032\065\116\166\103\161\040\357\223\167\116  
\025\160\056\207\303\301\035\155\334\313\265\047\324\054\126\321  
\122\123\072\104\322\163\310\304\033\005\145\132\142\222\234\356  
\101\215\061\333\347\064\352\131\041\325\001\172\327\144\270\144



```
\071\315\311\355\257\355\113\003\110\247\240\231\001\200\334\145
\243\066\256\145\131\110\117\202\113\310\145\361\127\035\345\131
\056\012\077\154\330\321\365\345\011\264\154\124\000\012\340\025
\115\207\165\155\267\130\226\132\335\155\322\000\240\364\233\110
\276\303\067\244\272\066\340\174\207\205\227\032\025\242\336\056
\242\133\275\257\030\371\220\120\315\160\131\370\047\147\107\313
\307\240\007\072\175\321\054\135\154\031\072\146\265\175\375\221
\157\202\261\276\010\223\333\024\107\361\242\067\307\105\236\074
\307\167\257\144\250\223\337\366\151\203\202\140\362\111\102\064
\355\132\000\124\205\034\026\066\222\014\134\372\246\255\277\333
END
```

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "AffirmTrust Networking"

# Issuer: CN=AffirmTrust Networking,O=AffirmTrust,C=US

# Serial Number:7c:4f:04:39:1c:d4:99:2d

# Subject: CN=AffirmTrust Networking,O=AffirmTrust,C=US

# Not Valid Before: Fri Jan

29 14:08:24 2010

# Not Valid After : Tue Dec 31 14:08:24 2030

# Fingerprint (SHA-256):

0A:81:EC:5A:92:97:77:F1:45:90:4A:F3:8D:5D:50:9F:66:B5:E2:C5:8F:CD:B5:31:05:8B:0E:17:F3:F0:B4:1B

# Fingerprint (SHA1): 29:36:21:02:8B:20:ED:02:F5:66:C5:32:D1:D6:ED:90:9F:45:00:2F

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "AffirmTrust Networking"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\051\066\041\002\213\040\355\002\365\146\305\062\321\326\355\220
\237\105\000\057
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\102\145\312\276\001\232\232\114\251\214\101\111\315\300\325\177
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\116\145\164\167
\157\162\153\151\156\147
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\010\174\117\004\071\034\324\231\055
```

END

```

CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "AffirmTrust Premium"
#
Issuer: CN=AffirmTrust Premium,O=AffirmTrust,C=US
Serial Number:6d:8c:14:46:b1:a6:0a:ee
Subject: CN=AffirmTrust Premium,O=AffirmTrust,C=US
Not Valid Before: Fri Jan 29 14:10:36 2010
Not Valid After : Mon Dec 31 14:10:36 2040
Fingerprint (SHA-256):
70:A7:3F:7F:37:6B:60:07:42:48:90:45:34:B1:14:82:D5:BF:0E:69:8E:CC:49:8D:F5:25:77:EB:F2:E9:3B:9A
Fingerprint (SHA1): D8:A6:33:2C:E0:03:6F:B1:85:F6:63:4F:7D:6A:06:65:26:32:28:27
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Premium"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\034\060\032\006\003\125\004\003\014\023
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\034\060\032\006\003\125\004\003\014\023
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\155\214\024\106\261\246\012\356
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\106\060\202\003\056\240\003\002\001\002\002\010\155
\214\024\106\261\246\012\356\060\015\006\011\052\206\110\206\367
\015\001\001\014\005\000\060\101\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\024\060\022\006\003\125\004\012\014\013
\101\146\146\151\162\155\124\162\165\163\164\061\034\060\032\006

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\003\125\004\003\014\023\101\146\146\151\162\155\124\162\165\163  
\164\040\120\162\145\155\151\165\155\060\036\027\015\061\060\060  
\061\062\071\061\064\061\060\063\066\132\027\015\064\060\061\062  
\063\061\061\064\061\060\063\066\132\060\101\061\013\060\011\006  
\003\125\004\006\023\002\125\123\061\024\060\022\006\003\125\004  
\012\014\013\101\146\146\151\162\155\124\162\165\163\164\061\034  
\060\032\006\003\125\004\003\014\023\101\146\146\151\162\155\124  
\162\165\163\164\040\120\162\145\155\151\165\155\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\304\022\337  
\251\137\376\101\335\335\365\237\212\343\366\254\341\074\170\232  
\274\330\360\177\172\240\063\052\334\215\040\133\256\055\157\347  
\223\331\066\160\152\150\317\216\121\243\205\133\147\004\240\020  
\044\157\135\050\202\301\227\127\330\110\051\023\266\341\276\221  
\115\337\205\014\123\030\232\036\044\242\117\217\360\242\205\013  
\313\364\051\177\322\244\130\356\046\115\311\252\250\173\232\331  
\372\070\336\104\127\025\345\370\214\310\331\110\342\015\026\047  
\035\036\310\203\205\045\267\272\252\125\101\314\003\042\113\055  
\221\215\213\346\211\257\146\307\351\377\053\351\074\254\332\322  
\263\303\341\150\234\211\370\172\000\126\336\364\125\225\154\373  
\272\144\335\142\213\337\013\167\062\353\142\314\046\232\233\273  
\252\142\203\114\264\006\172\060\310\051\277\355\006\115\227\271  
\034\304\061\053\325\137\274\123\022\027\234\231\127\051\146\167  
\141\041\061\007\056\045\111\235\030\362\356\363\053\161\214\265  
\272\071\007\111\167\374\357\056\222\220\005\215\055\057\167\173  
\357\103\277\065\273\232\330\371\163\247\054\362\320\127\356\050  
\116\046\137\217\220\150\011\057\270\370\334\006\351\056\232\076  
\121\247\321\042\304\012\247\070\110\154\263\371\377\175\253\206  
\127\343\272\326\205\170\167\272\103\352\110\177\366\330\276\043  
\155\036\277\321\066\154\130\134\361\356\244\031\124\032\365\003  
\322\166\346\341\214\275\074\263\323\110\113\342\310\370\177\222  
\250\166\106\234\102\145\076\244\036\301\007\003\132\106\055\270  
\227\363\267\325\262\125\041\357\272\334\114\000\227\373\024\225  
\047\063\277\350\103\107\106\322\010\231\026\140\073\232\176\322  
\346\355\070\352\354\001\036\074\110\126\111\011\307\114\067\000  
\236\210\016\300\163\341\157\146\351\162\107\060\076\020\345\013  
\003\311\232\102\000\154\305\224\176\141\304\212\337\177\202\032  
\013\131\304\131\062\167\263\274\140\151\126\071\375\264\006\173  
\054\326\144\066\331\275\110\355\204\037\176\245\042\217\052\270  
\102\364\202\267\324\123\220\170\116\055\032\375\201\157\104\327  
\073\001\164\226\102\340\000\342\056\153\352\305\356\162\254\273  
\277\376\352\252\250\370\334\366\262\171\212\266\147\002\003\001  
\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026\004  
\024\235\300\147\246\014\042\331\046\365\105\253\246\145\122\021  
\047\330\105\254\143\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\015\006\011\052\206\110\206\367\015  
\001\001\014\005\000\003\202\002\001\000\263\127\115\020\142\116

\072\344\254\352\270\034\257\062\043\310\263\111\132\121\234\166  
\050\215\171\252\127\106\027\325\365\122\366\267\104\350\010\104  
\277\030\204\322\013\200\315\305\022\375\000\125\005\141\207\101  
\334\265\044\236\074\304\330\310\373\160\236\057\170\226\203\040  
\066\336\174\017\151\023\210\245\165\066\230\010\246\306\337\254  
\316\343\130\326\267\076\336\272\363\353\064\100\330\242\201\365  
\170\077\057\325\245\374\331\242\324\136\004\016\027\255\376\101  
\360\345\262\162\372\104\202\063\102\350\055\130\367\126\214\142  
\077\272\102\260\234\014\134\176\056\145\046\134\123\117\000\262  
\170\176\241\015\231\055\215\270\035\216\242\304\260\375\140\320  
\060\244\216\310\004\142\251\304\355\065\336\172\227\355\016\070  
\136\222\057\223\160\245\251\234\157\247\175\023\035\176\306\010  
\110\261\136\147\353\121\010\045\351\346\045\153\122\051\221\234  
\322\071\163\010\127\336\231\006\264\133\235\020\006\341\302\000  
\250\270\034\112\002\012\024\320\301\101\312\373\214\065\041\175  
\202\070\362\251\124\221\031\065\223\224\155\152\072\305\262\320  
\273\211\206\223\350\233\311\017\072\247\172\270\241\360\170\106  
\372\374\067\057\345\212\204\363\337\376\004\331\241\150\240\057  
\044\342\011\225\006\325\225\312\341\044\226\353\174\366\223\005  
\273\355\163\351\055\321\165\071\327\347\044\333\330\116\137\103  
\217\236\320\024\071\277\125\160\110\231\127\061\264\234\356\112  
\230\003\226\060\037\140\006\356\033\043\376\201\140\043\032\107  
\142\205\245\314\031\064\200\157\263\254\032\343\237\360\173\110  
\255\325\001\331\147\266\251\162\223\352\055\146\265\262\270\344  
\075\074\262\357\114\214\352\353\007\277\253\065\232\125\206\274  
\030\246\265\250\136\264\203\154\153\151\100\323\237\334\361\303  
\151\153\271\341\155\011\364\361\252\120\166\012\172\175\172\027  
\241\125\226\102\231\061\011\335\140\021\215\005\060\176\346\216  
\106\321\235\024\332\307\027\344\005\226\214\304\044\265\033\317  
\024\007\262\100\370\243\236\101\206\274\004\320\153\226\310\052  
\200\064\375\277\357\006\243\335\130\305\205\075\076\217\376\236  
\051\340\266\270\011\150\031\034\030\103

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "AffirmTrust Premium"

# Issuer: CN=AffirmTrust Premium,O=AffirmTrust,C=US

# Serial Number:6d:8c:14:46:b1:a6:0a:ee

# Subject: CN=AffirmTrust Premium,O=AffirmTrust,C=US

# Not Valid Before: Fri Jan 29 14:10:36 2010

# Not Valid After : Mon Dec 31 14:10:36 2040

# Fingerprint (SHA-256):

70:A7:3F:7F:37:6B:60:07:42:48:90:45:34:B1:14:82:D5:BF:0E:69:8E:CC:49:8D:F5:25:77:EB:F2:E9:3B:9A

# Fingerprint (SHA1): D8:A6:33:2C:E0:03:6F:B1:85:F6:63:4F:7D:6A:06:65:26:32:28:27

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

```

CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Premium"
CKA_CERT_SHA1_HASH
MULTILINE_OCTAL
\330\246\063\054\340\003\157\261\205\366\143\117\175\152\006\145
\046\062\050\047
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\304\135\016\110\266\254\050\060\116\012\274\371\070\026\207\127
END
CKA_ISSUER MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\034\060\032\006\003\125\004\003\014\023
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\155\214\024\106\261\246\012\356
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "AffirmTrust Premium ECC"
#
Issuer: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US
Serial Number:74:97:25:8a:c7:3f:7a:54
Subject: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US
#
Not Valid Before: Fri Jan 29 14:20:24 2010
Not Valid After : Mon Dec 31 14:20:24 2040
Fingerprint (SHA-256):
BD:71:FD:F6:DA:97:E4:CF:62:D1:64:7A:DD:25:81:B0:7D:79:AD:F8:39:7E:B4:EC:BA:9C:5E:84:88:82:14:23
Fingerprint (SHA1): B8:23:6B:00:2F:1D:16:86:53:01:55:6C:11:A4:37:CA:EB:FF:C3:BB
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Premium ECC"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155

```

\124\162\165\163\164\061\040\060\036\006\003\125\004\003\014\027  
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155  
\151\165\155\040\105\103\103

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155  
\124\162\165\163\164\061\040\060\036\006\003\125\004\003\014\027  
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155  
\151\165\155\040\105\103\103

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\010\164\227\045\212\307\077\172\124

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\001\376\060\202\001\205\240\003\002\001\002\002\010\164  
\227\045\212\307\077\172\124\060\012\006\010\052\206\110\316\075  
\004\003\003\060\105\061\013\060\011\006\003\125\004\006\023\002  
\125\123\061\024\060\022\006\003\125\004\012\014\013\101\146\146  
\151\162\155\124\162\165\163\164\061\040\060\036\006\003\125\004  
\003\014\027\101\146\146\151\162\155\124\162\165\163\164\040\120  
\162\145\155\151\165\155\040\105\103\103\060\036\027\015\061\060  
\060\061\062\071\061\064\062\060\062\064\132\027\015\064\060\061  
\062\063\061\061\064\062\060\062\064\132\060\105\061\013\060\011  
\006\003\125\004\006\023\002\125\123\061\024\060\022\006\003\125  
\004\012\014\013\101\146\146\151\162\155\124\162\165\163\164\061  
\040\060\036\006\003\125\004\003\014\027\101\146\146\151\162\155  
\124\162\165\163\164\040\120\162\145\155\151\165\155\040\105\103  
\103\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005  
\053\201\004\000\042\003\142\000\004\015\060\136\033\025\235\003  
\320\241\171\065\267\072\074\222\172\312\025\034\315\142\363\234  
\046\134\007\075\345\124\372\243\326\314\022\352\364\024\137\350  
\216\031\253\057\056\110\346\254\030\103\170\254\320\067\303\275  
\262\315\054\346\107\342\032\346\143\270\075\056\057\170\304\117  
\333\364\017\244\150\114\125\162\153\225\035\116\030\102\225\170  
\314\067\074\221\342\233\145\053\051\243\102\060\100\060\035\006  
\003\125\035\016\004\026\004\024\232\257\051\172\300\021\065\065  
\046\121\060\000\303\152\376\100\325\256\326\074\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\012\006  
\010\052\206\110\316\075\004\003\003\003\147\000\060\144\002\060  
\027\011\363\207\210\120\132\257\310\300\102\277\107\137\365\154  
\152\206\340\304\047\164\344\070\123\327\005\177\033\064\343\306  
\057\263\312\011\074\067\235\327\347\270\106\361\375\241\342\161  
\002\060\102\131\207\103\324\121\337\272\323\011\062\132\316\210  
\176\127\075\234\137\102\153\365\007\055\265\360\202\223\371\131

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\157\256\144\372\130\345\213\036\343\143\276\265\201\315\157\002
\214\171
END
CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "AffirmTrust Premium ECC"
Issuer: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US
Serial Number:74:97:25:8a:c7:3f:7a:54
Subject: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US
Not Valid Before: Fri Jan 29 14:20:24 2010
Not Valid After : Mon Dec 31 14:20:24 2040
Fingerprint (SHA-256):
BD:71:FD:F6:DA:97:E4:CF:62:D1:64:7A:DD:25:81:B0:7D:79:AD:F8:39:7E:B4:EC:BA:9C:5E:84:88:82:14:23
Fingerprint (SHA1): B8:23:6B:00:2F:1D:16:86:53:01:55:6C:11:A4:37:CA:EB:FF:C3:BB
CKA_CLASS
CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Premium ECC"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\270\043\153\000\057\035\026\206\123\001\125\154\021\244\067\312
\353\377\303\273
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\144\260\011\125\317\261\325\231\342\276\023\253\246\135\352\115
END
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\040\060\036\006\003\125\004\003\014\027
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155\040\105\103\103
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\164\227\045\212\307\077\172\124
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

#
Certificate "Certum Trusted Network CA"

```

```

#
Issuer: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
Serial Number: 279744 (0x444c0)
Subject: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
Not Valid Before: Wed Oct 22 12:07:37 2008
Not Valid After : Mon Dec 31 12:07:37 2029
Fingerprint (SHA-256):
5C:58:46:8D:55:F5:8E:49:7E:74:39:82:D2:B5:00:10:B6:D1:65:37:4A:CF:83:A7:D4:A3:2D:B7:68:C4:40:8E
Fingerprint (SHA1): 07:E0:32:E0:20:B7:2C:3F:19:2F:06:28:A2:59:3A:19:A7:0F:06:9E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Trusted Network CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164
\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060\040
\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124\162
\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164
\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060\040
\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124\162
\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\004\104\300
END
CKA_VALUE
MULTILINE_OCTAL
\060\202\003\273\060\202\002\243\240\003\002\001\002\002\003\004
\104\300\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145

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\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040  
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103  
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164  
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060  
\040\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124  
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103  
\101\060\036\027\015\060\070\061\060\062\062\061\062\060\067\063  
\067\132\027\015\062\071\061\062\063\061\061\062\060\067\063\067  
\132\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114  
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145  
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040  
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103  
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164  
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060  
\040\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124  
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103  
\101\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001  
\001\000\343\373\175\243\162\272\302\360\311\024\207\365\153\001  
\116\341\156\100\007\272\155\047\135\177\367\133\055\263\132\307  
\121\137\253\244\062\246\141\207\266\156\017\206\322\060\002\227  
\370\327\151\127\241\030\071\135\152\144\171\306\001\131\254\074  
\061\112\070\174\322\004\322\113\050\350\040\137\073\007\242\314  
\115\163\333\363\256\117\307\126\325\132\247\226\211\372\363\253  
\150\324\043\206\131\047\317\011\047\274\254\156\162\203\034\060  
\162\337\340\242\351\322\341\164\165\031\275\052\236\173\025\124  
\004\033\327\103\071\255\125\050\305\342\032\273\364\300\344\256  
\070\111\063\314\166\205\237\071\105\322\244\236\362\022\214\121  
\370\174\344\055\177\365\254\137\353\026\237\261\055\321\272\314  
\221\102\167\114\045\311\220\070\157\333\360\314\373\216\036\227  
\131\076\325\140\116\346\005\050\355\111\171\023\113\272\110\333  
\057\371\162\323\071\312\376\037\330\064\162\365\264\100\317\061  
\001\303\354\336\021\055\027\135\037\270\120\321\136\031\247\151  
\336\007\063\050\312\120\225\371\247\124\313\124\206\120\105\251  
\371\111\002\003\001\000\001\243\102\060\100\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003  
\125\035\016\004\026\004\024\010\166\315\313\007\377\044\366\305  
\315\355\273\220\274\342\204\067\106\165\367\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052  
\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000\246  
\250\255\042\316\001\075\246\243\377\142\320\110\235\213\136\162  
\260\170\104\343\334\034\257\011\375\043\110\372\275\052\304\271  
\125\004\265\020\243\215\047\336\013\202\143\320\356\336\014\067  
\171\101\133\042\262\260\232\101\134\246\160\340\324\320\167\313  
\043\323\000\340\154\126\057\341\151\015\015\331\252\277\041\201  
\120\331\006\245\250\377\225\067\320\252\376\342\263\365\231\055  
\105\204\212\345\102\011\327\164\002\057\367\211\330\231\351\274  
\047\324\107\215\272\015\106\034\167\317\024\244\034\271\244\061

```
\304\234\050\164\003\064\377\063\031\046\245\351\015\164\267\076
\227\306\166\350\047\226\243\146\335\341\256\362\101\133\312\230
\126\203\163\160\344\206\032\322\061\101\272\057\276\055\023\132
\166\157\116\350\116\201\016\077\133\003\042\240\022\276\146\130
\021\112\313\003\304\264\052\052\055\226\027\340\071\124\274\110
\323\166\047\235\232\055\006\246\311\354\071\322\253\333\237\232
\013\047\002\065\051\261\100\225\347\371\350\234\125\210\031\106
\326\267\064\365\176\316\071\232\331\070\361\121\367\117\054
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certum Trusted Network CA"

# Issuer: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies S.A.,C=PL

# Serial Number: 279744 (0x444c0)

# Subject: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies S.A.,C=PL

# Not Valid Before: Wed Oct 22 12:07:37 2008

# Not Valid After : Mon Dec 31 12:07:37 2029

# Fingerprint (SHA-256):

5C:58:46:8D:55:F5:8E:49:7E:74:39:82:D2:B5:00:10:B6:D1:65:37:4A:CF:83:A7:D4:A3:2D:B7:68:C4:40:8E

# Fingerprint (SHA1): 07:E0:32:E0:20:B7:2C:3F:19:2F:06:28:A2:59:3A:19:A7:0F:06:9E

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certum Trusted Network CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\007\340\062\340\040\267\054\077\031\057\006\050\242\131\072\031
\247\017\006\236
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\325\351\201\100\305\030\151\374\106\054\211\165\142\017\252\170
```

END

CKA\_ISSUER

MULTILINE\_OCTAL

```
\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164
\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060\040
\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124\162
\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101
```

```

END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\004\104\300
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "TWCA Root Certification Authority"
#
Issuer: CN=TWCA Root Certification Authority,OU=Root
CA,O=TAIWAN-CA,C=TW
Serial Number: 1 (0x1)
Subject: CN=TWCA Root Certification Authority,OU=Root CA,O=TAIWAN-CA,C=TW
Not Valid Before: Thu Aug 28 07:24:33 2008
Not Valid After : Tue Dec 31 15:59:59 2030
Fingerprint (SHA-256):
BF:D8:8F:E1:10:1C:41:AE:3E:80:1B:F8:BE:56:35:0E:E9:BA:D1:A6:B9:BD:51:5E:DC:5C:6D:5B:87:11:AC:44
Fingerprint (SHA1): CF:9E:87:6D:D3:EB:FC:42:26:97:A3:B5:A3:7A:A0:76:A9:06:23:48
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TWCA Root Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041
\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041
\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL

```

\002\001\001

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\173\060\202\002\143\240\003\002\001\002\002\001\001  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060  
\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061\022  
\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116\055  
\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157\157  
\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041\124  
\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\060\036\027\015\060\070\060\070\062\070\060\067\062\064\063\063  
\132\027\015\063\060\061\062\063\061\061\065\065\071\065\071\132  
\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061  
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116  
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157  
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041  
\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146  
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164  
\171\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001  
\001\000\260\176\162\270\244\003\224\346\247\336\011\070\221\112  
\021\100\207\247\174\131\144\024\173\265\021\020\335\376\277\325  
\300\273\126\342\205\045\364\065\162\017\370\123\320\101\341\104  
\001\302\264\034\303\061\102\026\107\205\063\042\166\262\012\157  
\017\345\045\120\117\205\206\276\277\230\056\020\147\036\276\021  
\005\206\005\220\304\131\320\174\170\020\260\200\134\267\341\307  
\053\165\313\174\237\256\265\321\235\043\067\143\247\334\102\242  
\055\222\004\033\120\301\173\270\076\033\311\126\004\213\057\122  
\233\255\251\126\351\301\377\255\251\130\207\060\266\201\367\227  
\105\374\031\127\073\053\157\344\107\364\231\105\376\035\361\370  
\227\243\210\035\067\034\134\217\340\166\045\232\120\370\240\124  
\377\104\220\166\043\322\062\306\303\253\006\277\374\373\277\363  
\255\175\222\142\002\133\051\323\065\243\223\232\103\144\140\135  
\262\372\062\377\073\004\257\115\100\152\371\307\343\357\043\375  
\153\313\345\017\213\070\015\356\012\374\376\017\230\237\060\061  
\335\154\122\145\371\213\201\276\042\341\034\130\003\272\221\033  
\211\007\002\003\001\000\001\243\102\060\100\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003  
\125\035\016\004\026\004\024\152\070\133\046\215\336\213\132\362  
\117\172\124\203\031\030\343\010\065\246\272\060\015\006\011\052  
\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000\074  
\325\167\075\332\337\211\272\207\014\010\124\152\040\120\222\276  
\260\101\075\271\046\144\203\012\057\350\100\300\227\050\047\202  
\060\112\311\223\377\152\347\246\000\177\211\102\232\326\021\345  
\123\316\057\314\362\332\005\304\376\342\120\304\072\206\175\314  
\332\176\020\011\073\222\065\052\123\262\376\353\053\005\331\154

```
\135\346\320\357\323\152\146\236\025\050\205\172\350\202\000\254
\036\247\011\151\126\102\323\150\121\030\276\124\232\277\104\101
\272\111\276\040\272\151\134\356\270\167\315\316\154\037\255\203
\226\030\175\016\265\024\071\204\361\050\351\055\243\236\173\036
\172\162\132\203\263\171\157\357\264\374\320\012\245\130\117\106
\337\373\155\171\131\362\204\042\122\256\017\314\373\174\073\347
\152\312\107\141\303\172\370\323\222\004\037\270\040\204\341\066
\124\026\307\100\336\073\212\163\334\337\306\011\114\337\354\332
\377\324\123\102\241\311\362\142\035\042\203\074\227\305\371\031
\142\047\254\145\042\327\323\074\306\345\216\262\123\314\111\316
\274\060\376\173\016\063\220\373\355\322\024\221\037\007\257
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "TWCA Root Certification Authority"

# Issuer: CN=TWCA Root Certification Authority,OU=Root CA,O=TAIWAN-CA,C=TW

# Serial Number: 1 (0x1)

# Subject: CN=TWCA Root Certification Authority,OU=Root CA,O=TAIWAN-CA,C=TW

# Not Valid Before: Thu Aug 28 07:24:33 2008

# Not Valid After : Tue Dec 31 15:59:59 2030

# Fingerprint (SHA-256):

BF:D8:8F:E1:10:1C:41:AE:3E:80:1B:F8:BE:56:35:0E:E9:BA:D1:A6:B9:BD:51:5E:DC:5C:6D:5B:87:11:AC:44

# Fingerprint (SHA1): CF:9E:87:6D:D3:EB:FC:42:26:97:A3:B5:A3:7A:A0:76:A9:06:23:48

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE

CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TWCA Root Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\317\236\207\155\323\353\374\102\046\227\243\265\243\172\240\166
\251\006\043\110
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\252\010\217\366\371\173\267\362\261\247\036\233\352\352\275\171
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041
\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
```

END

```

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
#
Certificate "Explicitly Distrust DigiNotar Root CA"
#
Issuer: E=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL
Serial Number:0f:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff
Subject: E=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL
Not Valid Before: Fri Jul 27 17:19:37 2007
Not Valid After : Mon Mar 31 18:19:22 2025
Fingerprint (MD5): 0A:A4:D5:CC:BA:B4:FB:A3:59:E3:E6:01:DD:53:D9:4E
Fingerprint (SHA1): C1:77:CB:4B:E0:B4:26:8E:F5:C7:CF:45:99:22:B9:B0:CE:BA:21:2F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Explicitly Distrust DigiNotar Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\022\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157
\164\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151
\147\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061
\040\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021
\151\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156
\154
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\022\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157
\164\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151
\147\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061
\040\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021
\151\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156
\154
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\017\377\377\377\377\377\377\377\377\377\377\377\377
\377\377

```

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\212\060\202\003\162\240\003\002\001\002\002\020\017  
\377\377\377\377\377\377\377\377\377\377\377\377\377\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\137  
\061\013\060\011\006\003\125\004\006\023\002\116\114\061\022\060  
\020\006\003\125\004\012\023\011\104\151\147\151\116\157\164\141  
\162\061\032\060\030\006\003\125\004\003\023\021\104\151\147\151  
\116\157\164\141\162\040\122\157\157\164\040\103\101\061\040\060  
\036\006\011\052\206\110\206\367\015\001\011\001\026\021\151\156  
\146\157\100\144\151\147\151\156\157\164\141\162\056\156\154\060  
\036\027\015\060\067\060\067\062\067\061\067\061\071\063\067\132  
\027\015\062\065\060\063\063\061\061\070\061\071\062\062\132\060  
\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061\022  
\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157\164  
\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151\147  
\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061\040  
\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021\151  
\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156\154  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\254\260\130\301\000\275\330\041\010\013\053\232\376\156\126  
\060\005\237\033\167\220\020\101\134\303\015\207\021\167\216\201  
\361\312\174\351\214\152\355\070\164\065\273\332\337\371\273\300  
\011\067\264\226\163\201\175\063\032\230\071\367\223\157\225\177  
\075\271\261\165\207\272\121\110\350\213\160\076\225\004\305\330  
\266\303\026\331\210\260\261\207\035\160\332\206\264\017\024\213  
\172\317\020\321\164\066\242\022\173\167\206\112\171\346\173\337  
\002\021\150\245\116\206\256\064\130\233\044\023\170\126\042\045  
\036\001\213\113\121\161\373\202\314\131\226\151\210\132\150\123  
\305\271\015\002\067\313\113\274\146\112\220\176\052\013\005\007  
\355\026\137\125\220\165\330\106\311\033\203\342\010\276\361\043  
\314\231\035\326\052\017\203\040\025\130\047\202\056\372\342\042  
\302\111\261\271\001\201\152\235\155\235\100\167\150\166\116\041  
\052\155\204\100\205\116\166\231\174\202\363\363\267\002\131\324  
\046\001\033\216\337\255\123\006\321\256\030\335\342\262\072\313  
\327\210\070\216\254\133\051\271\031\323\230\371\030\003\317\110  
\202\206\146\013\033\151\017\311\353\070\210\172\046\032\005\114  
\222\327\044\324\226\362\254\122\055\243\107\325\122\366\077\376  
\316\204\006\160\246\252\076\242\362\266\126\064\030\127\242\344  
\201\155\347\312\360\152\323\307\221\153\002\203\101\174\025\357  
\153\232\144\136\343\320\074\345\261\353\173\135\206\373\313\346  
\167\111\315\243\145\334\367\271\234\270\344\013\137\223\317\314  
\060\032\062\034\316\034\143\225\245\371\352\341\164\213\236\351  
\053\251\060\173\240\030\037\016\030\013\345\133\251\323\321\154  
\036\007\147\217\221\113\251\212\274\322\146\252\223\001\210\262  
\221\372\061\134\325\246\301\122\010\011\315\012\143\242\323\042  
\246\350\241\331\071\006\227\365\156\215\002\220\214\024\173\077

\200\315\033\234\272\304\130\162\043\257\266\126\237\306\172\102  
\063\051\007\077\202\311\346\037\005\015\315\114\050\066\213\323  
\310\076\034\306\210\357\136\356\211\144\351\035\353\332\211\176  
\062\246\151\321\335\314\210\237\321\320\311\146\041\334\006\147  
\305\224\172\232\155\142\114\175\314\340\144\200\262\236\107\216  
\243\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003\125  
\035\016\004\026\004\024\210\150\277\340\216\065\304\073\070\153  
\142\367\050\073\204\201\310\014\327\115\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\003\202\002\001\000\073\002  
\215\313\074\060\350\156\240\255\362\163\263\137\236\045\023\004  
\005\323\366\343\213\273\013\171\316\123\336\344\226\305\321\257  
\163\274\325\303\320\100\125\174\100\177\315\033\137\011\325\362  
\174\237\150\035\273\135\316\172\071\302\214\326\230\173\305\203  
\125\250\325\175\100\312\340\036\367\211\136\143\135\241\023\302  
\135\212\266\212\174\000\363\043\303\355\205\137\161\166\360\150  
\143\252\105\041\071\110\141\170\066\334\361\103\223\324\045\307  
\362\200\145\341\123\002\165\121\374\172\072\357\067\253\204\050  
\127\014\330\324\324\231\126\154\343\242\376\131\204\264\061\350  
\063\370\144\224\224\121\227\253\071\305\113\355\332\335\200\013  
\157\174\051\015\304\216\212\162\015\347\123\024\262\140\101\075  
\204\221\061\150\075\047\104\333\345\336\364\372\143\105\310\114  
\076\230\365\077\101\272\116\313\067\015\272\146\230\361\335\313  
\237\134\367\124\066\202\153\054\274\023\141\227\102\370\170\273  
\314\310\242\237\312\360\150\275\153\035\262\337\215\157\007\235  
\332\216\147\307\107\036\312\271\277\052\102\221\267\143\123\146  
\361\102\243\341\364\132\115\130\153\265\344\244\063\255\134\160  
\035\334\340\362\353\163\024\221\232\003\301\352\000\145\274\007  
\374\317\022\021\042\054\256\240\275\072\340\242\052\330\131\351  
\051\323\030\065\244\254\021\137\031\265\265\033\377\042\112\134  
\306\172\344\027\357\040\251\247\364\077\255\212\247\232\004\045  
\235\016\312\067\346\120\375\214\102\051\004\232\354\271\317\113  
\162\275\342\010\066\257\043\057\142\345\312\001\323\160\333\174  
\202\043\054\026\061\014\306\066\007\220\172\261\037\147\130\304  
\073\130\131\211\260\214\214\120\263\330\206\313\150\243\304\012  
\347\151\113\040\316\301\036\126\113\225\251\043\150\330\060\330  
\303\353\260\125\121\315\345\375\053\270\365\273\021\237\123\124  
\366\064\031\214\171\011\066\312\141\027\045\027\013\202\230\163  
\014\167\164\303\325\015\307\250\022\114\307\247\124\161\107\056  
\054\032\175\311\343\053\073\110\336\047\204\247\143\066\263\175  
\217\240\144\071\044\015\075\173\207\257\146\134\164\033\113\163  
\262\345\214\360\206\231\270\345\305\337\204\301\267\353

END

#

Trust for Certificate "Explicitly Distrust DigiNotar Root CA"

# Issuer: E=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL



```

Serial Number:0f:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff
Subject: E=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL
Not Valid Before: Fri Jul 27 17:19:37 2007
Not Valid After : Mon Mar 31 18:19:22 2025
Fingerprint (MD5): 0A:A4:D5:CC:BA:B4:FB:A3:59:E3:E6:01:DD:53:D9:4E
Fingerprint (SHA1): C1:77:CB:4B:E0:B4:26:8E:F5:C7:CF:45:99:22:B9:B0:CE:BA:21:2F
CKA_CLASS
CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Explicitly Distrust DigiNotar Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\301\167\313\113\340\264\046\216\365\307\317\105\231\042\271\260
\316\272\041\057
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\012\244\325\314\272\264\373\243\131\343\346\001\335\123\331\116
END
CKA_ISSUER MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\022\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157
\164\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151
\147\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061
\040\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021
\151\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156
\154
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\017\377\377\377\377\377\377\377\377\377\377\377\377\377
\377\377
END
CKA_TRUST_SERVER_AUTH CK_TRUST
CKT_NSS_NOT_TRUSTED
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_NOT_TRUSTED
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_NOT_TRUSTED
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Security Communication RootCA2"
#
Issuer: OU=Security Communication RootCA2,O="SECOM Trust Systems CO.,LTD.",C=JP
Serial Number: 0 (0x0)
Subject: OU=Security Communication RootCA2,O="SECOM Trust Systems CO.,LTD.",C=JP
Not Valid Before: Fri May 29 05:00:39 2009
Not Valid After : Tue May 29 05:00:39 2029
Fingerprint (SHA-256):
51:3B:2C:EC:B8:10:D4:CD:E5:DD:85:39:1A:DF:C6:C2:DD:60:D8:7B:B7:36:D2:B5:21:48:4A:A4:7A:0E:BE:F6

```

# Fingerprint (SHA1): 5F:3B:8C:F2:F8:10:B3:7D:78:B4:CE:EC:19:19:C3:73:34:B9:C7:74

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication RootCA2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\062
END
```

```
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\062
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
```

```
CKA_VALUE MULTILINE_OCTAL
\060\202\003\167\060\202\002\137\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061\045
\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040\124
\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117\056
\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023\036
\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156\151
\143\141\164\151\157\156\040\122\157\157\164\103\101\062\060\036
\027\015\060\071\060\065\062\071\060\065\060\060\063\071\132\027
\015\062\071\060\065\062\071\060\065\060\060\063\071\132\060\135
\061\013\060\011\006\003\125\004\006\023\002\112\120\061\045\060
\043\006\003\125\004\012\023\034\123\105\103\117\115\040\124\162
\165\163\164\040\123\171\163\164\145\155\163\040\103\117\056\054
\114\124\104\056\061\047\060\045\006\003\125\004\013\023\036\123
\145\143\165\162\151\164\171\040\103\157\155\155\165\156\151\143
\141\164\151\157\156\040\122\157\157\164\103\101\062\060\202\001
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000
\003\202\001\017\000\060\202\001\012\002\202\001\001\000\320\025
\071\122\261\122\263\272\305\131\202\304\135\122\256\072\103\145
```

\200\113\307\362\226\274\333\066\227\326\246\144\214\250\136\360  
\343\012\034\367\337\227\075\113\256\366\135\354\041\265\101\253  
\315\271\176\166\237\276\371\076\066\064\240\073\301\366\061\021  
\105\164\223\075\127\200\305\371\211\231\312\345\253\152\324\265  
\332\101\220\020\301\326\326\102\211\302\277\364\070\022\225\114  
\124\005\367\066\344\105\203\173\024\145\326\334\014\115\321\336  
\176\014\253\073\304\025\276\072\126\246\132\157\166\151\122\251  
\172\271\310\353\152\232\135\122\320\055\012\153\065\026\011\020  
\204\320\152\312\072\006\000\067\107\344\176\127\117\077\213\353  
\147\270\210\252\305\276\123\125\262\221\304\175\271\260\205\031  
\006\170\056\333\141\032\372\205\365\112\221\241\347\026\325\216  
\242\071\337\224\270\160\037\050\077\213\374\100\136\143\203\074  
\203\052\032\231\153\317\336\131\152\073\374\157\026\327\037\375  
\112\020\353\116\202\026\072\254\047\014\123\361\255\325\044\260  
\153\003\120\301\055\074\026\335\104\064\047\032\165\373\002\003  
\001\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026  
\004\024\012\205\251\167\145\005\230\174\100\201\370\017\227\054  
\070\361\012\354\074\317\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\003\202\001\001\000\114\072\243\104\254  
\271\105\261\307\223\176\310\013\012\102\337\144\352\034\356\131  
\154\010\272\211\137\152\312\112\225\236\172\217\007\305\332\105  
\162\202\161\016\072\322\314\157\247\264\241\043\273\366\044\237  
\313\027\376\214\246\316\302\322\333\314\215\374\161\374\003\051  
\301\154\135\063\137\144\266\145\073\211\157\030\166\170\365\334  
\242\110\037\031\077\216\223\353\361\372\027\356\315\116\343\004  
\022\125\326\345\344\335\373\076\005\174\342\035\136\306\247\274  
\227\117\150\072\365\351\056\012\103\266\257\127\134\142\150\174  
\267\375\243\212\204\240\254\142\276\053\011\207\064\360\152\001  
\273\233\051\126\074\376\000\067\317\043\154\361\116\252\266\164  
\106\022\154\221\356\064\325\354\232\221\347\104\276\220\061\162  
\325\111\002\366\002\345\364\037\353\174\331\226\125\251\377\354  
\212\371\231\107\377\065\132\002\252\004\313\212\133\207\161\051  
\221\275\244\264\172\015\275\232\365\127\043\000\007\041\027\077  
\112\071\321\005\111\013\247\266\067\201\245\135\214\252\063\136  
\201\050\174\247\175\047\353\000\256\215\067

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Security Communication RootCA2"

# Issuer: OU=Security Communication RootCA2,O="SECOM Trust Systems CO.,LTD.",C=JP

# Serial Number: 0 (0x0)

# Subject: OU=Security Communication RootCA2,O="SECOM Trust Systems CO.,LTD.",C=JP

# Not Valid Before: Fri May 29 05:00:39 2009

```
Not Valid After : Tue May 29 05:00:39 2029
Fingerprint (SHA-256):
51:3B:2C:EC:B8:10:D4:CD:E5:DD:85:39:1A:DF:C6:C2:DD:60:D8:7B:B7:36:D2:B5:21:48:4A:A4:7A:0E:BE:F6
#
Fingerprint (SHA1): 5F:3B:8C:F2:F8:10:B3:7D:78:B4:CE:EC:19:19:C3:73:34:B9:C7:74
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication RootCA2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\137\073\214\362\370\020\263\175\170\264\316\354\031\031\303\163
\064\271\307\164
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\154\071\175\244\016\125\131\262\077\326\101\261\022\120\336\103
END
CKA_ISSUER MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Actalis Authentication Root CA"
#
Issuer: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT
Serial Number:57:0a:11:97:42:c4:e3:cc
Subject: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT
Not Valid Before: Thu Sep 22 11:22:02 2011
Not Valid After : Sun Sep 22 11:22:02 2030
Fingerprint (SHA-256):
55:92:60:84:EC:96:3A:64:B9:6E:2A:BE:01:CE:0B:A8:6A:64:FB:FE:BC:C7:AA:B5:AF:C1:55:B3:7F:D7:60:66
Fingerprint (SHA1): F3:73:B3:87:06:5A:28:84:8A:F2:F3:4A:CE:19:2B:DD:C7:8E:9C:AC
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Actalis Authentication Root CA"
CKA_CERTIFICATE_TYPE
 CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\124\061
\016\060\014\006\003\125\004\007\014\005\115\151\154\141\156\061
\043\060\041\006\003\125\004\012\014\032\101\143\164\141\154\151
\163\040\123\056\160\056\101\056\057\060\063\063\065\070\065\062
\060\071\066\067\061\047\060\045\006\003\125\004\003\014\036\101
\143\164\141\154\151\163\040\101\165\164\150\145\156\164\151\143
\141\164\151\157\156\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\124\061
\016\060\014\006\003\125\004\007\014\005\115\151\154\141\156\061
\043\060\041\006\003\125\004\012\014\032\101\143\164\141\154\151
\163\040\123\056\160\056\101\056\057\060\063\063\065\070\065\062
\060\071\066\067\061\047\060\045\006\003\125\004\003\014\036\101
\143\164\141\154\151\163\040\101\165\164\150\145\156\164\151\143
\141\164\151\157\156\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER
 MULTILINE_OCTAL
\002\010\127\012\021\227\102\304\343\314
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\273\060\202\003\243\240\003\002\001\002\002\010\127
\012\021\227\102\304\343\314\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\153\061\013\060\011\006\003\125\004
\006\023\002\111\124\061\016\060\014\006\003\125\004\007\014\005
\115\151\154\141\156\061\043\060\041\006\003\125\004\012\014\032
\101\143\164\141\154\151\163\040\123\056\160\056\101\056\057\060
\063\063\065\070\065\062\060\071\066\067\061\047\060\045\006\003
\125\004\003\014\036\101\143\164\141\154\151\163\040\101\165\164
\150\145\156\164\151\143\141\164\151\157\156\040\122\157\157\164
\040\103\101\060\036\027\015\061\061\060\071\062\062\061\061\062
\062\060\062\132\027\015\063\060\060\071\062\062\061\061\062\062
\060\062\132\060\153\061\013\060\011\006\003\125\004\006\023\002
\111\124\061\016\060\014\006\003\125\004\007\014\005\115\151\154
\141\156\061\043\060\041\006\003\125\004\012\014\032\101\143\164
\141\154\151\163\040\123\056\160\056\101\056\057\060\063\063\065
\070\065\062\060\071\066\067\061\047\060\045\006\003\125\004\003
\014\036\101\143\164\141\154\151\163\040\101\165\164\150\145\156
\164\151\143\141\164\151\157\156\040\122\157\157\164\040\103\101
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
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\000\247\306\304\245\051\244\054\357\345\030\305\260\120\243\157  
\121\073\237\012\132\311\302\110\070\012\302\034\240\030\177\221  
\265\207\271\100\077\335\035\150\037\010\203\325\055\036\210\240  
\370\217\126\217\155\231\002\222\220\026\325\137\010\154\211\327  
\341\254\274\040\302\261\340\203\121\212\151\115\000\226\132\157  
\057\300\104\176\243\016\344\221\315\130\356\334\373\307\036\105  
\107\335\047\271\010\001\237\246\041\035\365\101\055\057\114\375  
\050\255\340\212\255\042\264\126\145\216\206\124\217\223\103\051  
\336\071\106\170\243\060\043\272\315\360\175\023\127\300\135\322  
\203\153\110\114\304\253\237\200\132\133\072\275\311\247\042\077  
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\123\124\171\335\333\234\322\362\007\233\056\266\274\076\355\205  
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\213\131\342\002\254\173\222\320\116\024\117\131\105\366\014\136  
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\342\061\105\141\120\116\020\330\343\065\174\114\031\264\336\005  
\277\243\006\237\310\265\315\344\037\327\027\006\015\172\225\164  
\125\015\150\032\374\020\033\142\144\235\155\340\225\240\303\224  
\007\127\015\024\346\275\005\373\270\237\346\337\213\342\306\347  
\176\226\366\123\305\200\064\120\050\130\360\022\120\161\027\060  
\272\346\170\143\274\364\262\255\233\053\262\376\341\071\214\136  
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\113\002\003\001\000\001\243\143\060\141\060\035\006\003\125\035  
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\173\070\160\224\311\002\002\066\320\060\017\006\003\125\035\023  
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\043\004\030\060\026\200\024\122\330\210\072\310\237\170\146\355  
\211\363\173\070\160\224\311\002\002\066\320\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\013  
\173\162\207\300\140\246\111\114\210\130\346\035\210\367\024\144  
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\216\303\143\056\043\146\260\147\276\157\266\300\023\071\140\252  
\242\064\045\223\165\122\336\247\235\255\016\207\211\122\161\152  
\026\074\031\035\203\370\232\051\145\276\364\077\232\331\360\363  
\132\207\041\161\200\115\313\340\070\233\077\273\372\340\060\115  
\317\206\323\145\020\031\030\321\227\002\261\053\162\102\150\254

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\110\315\021\025\271\300\051\134\264\350\210\367\076\066\256\267
\142\375\036\142\336\160\170\020\034\110\133\332\274\244\070\272
\147\355\125\076\136\127\337\324\003\100\114\201\244\322\117\143
\247\011\102\011\024\374\000\251\302\200\163\117\056\300\100\331
\021\173\110\352\172\002\300\323\353\050\001\046\130\164\301\300
\163\042\155\223\225\375\071\175\273\052\343\366\202\343\054\227
\137\116\037\221\224\372\376\054\243\330\166\032\270\115\262\070
\117\233\372\035\110\140\171\046\342\363\375\251\320\232\350\160
\217\111\172\326\345\275\012\016\333\055\363\215\277\353\343\244
\175\313\307\225\161\350\332\243\174\305\302\370\164\222\004\033
\206\254\244\042\123\100\266\254\376\114\166\317\373\224\062\300
\065\237\166\077\156\345\220\156\240\246\046\242\270\054\276\321
\053\205\375\247\150\310\272\001\053\261\154\164\035\270\163\225
\347\356\267\307\045\360\000\114\000\262\176\266\013\213\034\363
\300\120\236\045\271\340\010\336\066\146\377\067\245\321\273\124
\144\054\311\047\265\113\222\176\145\377\323\055\341\271\116\274
\177\244\101\041\220\101\167\246\071\037\352\236\343\237\320\146
\157\005\354\252\166\176\277\153\026\240\353\265\307\374\222\124
\057\053\021\047\045\067\170\114\121\152\260\363\314\130\135\024
\361\152\110\025\377\302\007\266\261\215\017\216\134\120\106\263
\075\277\001\230\117\262\131\124\107\076\064\173\170\155\126\223
\056\163\352\146\050\170\315\035\024\277\240\217\057\056\270\056
\216\362\024\212\314\351\265\174\373\154\235\014\245\341\226
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END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Actalis Authentication Root CA"

# Issuer: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT

# Serial Number:57:0a:11:97:42:c4:e3:cc

# Subject: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT

# Not Valid Before: Thu Sep 22 11:22:02 2011

# Not Valid After : Sun Sep 22 11:22:02 2030

# Fingerprint (SHA-256):

55:92:60:84:EC:96:3A:64:B9:6E:2A:BE:01:CE:0B:A8:6A:64:FB:FE:BC:C7:AA:B5:AF:C1:55:B3:7F:D7:60:66

# Fingerprint (SHA1): F3:73:B3:87:06:5A:28:84:8A:F2:F3:4A:CE:19:2B:DD:C7:8E:9C:AC

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Actalis Authentication Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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\363\163\263\207\006\132\050\204\212\362\363\112\316\031\053\335
\307\216\234\254
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END

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CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\151\301\015\117\007\243\033\303\376\126\075\004\274\021\366\246
END
CKA_ISSUER MULTILINE_OCTAL
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\124\061
\016\060\014\006\003\125\004\007\014\005\115\151\154\141\156\061
\043\060\041\006\003\125\004\012\014\032\101\143\164\141\154\151
\163\040\123\056\160\056\101\056\057\060\063\063\065\070\065\062
\060\071\066\067\061\047\060\045\006\003\125\004\003\014\036\101
\143\164\141\154\151\163\040\101\165\164\150\145\156\164\151\143
\141\164\151\157\156\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\127\012\021\227\102\304\343\314
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Buypass Class 2 Root
CA"
#
Issuer: CN=Buypass Class 2 Root CA,O=Buypass AS-983163327,C=NO
Serial Number: 2 (0x2)
Subject: CN=Buypass Class 2 Root CA,O=Buypass AS-983163327,C=NO
Not Valid Before: Tue Oct 26 08:38:03 2010
Not Valid After : Fri Oct 26 08:38:03 2040
Fingerprint (SHA-256):
9A:11:40:25:19:7C:5B:B9:5D:94:E6:3D:55:CD:43:79:08:47:B6:46:B2:3C:DF:11:AD:A4:A0:0E:FF:15:FB:48
Fingerprint (SHA1): 49:0A:75:74:DE:87:0A:47:FE:58:EE:F6:C7:6B:EB:C6:0B:12:40:99
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Buypass Class 2 Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101
END
CKA_ID

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UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061  
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163  
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040  
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163  
\040\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101  
END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\002

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\131\060\202\003\101\240\003\002\001\002\002\001\002  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035  
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163  
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060  
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040  
\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101\060  
\036\027\015\061\060\061\060\062\066\060\070\063\070\060\063\132  
\027\015\064\060\061\060\062\066\060\070\063\070\060\063\132\060  
\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035  
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163  
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060  
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040  
\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101\060  
\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001  
\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000  
\327\307\136\367\301\007\324\167\373\103\041\364\364\365\151\344  
\356\062\001\333\243\206\037\344\131\015\272\347\165\203\122\353  
\352\034\141\025\110\273\035\007\312\214\256\260\334\226\235\352  
\303\140\222\206\202\050\163\234\126\006\377\113\144\360\014\052  
\067\111\265\345\317\014\174\356\361\112\273\163\060\145\363\325  
\057\203\266\176\343\347\365\236\253\140\371\323\361\235\222\164  
\212\344\034\226\254\133\200\351\265\364\061\207\243\121\374\307  
\176\241\157\216\123\167\324\227\301\125\063\222\076\030\057\165  
\324\255\206\111\313\225\257\124\006\154\330\006\023\215\133\377  
\341\046\031\131\300\044\272\201\161\171\220\104\120\150\044\224  
\137\270\263\021\361\051\101\141\243\101\313\043\066\325\301\361  
\062\120\020\116\177\364\206\223\354\204\323\216\274\113\277\134  
\001\116\007\075\334\024\212\224\012\244\352\163\373\013\121\350  
\023\007\030\372\016\361\053\321\124\025\175\074\341\367\264\031  
\102\147\142\136\167\340\242\125\354\266\331\151\027\325\072\257  
\104\355\112\305\236\344\172\047\174\345\165\327\252\313\045\347  
\337\153\012\333\017\115\223\116\250\240\315\173\056\362\131\001  
\152\267\015\270\007\201\176\213\070\033\070\346\012\127\231\075  
\356\041\350\243\365\014\026\335\213\354\064\216\234\052\034\000  
\025\027\215\150\203\322\160\237\030\010\315\021\150\325\311\153

\122\315\304\106\217\334\265\363\330\127\163\036\351\224\071\004  
\277\323\336\070\336\264\123\354\151\034\242\176\304\217\344\033  
\160\255\362\242\371\373\367\026\144\146\151\237\111\121\242\342  
\025\030\147\006\112\177\325\154\265\115\263\063\340\141\353\135  
\276\351\230\017\062\327\035\113\074\056\132\001\122\221\011\362  
\337\352\215\330\006\100\143\252\021\344\376\303\067\236\024\122  
\077\364\342\314\362\141\223\321\375\147\153\327\122\256\277\150  
\253\100\103\240\127\065\123\170\360\123\370\141\102\007\144\306  
\327\157\233\114\070\015\143\254\142\257\066\213\242\163\012\015  
\365\041\275\164\252\115\352\162\003\111\333\307\137\035\142\143  
\307\375\335\221\354\063\356\365\155\264\156\060\150\336\310\326  
\046\260\165\136\173\264\007\040\230\241\166\062\270\115\154\117  
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\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035  
\016\004\026\004\024\311\200\167\340\142\222\202\365\106\234\363  
\272\367\114\303\336\270\243\255\071\060\016\006\003\125\035\017  
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\206\367\015\001\001\013\005\000\003\202\002\001\000\123\137\041  
\365\272\260\072\122\071\054\222\260\154\000\311\357\316\040\357  
\006\362\226\236\351\244\164\177\172\026\374\267\365\266\373\025  
\033\077\253\246\300\162\135\020\261\161\356\274\117\343\255\254  
\003\155\056\161\056\257\304\343\255\243\275\014\021\247\264\377  
\112\262\173\020\020\037\247\127\101\262\300\256\364\054\131\326  
\107\020\210\363\041\121\051\060\312\140\206\257\106\253\035\355  
\072\133\260\224\336\104\343\101\010\242\301\354\035\326\375\117  
\266\326\107\320\024\013\312\346\312\265\173\167\176\101\037\136  
\203\307\266\214\071\226\260\077\226\201\101\157\140\220\342\350  
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\254\124\211\044\054\117\077\266\262\247\116\214\250\221\227\373  
\051\306\173\134\055\271\313\146\266\267\250\133\022\121\205\265  
\011\176\142\170\160\376\251\152\140\266\035\016\171\014\375\312  
\352\044\200\162\303\227\077\362\167\253\103\042\012\307\353\266  
\014\204\202\054\200\153\101\212\010\300\353\245\153\337\231\022  
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\065\377\045\203\055\362\172\277\332\375\216\376\245\313\105\054  
\037\304\210\123\256\167\016\331\232\166\305\216\054\035\243\272  
\325\354\062\256\300\252\254\367\321\172\115\353\324\007\342\110  
\367\042\216\260\244\237\152\316\216\262\262\140\364\243\042\320  
\043\353\224\132\172\151\335\017\277\100\127\254\153\131\120\331  
\243\231\341\156\376\215\001\171\047\043\025\336\222\235\173\011  
\115\132\347\113\110\060\132\030\346\012\155\346\217\340\322\273  
\346\337\174\156\041\202\301\150\071\115\264\230\130\146\142\314  
\112\220\136\303\372\047\004\261\171\025\164\231\314\276\255\040  
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\334\361\132\115\154\062\043\103\356\254\250\356\356\112\022\011  
\074\135\161\302\276\171\372\302\207\150\035\013\375\134\151\314  
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\143\135\132\130\342\057\343\035\344\251\326\320\012\320\236\277

\327\201\011\361\311\307\046\015\254\230\026\126\240

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Buypass Class 2 Root CA"

# Issuer: CN=Buypass Class 2 Root CA,O=Buypass AS-983163327,C=NO

# Serial Number: 2 (0x2)

# Subject: CN=Buypass Class 2 Root CA,O=Buypass AS-983163327,C=NO

# Not Valid Before: Tue Oct 26 08:38:03 2010

# Not Valid After : Fri Oct 26 08:38:03 2040

# Fingerprint (SHA-256):

9A:11:40:25:19:7C:5B:B9:5D:94:E6:3D:55:CD:43:79:08:47:B6:46:B2:3C:DF:11:AD:A4:A0:0E:FF:15:FB:48

# Fingerprint (SHA1): 49:0A:75:74:DE:87:0A:47:FE:58:EE:F6:C7:6B:EB:C6:0B:12:40:99

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Buypass Class 2 Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\111\012\165\164\336\207\012\107\376\130\356\366\307\153\353\306

\013\022\100\231

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

\106\247\322\376\105\373\144\132\250\131\220\233\170\104\233\051

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061

\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163

\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040

\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163

\040\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\002

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Buypass Class 3 Root CA"

#

```
Issuer: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO
Serial Number: 2 (0x2)
Subject: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO
Not Valid Before: Tue Oct 26 08:28:58 2010
Not Valid After : Fri Oct 26 08:28:58
2040
Fingerprint (SHA-256):
ED:F7:EB:BC:A2:7A:2A:38:4D:38:7B:7D:40:10:C6:66:E2:ED:B4:84:3E:4C:29:B4:AE:1D:5B:93:32:E6:B2:4D
Fingerprint (SHA1): DA:FA:F7:FA:66:84:EC:06:8F:14:50:BD:C7:C2:81:A5:BC:A9:64:57
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Buypass Class 3 Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\002
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\131\060\202\003\101\240\003\002\001\002\002\001\002
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040
\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101\060
\036\027\015\061\060\061\060\062\066\060\070\062\070\065\070\132
\027\015\064\060\061\060\062\066\060\070\062\070\065\070\132\060
\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040
```

\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101\060  
\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001  
\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000  
\245\332\012\225\026\120\343\225\362\136\235\166\061\006\062\172  
\233\361\020\166\270\000\232\265\122\066\315\044\107\260\237\030  
\144\274\232\366\372\325\171\330\220\142\114\042\057\336\070\075  
\326\340\250\351\034\054\333\170\021\351\216\150\121\025\162\307  
\363\063\207\344\240\135\013\134\340\127\007\052\060\365\315\304  
\067\167\050\115\030\221\346\277\325\122\375\161\055\160\076\347  
\306\304\212\343\360\050\013\364\166\230\241\213\207\125\262\072  
\023\374\267\076\047\067\216\042\343\250\117\052\357\140\273\075  
\267\071\303\016\001\107\231\135\022\117\333\103\372\127\241\355  
\371\235\276\021\107\046\133\023\230\253\135\026\212\260\067\034  
\127\235\105\377\210\226\066\277\273\312\007\173\157\207\143\327  
\320\062\152\326\135\154\014\361\263\156\071\342\153\061\056\071  
\000\047\024\336\070\300\354\031\146\206\022\350\235\162\026\023  
\144\122\307\251\067\034\375\202\060\355\204\030\035\364\256\134  
\377\160\023\000\353\261\365\063\172\113\326\125\370\005\215\113  
\151\260\365\263\050\066\134\024\304\121\163\115\153\013\361\064  
\007\333\027\071\327\334\050\173\153\365\237\363\056\301\117\027  
\052\020\363\314\312\350\353\375\153\253\056\232\237\055\202\156  
\004\324\122\001\223\055\075\206\374\176\374\337\357\102\035\246  
\153\357\271\040\306\367\275\240\247\225\375\247\346\211\044\330  
\314\214\064\154\342\043\057\331\022\032\041\271\125\221\157\013  
\221\171\031\014\255\100\210\013\160\342\172\322\016\330\150\110  
\273\202\023\071\020\130\351\330\052\007\306\022\333\130\333\322  
\073\125\020\107\005\025\147\142\176\030\143\246\106\077\011\016  
\124\062\136\277\015\142\172\047\357\200\350\333\331\113\006\132  
\067\132\045\320\010\022\167\324\157\011\120\227\075\310\035\303  
\337\214\105\060\126\306\323\144\253\146\363\300\136\226\234\303  
\304\357\303\174\153\213\072\171\177\263\111\317\075\342\211\237  
\240\060\113\205\271\234\224\044\171\217\175\153\251\105\150\017  
\053\320\361\332\034\313\151\270\312\111\142\155\310\320\143\142  
\335\140\017\130\252\217\241\274\005\245\146\242\317\033\166\262  
\204\144\261\114\071\122\300\060\272\360\214\113\002\260\266\267  
\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035  
\016\004\026\004\024\107\270\315\377\345\157\356\370\262\354\057  
\116\016\371\045\260\216\074\153\303\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\001\006\060\015\006\011\052\206\110  
\206\367\015\001\001\013\005\000\003\202\002\001\000\000\040\043  
\101\065\004\220\302\100\142\140\357\342\065\114\327\077\254\342  
\064\220\270\241\157\166\372\026\026\244\110\067\054\351\220\302  
\362\074\370\012\237\330\201\345\273\133\332\045\054\244\247\125  
\161\044\062\366\310\013\362\274\152\370\223\254\262\007\302\137  
\237\333\314\310\212\252\276\152\157\341\111\020\314\061\327\200  
\273\273\310\330\242\016\144\127\352\242\365\302\251\061\025\322  
\040\152\354\374\042\001\050\317\206\270\200\036\251\314\021\245

\074\362\026\263\107\235\374\322\200\041\304\313\320\107\160\101  
\241\312\203\031\010\054\155\362\135\167\234\212\024\023\324\066  
\034\222\360\345\006\067\334\246\346\220\233\070\217\134\153\033  
\106\206\103\102\137\076\001\007\123\124\135\145\175\367\212\163  
\241\232\124\132\037\051\103\024\047\302\205\017\265\210\173\032  
\073\224\267\035\140\247\265\234\347\051\151\127\132\233\223\172  
\103\060\033\003\327\142\310\100\246\252\374\144\344\112\327\221  
\123\001\250\040\210\156\234\137\104\271\313\140\201\064\354\157  
\323\175\332\110\137\353\264\220\274\055\251\034\013\254\034\325  
\242\150\040\200\004\326\374\261\217\057\273\112\061\015\112\206  
\034\353\342\066\051\046\365\332\330\304\362\165\141\317\176\256  
\166\143\112\172\100\145\223\207\370\036\200\214\206\345\206\326  
\217\016\374\123\054\140\350\026\141\032\242\076\103\173\315\071  
\140\124\152\365\362\211\046\001\150\203\110\242\063\350\311\004  
\221\262\021\064\021\076\352\320\103\031\037\003\223\220\014\377  
\121\075\127\364\101\156\341\313\240\276\353\311\143\315\155\314  
\344\370\066\252\150\235\355\275\135\227\160\104\015\266\016\065  
\334\341\014\135\273\240\121\224\313\176\026\353\021\057\243\222  
\105\310\114\161\331\274\311\231\122\127\106\057\120\317\275\065  
\151\364\075\025\316\006\245\054\017\076\366\201\272\224\273\303  
\273\277\145\170\322\206\171\377\111\073\032\203\014\360\336\170  
\354\310\362\115\114\032\336\202\051\370\301\132\332\355\356\346  
\047\136\350\105\320\235\034\121\250\150\253\104\343\320\213\152  
\343\370\073\273\334\115\327\144\362\121\276\346\252\253\132\351  
\061\356\006\274\163\277\023\142\012\237\307\271\227

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Buypass Class 3 Root CA"

#

Issuer: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO

# Serial Number: 2 (0x2)

# Subject: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO

# Not Valid Before: Tue Oct 26 08:28:58 2010

# Not Valid After : Fri Oct 26 08:28:58 2040

# Fingerprint (SHA-256):

ED:F7:EB:BC:A2:7A:2A:38:4D:38:7B:7D:40:10:C6:66:E2:ED:B4:84:3E:4C:29:B4:AE:1D:5B:93:32:E6:B2:4D

# Fingerprint (SHA1): DA:FA:F7:FA:66:84:EC:06:8F:14:50:BD:C7:C2:81:A5:BC:A9:64:57

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Buypass Class 3 Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\332\372\367\372\146\204\354\006\217\024\120\275\307\302\201\245

```

\274\251\144\127
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\075\073\030\236\054\144\132\350\325\210\316\016\371\067\302\354
END
CKA_ISSUER MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "T-TeleSec GlobalRoot Class 3"
#
Issuer: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE
Serial Number: 1 (0x1)
Subject: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE
Not Valid Before: Wed Oct 01 10:29:56 2008
Not Valid After : Sat Oct 01 23:59:59 2033
Fingerprint (SHA-256):
FD:73:DA:D3:1C:64:4F:F1:B4:3B:EF:0C:CD:DA:96:71:0B:9C:D9:87:5E:CA:7E:31:70:7A:F3:E9:6D:52:2B:BD
Fingerprint (SHA1):
55:A6:72:3E:CB:F2:EC:CD:C3:23:74:70:19:9D:2A:BE:11:E3:81:D1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "T-TeleSec GlobalRoot Class 3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045

```

\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123  
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154  
\141\163\163\040\063

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105  
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163  
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040  
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060  
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155  
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045  
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123  
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154  
\141\163\163\040\063

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\001

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\303\060\202\002\253\240\003\002\001\002\002\001\001  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163\164  
\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040\123  
\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060\035  
\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155\163  
\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045\060  
\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123\145  
\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154\141  
\163\163\040\063\060\036\027\015\060\070\061\060\060\061\061\060  
\062\071\065\066\132\027\015\063\063\061\060\060\061\062\063\065  
\071\065\071\132\060\201\202\061\013\060\011\006\003\125\004\006  
\023\002\104\105\061\053\060\051\006\003\125\004\012\014\042\124  
\055\123\171\163\164\145\155\163\040\105\156\164\145\162\160\162  
\151\163\145\040\123\145\162\166\151\143\145\163\040\107\155\142  
\110\061\037\060\035\006\003\125\004\013\014\026\124\055\123\171  
\163\164\145\155\163\040\124\162\165\163\164\040\103\145\156\164  
\145\162\061\045\060\043\006\003\125\004\003\014\034\124\055\124  
\145\154\145\123\145\143\040\107\154\157\142\141\154\122\157\157  
\164\040\103\154\141\163\163\040\063\060\202\001\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017  
\000\060\202\001\012\002\202\001\001\000\275\165\223\360\142\042  
\157\044\256\340\172\166\254\175\275\331\044\325\270\267\374\315  
\360\102\340\353\170\210\126\136\233\232\124\035\115\014\212\366  
\323\317\160\364\122\265\330\223\004\343\106\206\161\101\112\053  
\360\052\054\125\003\326\110\303\340\071\070\355\362\134\074\077



\104\274\223\075\141\253\116\315\015\276\360\040\047\130\016\104  
\177\004\032\207\245\327\226\024\066\220\320\111\173\241\165\373  
\032\153\163\261\370\316\251\011\054\362\123\325\303\024\104\270  
\206\245\366\213\053\071\332\243\063\124\331\372\162\032\367\042  
\025\034\210\221\153\177\146\345\303\152\200\260\044\363\337\206  
\105\210\375\031\177\165\207\037\037\261\033\012\163\044\133\271  
\145\340\054\124\310\140\323\146\027\077\341\314\124\063\163\221  
\002\072\246\177\173\166\071\242\037\226\266\070\256\265\310\223  
\164\035\236\271\264\345\140\235\057\126\321\340\353\136\133\114  
\022\160\014\154\104\040\253\021\330\364\031\366\322\234\122\067  
\347\372\266\302\061\073\112\324\024\231\255\307\032\365\135\137  
\372\007\270\174\015\037\326\203\036\263\002\003\001\000\001\243  
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024\265  
\003\367\166\073\141\202\152\022\252\030\123\353\003\041\224\277  
\376\316\312\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\001\001\000\126\075\357\224\325\275\332\163\262  
\130\276\256\220\255\230\047\227\376\001\261\260\122\000\270\115  
\344\033\041\164\033\176\300\356\136\151\052\045\257\134\326\035  
\332\322\171\311\363\227\051\340\206\207\336\004\131\017\361\131  
\324\144\205\113\231\257\045\004\036\311\106\251\227\336\202\262  
\033\160\237\234\366\257\161\061\335\173\005\245\054\323\271\312  
\107\366\312\362\366\347\255\271\110\077\274\026\267\301\155\364  
\352\011\257\354\363\265\347\005\236\246\036\212\123\121\326\223  
\201\314\164\223\366\271\332\246\045\005\164\171\132\176\100\076  
\202\113\046\021\060\156\341\077\101\307\107\000\065\325\365\323  
\367\124\076\201\075\332\111\152\232\263\357\020\075\346\353\157  
\321\310\042\107\313\314\317\001\061\222\331\030\343\042\276\011  
\036\032\076\132\262\344\153\014\124\172\175\103\116\270\211\245  
\173\327\242\075\226\206\314\362\046\064\055\152\222\235\232\032  
\320\060\342\135\116\004\260\137\213\040\176\167\301\075\225\202  
\321\106\232\073\074\170\270\157\241\320\015\144\242\170\036\051  
\116\223\303\244\124\024\133

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "T-TeleSec GlobalRoot Class 3"

# Issuer: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services GmbH,C=DE

# Serial Number: 1 (0x1)

# Subject: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services GmbH,C=DE

# Not Valid Before: Wed Oct 01 10:29:56 2008

# Not Valid After : Sat Oct 01 23:59:59 2033

```

Fingerprint (SHA-256):
FD:73:DA:D3:1C:64:4F:F1:B4:3B:EF:0C:CD:DA:96:71:0B:9C:D9:87:5E:CA:7E:31:70:7A:F3:E9:6D:52:2B:BD
Fingerprint (SHA1): 55:A6:72:3E:CB:F2:EC:CD:C3:23:74:70:19:9D:2A:BE:11:E3:81:D1
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "T-TeleSec GlobalRoot Class 3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\125\246\162\076\313\362\354\315\303\043\164\160\031\235\052\276
\021\343\201\321
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\312\373\100\250\116\071\222\212\035\376\216\057\304\047\352\357
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154
\141\163\163\040\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "D-TRUST Root Class 3 CA 2 2009"
#
Issuer: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE
Serial Number: 623603 (0x983f3)
Subject: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE
Not Valid Before: Thu Nov 05 08:35:58 2009
Not Valid After : Mon Nov 05 08:35:58 2029
Fingerprint (SHA-256):
49:E7:A4:42:AC:F0:EA:62:87:05:00:54:B5:25:64:B6:50:E4:F4:9E:42:E3:48:D6:AA:38:E0:39:E9:57:B1:C1
Fingerprint (SHA1): 58:E8:AB:B0:36:15:33:FB:80:F7:9B:1B:6D:29:D3:FF:8D:5F:00:F0
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL

```

```
CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root Class 3 CA 2 2009"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014
\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014
\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\011\203\363
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\063\060\202\003\033\240\003\002\001\002\002\003\011
\203\363\060\015\006\011\052\206\110\206\367\015\001\001\013\005
\000\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165
\163\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003
\014\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103
\154\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071
\060\036\027\015\060\071\061\061\060\065\060\070\063\065\065\070
\132\027\015\062\071\061\061\060\065\060\070\063\065\065\070\132
\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014
\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071\060
\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001
\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000
\323\262\112\317\172\107\357\165\233\043\372\072\057\326\120\105
\211\065\072\306\153\333\376\333\000\150\250\340\003\021\035\067
\120\010\237\115\112\150\224\065\263\123\321\224\143\247\040\126
\257\336\121\170\354\052\075\363\110\110\120\076\012\337\106\125
\213\047\155\303\020\115\015\221\122\103\330\207\340\135\116\066
\265\041\312\137\071\100\004\137\133\176\314\243\306\053\251\100
\036\331\066\204\326\110\363\222\036\064\106\040\044\301\244\121
\216\112\032\357\120\077\151\135\031\177\105\303\307\001\217\121
```

\311\043\350\162\256\264\274\126\011\177\022\313\034\261\257\051  
\220\012\311\125\314\017\323\264\032\355\107\065\132\112\355\234  
\163\004\041\320\252\275\014\023\265\000\312\046\154\304\153\014  
\224\132\225\224\332\120\232\361\377\245\053\146\061\244\311\070  
\240\337\035\037\270\011\056\363\247\350\147\122\253\225\037\340  
\106\076\330\244\303\312\132\305\061\200\350\110\232\237\224\151  
\376\031\335\330\163\174\201\312\226\336\216\355\263\062\005\145  
\204\064\346\346\375\127\020\265\137\166\277\057\260\020\015\305  
\002\003\001\000\001\243\202\001\032\060\202\001\026\060\017\006  
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\035  
\006\003\125\035\016\004\026\004\024\375\332\024\304\237\060\336  
\041\275\036\102\071\374\253\143\043\111\340\361\204\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\201\323  
\006\003\125\035\037\004\201\313\060\201\310\060\201\200\240\176  
\240\174\206\172\154\144\141\160\072\057\057\144\151\162\145\143  
\164\157\162\171\056\144\055\164\162\165\163\164\056\156\145\164  
\057\103\116\075\104\055\124\122\125\123\124\045\062\060\122\157  
\157\164\045\062\060\103\154\141\163\163\045\062\060\063\045\062  
\060\103\101\045\062\060\062\045\062\060\062\060\060\071\054\117  
\075\104\055\124\162\165\163\164\045\062\060\107\155\142\110\054  
\103\075\104\105\077\143\145\162\164\151\146\151\143\141\164\145  
\162\145\166\157\143\141\164\151\157\156\154\151\163\164\060\103  
\240\101\240\077\206\075\150\164\164\160\072\057\057\167\167\167  
\056\144\055\164\162\165\163\164\056\156\145\164\057\143\162\154  
\057\144\055\164\162\165\163\164\137\162\157\157\164\137\143\154  
\141\163\163\137\063\137\143\141\137\062\137\062\060\060\071\056  
\143\162\154\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\001\001\000\177\227\333\060\310\337\244\234\175  
\041\172\200\160\316\024\022\151\210\024\225\140\104\001\254\262  
\351\060\117\233\120\302\146\330\176\215\060\265\160\061\351\342  
\151\307\363\160\333\040\025\206\320\015\360\276\254\001\165\204  
\316\176\237\115\277\267\140\073\234\363\312\035\342\136\150\330  
\243\235\227\345\100\140\322\066\041\376\320\264\270\027\332\164  
\243\177\324\337\260\230\002\254\157\153\153\054\045\044\162\241  
\145\356\045\132\345\346\062\347\362\337\253\111\372\363\220\151  
\043\333\004\331\347\134\130\374\145\324\227\276\314\374\056\012  
\314\045\052\065\004\370\140\221\025\165\075\101\377\043\037\031  
\310\154\353\202\123\004\246\344\114\042\115\215\214\272\316\133  
\163\354\144\124\120\155\321\234\125\373\151\303\066\303\214\274  
\074\205\246\153\012\046\015\340\223\230\140\256\176\306\044\227  
\212\141\137\221\216\146\222\011\207\066\315\213\233\055\076\366  
\121\324\120\324\131\050\275\203\362\314\050\173\123\206\155\330  
\046\210\160\327\352\221\315\076\271\312\300\220\156\132\306\136  
\164\145\327\134\376\243\342

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "D-TRUST Root Class 3 CA 2 2009"

# Issuer: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE

# Serial Number: 623603 (0x983f3)

# Subject: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE

# Not Valid Before: Thu Nov 05 08:35:58 2009

# Not Valid After : Mon Nov 05 08:35:58 2029

# Fingerprint (SHA-256):

49:E7:A4:42:AC:F0:EA:62:87:05:00:54:B5:25:64:B6:50:E4:F4:9E:42:E3:48:D6:AA:38:E0:39:E9:57:B1:C1

# Fingerprint (SHA1): 58:E8:AB:B0:36:15:33:FB:80:F7:9B:1B:6D:29:D3:FF:8D:5F:00:F0

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "D-TRUST Root Class 3 CA 2 2009"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\130\350\253\260\066\025\063\373\200\367\233\033\155\051\323\377

\215\137\000\360

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\315\340\045\151\215\107\254\234\211\065\220\367\375\121\075\057

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061

\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163

\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014

\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154

\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\003\011\203\363

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED

CK\_BBOOL CK\_FALSE

#

# Certificate "D-TRUST Root Class 3 CA 2 EV 2009"

#

# Issuer: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE

# Serial Number: 623604 (0x983f4)

# Subject: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE

# Not Valid Before: Thu Nov 05 08:50:46 2009

# Not Valid After : Mon Nov 05 08:50:46 2029

```
Fingerprint (SHA-256):
EE:C5:49:6B:98:8C:E9:86:25:B9:34:09:2E:EC:29:08:BE:D0:B0:F3:16:C2:D4:73:0C:84:EA:F1:F3:D3:48:81
Fingerprint (SHA1): 96:C9:1B:0B:95:B4:10:98:42:FA:D0:D8:22:79:FE:60:FA:B9:16:83
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root Class 3 CA 2 EV 2009"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003\014
\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062\060
\060\071
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003\014
\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062\060
\060\071
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\011\203\364
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\103\060\202\003\053\240\003\002\001\002\002\003\011
\203\364\060\015\006\011\052\206\110\206\367\015\001\001\013\005
\000\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165
\163\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003
\014\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103
\154\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062
\060\060\071\060\036\027\015\060\071\061\061\060\065\060\070\065
\060\064\066\132\027\015\062\071\061\061\060\065\060\070\065\060
\064\066\132\060\120\061\013\060\011\006\003\125\004\006\023\002
\104\105\061\025\060\023\006\003\125\004\012\014\014\104\055\124
\162\165\163\164\040\107\155\142\110\061\052\060\050\006\003\125
\004\003\014\041\104\055\124\122\125\123\124\040\122\157\157\164
\040\103\154\141\163\163\040\063\040\103\101\040\062\040\105\126
\040\062\060\060\071\060\202\001\042\060\015\006\011\052\206\110
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001
\012\002\202\001\001\000\231\361\204\064\160\272\057\267\060\240
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\216\275\174\004\317\276\142\274\231\375\202\227\322\172\012\147  
\226\070\011\366\020\116\225\042\163\231\215\332\025\055\347\005  
\374\031\163\042\267\216\230\000\274\074\075\254\241\154\373\326  
\171\045\113\255\360\314\144\332\210\076\051\270\017\011\323\064  
\335\063\365\142\321\341\315\031\351\356\030\117\114\130\256\342  
\036\326\014\133\025\132\330\072\270\304\030\144\036\343\063\262  
\265\211\167\116\014\277\331\224\153\023\227\157\022\243\376\231  
\251\004\314\025\354\140\150\066\355\010\173\267\365\277\223\355  
\146\061\203\214\306\161\064\207\116\027\352\257\213\221\215\034  
\126\101\256\042\067\136\067\362\035\331\321\055\015\057\151\121  
\247\276\146\246\212\072\052\275\307\032\261\341\024\360\276\072  
\035\271\317\133\261\152\376\264\261\106\040\242\373\036\073\160  
\357\223\230\175\214\163\226\362\305\357\205\160\255\051\046\374  
\036\004\076\034\240\330\017\313\122\203\142\174\356\213\123\225  
\220\251\127\242\352\141\005\330\371\115\304\047\372\156\255\355  
\371\327\121\367\153\245\002\003\001\000\001\243\202\001\044\060  
\202\001\040\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\323  
\224\212\114\142\023\052\031\056\314\257\162\212\175\066\327\232  
\034\334\147\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\201\335\006\003\125\035\037\004\201\325\060\201  
\322\060\201\207\240\201\204\240\201\201\206\177\154\144\141\160  
\072\057\057\144\151\162\145\143\164\157\162\171\056\144\055\164  
\162\165\163\164\056\156\145\164\057\103\116\075\104\055\124\122  
\125\123\124\045\062\060\122\157\157\164\045\062\060\103\154\141  
\163\163\045\062\060\063\045\062\060\103\101\045\062\060\062\045  
\062\060\105\126\045\062\060\062\060\060\071\054\117\075\104\055  
\124\162\165\163\164\045\062\060\107\155\142\110\054\103\075\104  
\105\077\143\145\162\164\151\146\151\143\141\164\145\162\145\166  
\157\143\141\164\151\157\156\154\151\163\164\060\106\240\104\240  
\102\206\100\150\164\164\160\072\057\057\167\167\167\056\144\055  
\164\162\165\163\164\056\156\145\164\057\143\162\154\057\144\055  
\164\162\165\163\164\137\162\157\157\164\137\143\154\141\163\163  
\137\063\137\143\141\137\062\137\145\166\137\062\060\060\071\056  
\143\162\154\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\001\001\000\064\355\173\132\074\244\224\210\357  
\032\021\165\007\057\263\376\074\372\036\121\046\353\207\366\051  
\336\340\361\324\306\044\011\351\301\317\125\033\264\060\331\316  
\032\376\006\121\246\025\244\055\357\262\113\277\040\050\045\111  
\321\246\066\167\064\350\144\337\122\261\021\307\163\172\315\071  
\236\302\255\214\161\041\362\132\153\257\337\074\116\125\257\262  
\204\145\024\211\271\167\313\052\061\276\317\243\155\317\157\110  
\224\062\106\157\347\161\214\240\246\204\031\067\007\362\003\105  
\011\053\206\165\174\337\137\151\127\000\333\156\330\246\162\042  
\113\120\324\165\230\126\337\267\030\377\103\103\120\256\172\104  
\173\360\171\121\327\103\075\247\323\201\323\360\311\117\271\332  
\306\227\206\320\202\303\344\102\155\376\260\342\144\116\016\046  
\347\100\064\046\265\010\211\327\010\143\143\070\047\165\036\063

```
\352\156\250\335\237\231\117\164\115\201\211\200\113\335\232\227
\051\134\057\276\201\101\271\214\377\352\175\140\006\236\315\327
\075\323\056\243\025\274\250\346\046\345\157\303\334\270\003\041
\352\237\026\361\054\124\265
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "D-TRUST Root Class 3 CA 2 EV 2009"

# Issuer: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE

# Serial Number: 623604 (0x983f4)

# Subject: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE

# Not Valid Before: Thu Nov 05 08:50:46 2009

# Not Valid After : Mon Nov 05 08:50:46 2029

# Fingerprint (SHA-256):

EE:C5:49:6B:98:8C:E9:86:25:B9:34:09:2E:EC:29:08:BE:D0:B0:F3:16:C2:D4:73:0C:84:EA:F1:F3:D3:48:81

# Fingerprint (SHA1): 96:C9:1B:0B:95:B4:10:98:42:FA:D0:D8:22:79:FE:60:FA:B9:16:83

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "D-TRUST Root Class 3 CA 2 EV 2009"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\226\311\033\013\225\264\020\230\102\372\320\330\042\171\376\140
\372\271\026\203
```

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

```
\252\306\103\054\136\055\315\304\064\300\120\117\021\002\117\266
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003\014
\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062\060
\060\071
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\003\011\203\364
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE



```

#
Certificate "CA Disig Root R2"
#
Issuer: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK
Serial Number:00:92:b8:88:db:b0:8a:c1:63
Subject: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK
Not Valid Before: Thu
 Jul 19 09:15:30 2012
Not Valid After : Sat Jul 19 09:15:30 2042
Fingerprint (SHA-256):
E2:3D:4A:03:6D:7B:70:E9:F5:95:B1:42:20:79:D2:B9:1E:DF:BB:1F:B6:51:A0:63:3E:AA:8A:9D:C5:F8:07:03
Fingerprint (SHA1): B5:61:EB:EA:A4:DE:E4:25:4B:69:1A:98:A5:57:47:C2:34:C7:D9:71
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CA Disig Root R2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\123\113\061
\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163
\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104
\151\163\151\147\040\141\056\163\056\061\031\060\027\006\003\125
\004\003\023\020\103\101\040\104\151\163\151\147\040\122\157\157
\164\040\122\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\123\113\061
\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163
\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104
\151\163\151\147\040\141\056\163\056\061\031\060\027\006\003\125
\004\003\023\020\103\101\040\104\151\163\151\147\040\122\157\157
\164\040\122\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\011\000\222\270\210\333\260\212\301\143
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\151\060\202\003\121\240\003\002\001\002\002\011\000
\222\270\210\333\260\212\301\143\060\015\006\011\052\206\110\206
\367\015\001\001\013\005\000\060\122\061\013\060\011\006\003\125
\004\006\023\002\123\113\061\023\060\021\006\003\125\004\007\023
\012\102\162\141\164\151\163\154\141\166\141\061\023\060\021\006
\003\125\004\012\023\012\104\151\163\151\147\040\141\056\163\056
\061\031\060\027\006\003\125\004\003\023\020\103\101\040\104\151
\163\151\147\040\122\157\157\164\040\122\062\060\036\027\015\061

```

\062\060\067\061\071\060\071\061\065\063\060\132\027\015\064\062  
\060\067\061\071\060\071\061\065\063\060\132\060\122\061\013\060  
\011\006\003\125\004\006\023\002\123\113\061\023\060\021\006\003  
\125\004\007\023\012\102\162\141\164\151\163\154\141\166\141\061  
\023\060\021\006\003\125\004\012\023\012\104\151\163\151\147\040  
\141\056\163\056\061\031\060\027\006\003\125\004\003\023\020\103  
\101\040\104\151\163\151\147\040\122\157\157\164\040\122\062\060  
\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001  
\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000  
\242\243\304\000\011\326\205\135\055\155\024\366\302\303\163\236  
\065\302\161\125\176\201\373\253\106\120\340\301\174\111\170\346  
\253\171\130\074\332\377\174\034\237\330\227\002\170\076\153\101  
\004\351\101\275\276\003\054\105\366\057\144\324\253\135\243\107  
\075\144\233\351\150\232\306\314\033\077\272\276\262\213\064\002  
\056\230\125\031\374\214\157\252\137\332\114\316\115\003\041\243  
\330\322\064\223\126\226\313\114\014\000\026\074\137\032\315\310  
\307\154\246\255\323\061\247\274\350\345\341\146\326\322\373\003  
\264\101\145\311\020\256\016\005\143\306\200\152\151\060\375\322  
\356\220\357\015\047\337\237\225\163\364\341\045\332\154\026\336  
\101\070\064\352\213\374\321\350\004\024\141\055\101\176\254\307  
\167\116\313\121\124\373\136\222\030\033\004\132\150\306\311\304  
\372\267\023\240\230\267\021\053\267\326\127\314\174\236\027\321  
\313\045\376\206\116\044\056\126\014\170\115\236\001\022\246\053  
\247\001\145\156\174\142\035\204\204\337\352\300\153\265\245\052  
\225\203\303\123\021\014\163\035\013\262\106\220\321\102\072\316  
\100\156\225\255\377\306\224\255\156\227\204\216\175\157\236\212  
\200\015\111\155\163\342\173\222\036\303\363\301\363\353\056\005  
\157\331\033\317\067\166\004\310\264\132\344\027\247\313\335\166  
\037\320\031\166\350\054\005\263\326\234\064\330\226\334\141\207  
\221\005\344\104\010\063\301\332\271\010\145\324\256\262\066\015  
\353\272\070\272\014\345\233\236\353\215\146\335\231\317\326\211  
\101\366\004\222\212\051\051\155\153\072\034\347\165\175\002\161  
\016\363\300\347\275\313\031\335\235\140\262\302\146\140\266\261  
\004\356\311\346\206\271\232\146\100\250\347\021\355\201\105\003  
\213\366\147\131\350\301\006\021\275\335\317\200\002\117\145\100  
\170\134\107\120\310\233\346\037\201\173\344\104\250\133\205\232  
\342\336\132\325\307\371\072\104\146\113\344\062\124\174\344\154  
\234\263\016\075\027\242\262\064\022\326\176\262\250\111\273\321  
\172\050\100\276\242\026\037\337\344\067\037\021\163\373\220\012  
\145\103\242\015\174\370\006\001\125\063\175\260\015\270\364\365  
\256\245\102\127\174\066\021\214\173\136\304\003\235\214\171\235  
\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\006\060\035\006\003\125\035  
\016\004\026\004\024\265\231\370\257\260\224\365\343\040\326\012  
\255\316\116\126\244\056\156\102\355\060\015\006\011\052\206\110  
\206\367\015\001\001\013\005\000\003\202\002\001\000\046\006\136  
\160\347\145\063\310\202\156\331\234\027\072\033\172\146\262\001

\366\170\073\151\136\057\352\377\116\371\050\303\230\052\141\114  
\264\044\022\212\175\155\021\024\367\234\265\312\346\274\236\047  
\216\114\031\310\251\275\172\300\327\066\016\155\205\162\156\250  
\306\242\155\366\372\163\143\177\274\156\171\010\034\235\212\237  
\032\212\123\246\330\273\331\065\125\261\021\305\251\003\263\126  
\073\271\204\223\042\136\176\301\366\022\122\213\352\054\147\274  
\376\066\114\365\270\317\321\263\111\222\073\323\051\016\231\033  
\226\367\141\270\073\304\053\266\170\154\264\043\157\360\375\323  
\262\136\165\037\231\225\250\254\366\332\341\305\061\173\373\321  
\106\263\322\274\147\264\142\124\272\011\367\143\260\223\242\232  
\371\351\122\056\213\140\022\253\374\365\140\126\357\020\134\213  
\304\032\102\334\203\133\144\016\313\265\274\326\117\301\174\074  
\156\215\023\155\373\173\353\060\320\334\115\257\305\325\266\245  
\114\133\161\311\350\061\276\350\070\006\110\241\032\342\352\322  
\336\022\071\130\032\377\200\016\202\165\346\267\311\007\154\016  
\357\377\070\361\230\161\304\267\177\016\025\320\045\151\275\042  
\235\053\355\005\366\106\107\254\355\300\360\324\073\342\354\356  
\226\133\220\023\116\036\126\072\353\260\357\226\273\226\043\021  
\272\362\103\206\164\144\225\310\050\165\337\035\065\272\322\067  
\203\070\123\070\066\073\317\154\351\371\153\016\320\373\004\350  
\117\167\327\145\001\170\206\014\172\076\041\142\361\177\143\161  
\014\311\237\104\333\250\047\242\165\276\156\201\076\327\300\353  
\033\230\017\160\134\064\262\212\314\300\205\030\353\156\172\263  
\367\132\241\007\277\251\102\222\363\140\042\227\344\024\241\007  
\233\116\166\300\216\175\375\244\045\307\107\355\377\037\163\254  
\314\303\245\351\157\012\216\233\145\302\120\205\265\243\240\123  
\022\314\125\207\141\363\201\256\020\106\141\275\104\041\270\302  
\075\164\317\176\044\065\372\034\007\016\233\075\042\312\357\061  
\057\214\254\022\275\357\100\050\374\051\147\237\262\023\117\146  
\044\304\123\031\351\036\051\025\357\346\155\260\177\055\147\375  
\363\154\033\165\106\243\345\112\027\351\244\327\013

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "CA Disig Root R2"

# Issuer: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK

# Serial Number:00:92:b8:88:db:b0:8a:c1:63

# Subject: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK

# Not Valid Before: Thu Jul 19 09:15:30 2012

# Not Valid After : Sat Jul 19 09:15:30 2042

# Fingerprint (SHA-256):

E2:3D:4A:03:6D:7B:70:E9:F5:95:B1:42:20:79:D2:B9:1E:DF:BB:1F:B6:51:A0:63:3E:AA:8A:9D:C5:F8:07:03

# Fingerprint (SHA1): B5:61:EB:EA:A4:DE:E4:25:4B:69:1A:98:A5:57:47:C2:34:C7:D9:71

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CA Disig Root R2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\265\141\353\352\244\336\344\045\113\151\032\230\245\127\107\302
\064\307\331\161
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\046\001\373\330\047\247\027\232\105\124\070\032\103\001\073\003
END
CKA_ISSUER
MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\123\113\061
\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163
\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104
\151\163\151\147\040\141\056\163\056\061\031\060\027\006\003\125
\004\003\023\020\103\101\040\104\151\163\151\147\040\122\157\157
\164\040\122\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\222\270\210\333\260\212\301\143
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "ACCVRAIZ1"
#
Issuer: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1
Serial Number:5e:c3:b7:a6:43:7f:a4:e0
Subject: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1
Not Valid Before: Thu May 05 09:37:37 2011
Not Valid After : Tue Dec 31 09:37:37 2030
Fingerprint (SHA-256):
9A:6E:C0:12:E1:A7:DA:9D:BE:34:19:4D:47:8A:D7:C0:DB:18:22:FB:07:1D:F1:29:81:49:6E:D1:04:38:41:13
#
Fingerprint (SHA1): 93:05:7A:88:15:C6:4F:CE:88:2F:FA:91:16:52:28:78:BC:53:64:17
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ACCVRAIZ1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\102\061\022\060\020\006\003\125\004\003\014\011\101\103\103
\126\122\101\111\132\061\061\020\060\016\006\003\125\004\013\014

```

```
\007\120\113\111\101\103\103\126\061\015\060\013\006\003\125\004
\012\014\004\101\103\103\126\061\013\060\011\006\003\125\004\006
\023\002\105\123
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\102\061\022\060\020\006\003\125\004\003\014\011\101\103\103
\126\122\101\111\132\061\061\020\060\016\006\003\125\004\013\014
\007\120\113\111\101\103\103\126\061\015\060\013\006\003\125\004
\012\014\004\101\103\103\126\061\013\060\011\006\003\125\004\006
\023\002\105\123
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\010\136\303\267\246\103\177\244\340
END
CKA_VALUE MULTILINE_OCTAL
\060\202\007\323\060\202\005\273\240\003\002\001\002\002\010\136
\303\267\246\103\177\244\340\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\060\102\061\022\060\020\006\003\125\004
\003\014\011\101\103\103\126\122\101\111\132\061\061\020\060\016
\006\003\125\004\013\014\007\120\113\111\101\103\103\126\061\015
\060\013\006\003\125\004\012\014\004\101\103\103\126\061\013\060
\011\006\003\125\004\006\023\002\105\123\060\036\027\015\061\061
\060\065\060\065\060\071\063\067\063\067\132\027\015\063\060\061
\062\063\061\060\071\063\067\063\067\132\060\102\061\022\060\020
\006\003\125\004\003\014\011\101\103\103\126\122\101\111\132\061
\061\020\060\016\006\003\125\004\013\014\007\120\113\111\101\103
\103\126\061\015\060\013\006\003\125\004\012\014\004\101\103\103
\126\061\013\060\011\006\003\125\004\006\023\002\105\123\060\202
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\233
\251\253\277\141\112\227\257\057\227\146\232\164\137\320\331\226
\375\317\342\344\146\357\037\037\107\063\302\104\243\337\232\336
\037\265\124\335\025\174\151\065\021\157\273\310\014\216\152\030
\036\330\217\331\026\274\020\110\066\134\360\143\263\220\132\134
\044\067\327\243\326\313\011\161\271\361\001\162\204\260\175\333
\115\200\315\374\323\157\311\370\332\266\016\202\322\105\205\250
\033\150\250\075\350\364\104\154\275\241\302\313\003\276\214\076
\023\000\204\337\112\110\300\343\042\012\350\351\067\247\030\114
\261\011\015\043\126\177\004\115\331\027\204\030\245\310\332\100
\224\163\353\316\016\127\074\003\201\072\235\012\241\127\103\151
\254\127\155\171\220\170\345\265\264\073\330\274\114\215\050\241
\247\243\247\272\002\116\045\321\052\256\355\256\003\042\270\153
\040\017\060\050\124\225\177\340\356\316\012\146\235\321\100\055
\156\042\257\235\032\301\005\031\322\157\300\362\237\370\173\263
\002\102\373\120\251\035\055\223\017\043\253\306\301\017\222\377
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\334\321\247\355\061\021\054\236\031\246\356\341\125\341\300\352  
\317\015\204\344\027\267\242\174\245\336\125\045\006\356\314\300  
\207\134\100\332\314\225\077\125\340\065\307\270\204\276\264\135  
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\346\301\232\351\036\002\107\237\052\250\155\251\133\317\354\105  
\167\177\230\047\232\062\135\052\343\204\356\305\230\146\057\226  
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END

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CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "ACCVRAIZ1"
Issuer: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1
Serial Number:5e:c3:b7:a6:43:7f:a4:e0
Subject: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1
Not Valid Before: Thu May 05 09:37:37 2011
Not Valid After : Tue Dec 31 09:37:37 2030
Fingerprint (SHA-256):
9A:6E:C0:12:E1:A7:DA:9D:BE:34:19:4D:47:8A:D7:C0:DB:18:22:FB:07:1D:F1:29:81:49:6E:D1:04:38:41:13
Fingerprint (SHA1): 93:05:7A:88:15:C6:4F:CE:88:2F:FA:91:16:52:28:78:BC:53:64:17
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8
"ACCVRAIZ1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\223\005\172\210\025\306\117\316\210\057\372\221\026\122\050\170
\274\123\144\027
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\320\240\132\356\005\266\011\224\041\241\175\361\262\051\202\002
END
CKA_ISSUER MULTILINE_OCTAL
\060\102\061\022\060\020\006\003\125\004\003\014\011\101\103\103
\126\122\101\111\132\061\061\020\060\016\006\003\125\004\013\014
\007\120\113\111\101\103\103\126\061\015\060\013\006\003\125\004
\012\014\004\101\103\103\126\061\013\060\011\006\003\125\004\006
\023\002\105\123
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\136\303\267\246\103\177\244\340
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "TWCA Global Root CA"
#
Issuer: CN=TWCA Global Root CA,OU=Root CA,O=TAIWAN-CA,C=TW
Serial Number: 3262 (0xcbe)
Subject: CN=TWCA Global

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```
Root CA,OU=Root CA,O=TAIWAN-CA,C=TW
Not Valid Before: Wed Jun 27 06:28:33 2012
Not Valid After : Tue Dec 31 15:59:59 2030
Fingerprint (SHA-256):
59:76:90:07:F7:68:5D:0F:CD:50:87:2F:9F:95:D5:75:5A:5B:2B:45:7D:81:F3:69:2B:61:0A:98:67:2F:0E:1B
Fingerprint (SHA1): 9C:BB:48:53:F6:A4:F6:D3:52:A4:E8:32:52:55:60:13:F5:AD:AF:65
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TWCA Global Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\023\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\023\007\122\157
\157\164\040\103\101\061\034\060\032\006\003\125\004\003\023\023
\124\127\103\101\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\023\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\023\007\122\157
\157\164\040\103\101\061\034\060\032\006\003\125\004\003\023\023
\124\127\103\101\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\002\014\276
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\101\060\202\003\051\240\003\002\001\002\002\002\014
\276\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000
\060\121\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\023\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\023\007\122\157
\157\164\040\103\101\061\034\060\032\006\003\125\004\003\023\023
\124\127\103\101\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101\060\036\027\015\061\062\060\066\062\067\060\066\062
\070\063\063\132\027\015\063\060\061\062\063\061\061\065\065\071
\065\071\132\060\121\061\013\060\011\006\003\125\004\006\023\002
\124\127\061\022\060\020\006\003\125\004\012\023\011\124\101\111
\127\101\116\055\103\101\061\020\060\016\006\003\125\004\013\023
\007\122\157\157\164\040\103\101\061\034\060\032\006\003\125\004
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\002\012\002\202\002\001\000\260\005\333\310\353\214\304\156\212  
\041\357\216\115\234\161\012\037\122\160\355\155\202\234\227\305  
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\061\137\205\002\227\354\103\063\012\123\322\234\214\216\267\270  
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\320\002\337\120\366\125\257\146\016\313\340\107\140\057\053\062  
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\221\316\360\031\022\115\255\143\365\323\077\165\137\051\360\241  
\060\034\052\240\230\246\025\275\356\375\031\066\360\342\221\103  
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\314\210\165\036\273\154\006\377\233\153\076\027\354\141\252\161  
\174\306\035\242\367\111\351\025\265\074\326\241\141\365\021\367  
\005\157\035\375\021\276\320\060\007\302\051\260\011\116\046\334  
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\356\242\164\123\052\075\123\047\151\035\154\216\062\054\144\000  
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\225\242\316\317\332\202\347\007\064\031\226\351\270\041\252\051  
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END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL

CK\_FALSE

# Trust for "TWCA Global Root CA"

# Issuer: CN=TWCA Global Root CA,OU=Root CA,O=TAIWAN-CA,C=TW

# Serial Number: 3262 (0xcbe)

# Subject: CN=TWCA Global Root CA,OU=Root CA,O=TAIWAN-CA,C=TW

# Not Valid Before: Wed Jun 27 06:28:33 2012

# Not Valid After : Tue Dec 31 15:59:59 2030

# Fingerprint (SHA-256):

59:76:90:07:F7:68:5D:0F:CD:50:87:2F:9F:95:D5:75:5A:5B:2B:45:7D:81:F3:69:2B:61:0A:98:67:2F:0E:1B

# Fingerprint (SHA1): 9C:BB:48:53:F6:A4:F6:D3:52:A4:E8:32:52:55:60:13:F5:AD:AF:65

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TWCA Global Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\234\273\110\123\366\244\366\323\122\244\350\062\122\125\140\023
\365\255\257\145
```

END

```

CKA_CERT_MD5_HASH MULTILINE_OCTAL
\371\003\176\317\346\236\074\163\172\052\220\007\151\377\053\226
END
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\023\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\023\007\122\157
\157\164\040\103\101\061\034\060\032\006\003\125\004\003\023\023
\124\127\103\101\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\002\014\276
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "TeliaSonera Root CA v1"
#
Issuer: CN=TeliaSonera Root CA v1,O=TeliaSonera
Serial Number:00:95:be:16:a0:f7:2e:46:f1:7b:39:82:72:fa:8b:cd:96
Subject: CN=TeliaSonera Root CA v1,O=TeliaSonera
Not Valid Before: Thu Oct 18 12:00:50 2007
Not Valid After : Mon Oct 18 12:00:50 2032
Fingerprint (SHA-256):
DD:69:36:FE:21:F8:F0:77:C1:23:A1:A5:21:C1:22:24:F7:22:55:B7:3E:03:A7:26:06:93:E8:A2:4B:0F:A3:89
Fingerprint (SHA1): 43:13:BB:96:F1:D5:86:9B:C1:4E:6A:92:F6:CF:F6:34:69:87:82:37
CKA_CLASS
CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TeliaSonera Root CA v1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154
\151\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004
\003\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122
\157\157\164\040\103\101\040\166\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154
\151\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004

```

\003\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122  
\157\157\164\040\103\101\040\166\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\021\000\225\276\026\240\367\056\106\361\173\071\202\162\372  
\213\315\226

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\070\060\202\003\040\240\003\002\001\002\002\021\000  
\225\276\026\240\367\056\106\361\173\071\202\162\372\213\315\226  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060  
\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154\151  
\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004\003  
\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122\157  
\157\164\040\103\101\040\166\061\060\036\027\015\060\067\061\060  
\061\070\061\062\060\060\065\060\132\027\015\063\062\061\060\061  
\070\061\062\060\060\065\060\132\060\067\061\024\060\022\006\003  
\125\004\012\014\013\124\145\154\151\141\123\157\156\145\162\141  
\061\037\060\035\006\003\125\004\003\014\026\124\145\154\151\141  
\123\157\156\145\162\141\040\122\157\157\164\040\103\101\040\166  
\061\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002  
\001\000\302\276\353\047\360\041\243\363\151\046\125\176\235\305  
\125\026\221\134\375\357\041\277\123\200\172\055\322\221\214\143  
\061\360\354\044\360\303\245\322\162\174\020\155\364\067\267\345  
\346\174\171\352\214\265\202\213\256\110\266\254\000\334\145\165  
\354\052\115\137\301\207\365\040\145\053\201\250\107\076\211\043  
\225\060\026\220\177\350\127\007\110\347\031\256\277\105\147\261  
\067\033\006\052\376\336\371\254\175\203\373\136\272\344\217\227  
\147\276\113\216\215\144\007\127\070\125\151\064\066\075\023\110  
\357\117\342\323\146\036\244\317\032\267\136\066\063\324\264\006  
\275\030\001\375\167\204\120\000\105\365\214\135\350\043\274\176  
\376\065\341\355\120\173\251\060\215\031\323\011\216\150\147\135  
\277\074\227\030\123\273\051\142\305\312\136\162\301\307\226\324  
\333\055\240\264\037\151\003\354\352\342\120\361\014\074\360\254  
\363\123\055\360\034\365\355\154\071\071\163\200\026\310\122\260  
\043\315\340\076\334\335\074\107\240\273\065\212\342\230\150\213  
\276\345\277\162\356\322\372\245\355\022\355\374\230\030\251\046  
\166\334\050\113\020\040\034\323\177\026\167\055\355\157\200\367  
\111\273\123\005\273\135\150\307\324\310\165\026\077\211\132\213  
\367\027\107\324\114\361\322\211\171\076\115\075\230\250\141\336  
\072\036\322\370\136\003\340\301\311\034\214\323\215\115\323\225  
\066\263\067\137\143\143\233\063\024\360\055\046\153\123\174\211  
\214\062\302\156\354\075\041\000\071\311\241\150\342\120\203\056  
\260\072\053\363\066\240\254\057\344\157\141\302\121\011\071\076  
\213\123\271\273\147\332\334\123\271\166\131\066\235\103\345\040  
\340\075\062\140\205\042\121\267\307\063\273\335\025\057\244\170  
\246\007\173\201\106\066\004\206\335\171\065\307\225\054\073\260

\243\027\065\345\163\037\264\134\131\357\332\352\020\145\173\172  
\320\177\237\263\264\052\067\073\160\213\233\133\271\053\267\354  
\262\121\022\227\123\051\132\324\360\022\020\334\117\002\273\022  
\222\057\142\324\077\151\103\174\015\326\374\130\165\001\210\235  
\130\026\113\336\272\220\377\107\001\211\006\152\366\137\262\220  
\152\263\002\246\002\210\277\263\107\176\052\331\325\372\150\170  
\065\115\002\003\001\000\001\243\077\060\075\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\013\006\003  
\125\035\017\004\004\003\002\001\006\060\035\006\003\125\035\016  
\004\026\004\024\360\217\131\070\000\263\365\217\232\226\014\325  
\353\372\173\252\027\350\023\022\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\003\202\002\001\000\276\344\134\142  
\116\044\364\014\010\377\360\323\014\150\344\223\111\042\077\104  
\047\157\273\155\336\203\146\316\250\314\015\374\365\232\006\345  
\167\024\221\353\235\101\173\231\052\204\345\377\374\041\301\135  
\360\344\037\127\267\165\251\241\137\002\046\377\327\307\367\116  
\336\117\370\367\034\106\300\172\117\100\054\042\065\360\031\261  
\320\153\147\054\260\250\340\300\100\067\065\366\204\134\134\343  
\257\102\170\376\247\311\015\120\352\015\204\166\366\121\357\203  
\123\306\172\377\016\126\111\056\217\172\326\014\346\047\124\343  
\115\012\140\162\142\315\221\007\326\245\277\310\231\153\355\304  
\031\346\253\114\021\070\305\157\061\342\156\111\310\077\166\200  
\046\003\046\051\340\066\366\366\040\123\343\027\160\064\027\235  
\143\150\036\153\354\303\115\206\270\023\060\057\135\106\015\107  
\103\325\033\252\131\016\271\134\215\006\110\255\164\207\137\307  
\374\061\124\101\023\342\307\041\016\236\340\036\015\341\300\173  
\103\205\220\305\212\130\306\145\012\170\127\362\306\043\017\001  
\331\040\113\336\017\373\222\205\165\052\134\163\215\155\173\045  
\221\312\356\105\256\006\113\000\314\323\261\131\120\332\072\210  
\073\051\103\106\136\227\053\124\316\123\157\215\112\347\226\372  
\277\161\016\102\213\174\375\050\240\320\110\312\332\304\201\114  
\273\242\163\223\046\310\353\014\326\046\210\266\300\044\317\273  
\275\133\353\165\175\351\010\216\206\063\054\171\167\011\151\245  
\211\374\263\160\220\207\166\217\323\042\273\102\316\275\163\013  
\040\046\052\320\233\075\160\036\044\154\315\207\166\251\027\226  
\267\317\015\222\373\216\030\251\230\111\321\236\376\140\104\162  
\041\271\031\355\302\365\061\361\071\110\210\220\044\165\124\026  
\255\316\364\370\151\024\144\071\373\243\270\272\160\100\307\047  
\034\277\304\126\123\372\143\145\320\363\034\016\026\365\153\206  
\130\115\030\324\344\015\216\245\235\133\221\334\166\044\120\077  
\306\052\373\331\267\234\265\326\346\320\331\350\031\213\025\161  
\110\255\267\352\330\131\210\324\220\277\026\263\331\351\254\131  
\141\124\310\034\272\312\301\312\341\271\040\114\217\072\223\211  
\245\240\314\277\323\366\165\244\165\226\155\126

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "TeliaSonera Root CA v1"

# Issuer: CN=TeliaSonera Root CA v1,O=TeliaSonera

# Serial Number:00:95:be:16:a0:f7:2e:46:f1:7b:39:82:72:fa:8b:cd:96

# Subject: CN=TeliaSonera Root CA v1,O=TeliaSonera

# Not Valid Before: Thu Oct 18 12:00:50 2007

# Not Valid After : Mon Oct 18 12:00:50 2032

# Fingerprint (SHA-256):

DD:69:36:FE:21:F8:F0:77:C1:23:A1:A5:21:C1:22:24:F7:22:55:B7:3E:03:A7:26:06:93:E8:A2:4B:0F:A3:89

# Fingerprint (SHA1): 43:13:BB:96:F1:D5:86:9B:C1:4E:6A:92:F6:CF:F6:34:69:87:82:37

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TeliaSonera Root CA v1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\103\023\273\226\361\325\206\233\301\116\152\222\366\317\366\064

\151\207\202\067

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\067\101\111\033\030\126\232\046\365\255\302\146\373\100\245\114

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154

\151\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004

\003\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122

\157\157\164\040\103\101\040\166\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\021\000\225\276\026\240\367\056\106\361\173\071\202\162\372

\213\315\226

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED

CK\_BBOOL CK\_FALSE

#

# Certificate "E-Tugra Certification Authority"

#

# Issuer: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im  
Teknolojileri ve Hizmetleri A...,L=Ankara,C=TR

# Serial Number:6a:68:3e:9c:51:9b:cb:53

# Subject: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im  
Teknolojileri ve Hizmetleri A...,L=Ankara,C=TR

```
Not Valid Before: Tue Mar 05 12:09:48 2013
Not Valid After : Fri Mar 03 12:09:48 2023
Fingerprint (SHA-256):
B0:BF:D5:2B:B0:D7:D9:BD:92:BF:5D:4D:C1:3D:A2:55:C0:2C:54:2F:37:83:65:EA:89:39:11:F5:5E:55:F2:3C
Fingerprint (SHA1): 51:C6:E7:08:49:06:6E:F3:92:D4:5C:A0:0D:6D:A3:62:8F:C3:52:39
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "E-Tugra Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\262\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141\162
\141\061\100\060\076\006\003\125\004\012\014\067\105\055\124\165
\304\237\162\141\040\105\102\107\040\102\151\154\151\305\237\151
\155\040\124\145\153\156\157\154\157\152\151\154\145\162\151\040
\166\145\040\110\151\172\155\145\164\154\145\162\151\040\101\056
\305\236\056\061\046\060\044\006\003\125\004\013\014\035\105\055
\124\165\147\162\141\040\123\145\162\164\151\146\151\153\141\163
\171\157\156\040\115\145\162\153\145\172\151\061\050\060\046\006
\003\125\004\003\014\037\105\055\124\165\147\162\141\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\262\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141\162
\141\061\100\060\076\006\003\125\004\012\014\067\105\055\124\165
\304\237\162\141\040\105\102\107\040\102\151\154\151\305\237\151
\155\040\124\145\153\156\157\154\157\152\151\154\145\162\151\040
\166\145\040\110\151\172\155\145\164\154\145\162\151\040\101\056
\305\236\056\061\046\060\044\006\003\125\004\013\014\035\105\055
\124\165\147\162\141\040\123\145\162\164\151\146\151\153\141\163
\171\157\156\040\115\145\162\153\145\172\151\061\050\060\046\006
\003\125\004\003\014\037\105\055\124\165\147\162\141\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\010\152\150\076\234\121\233\313\123
END
CKA_VALUE MULTILINE_OCTAL
\060\202\006\113\060\202\004\063\240\003\002\001\002\002\010\152
\150\076\234\121\233\313\123\060\015\006\011\052\206\110\206\367
```



\015\001\001\013\005\000\060\201\262\061\013\060\011\006\003\125  
\004\006\023\002\124\122\061\017\060\015\006\003\125\004\007\014  
\006\101\156\153\141\162\141\061\100\060\076\006\003\125\004\012  
\014\067\105\055\124\165\304\237\162\141\040\105\102\107\040\102  
\151\154\151\305\237\151\155\040\124\145\153\156\157\154\157\152  
\151\154\145\162\151\040\166\145\040\110\151\172\155\145\164\154  
\145\162\151\040\101\056\305\236\056\061\046\060\044\006\003\125  
\004\013\014\035\105\055\124\165\147\162\141\040\123\145\162\164  
\151\146\151\153\141\163\171\157\156\040\115\145\162\153\145\172  
\151\061\050\060\046\006\003\125\004\003\014\037\105\055\124\165  
\147\162\141\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\060\036\027\015\061  
\063\060\063\060\065\061\062\060\071\064\070\132\027\015\062\063  
\060\063\060\063\061\062\060\071\064\070\132\060\201\262\061\013  
\060\011\006\003\125\004\006\023\002\124\122\061\017\060\015\006  
\003\125\004\007\014\006\101\156\153\141\162\141\061\100\060\076  
\006\003\125\004\012\014\067\105\055\124\165\304\237\162\141\040  
\105\102\107\040\102\151\154\151\305\237\151\155\040\124\145\153  
\156\157\154\157\152\151\154\145\162\151\040\166\145\040\110\151  
\172\155\145\164\154\145\162\151\040\101\056\305\236\056\061\046  
\060\044\006\003\125\004\013\014\035\105\055\124\165\147\162\141  
\040\123\145\162\164\151\146\151\153\141\163\171\157\156\040\115  
\145\162\153\145\172\151\061\050\060\046\006\003\125\004\003\014  
\037\105\055\124\165\147\162\141\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\342\365\077\223\005\121\036\205\142\124\136\172\013\365\030  
\007\203\256\176\257\174\367\324\212\153\245\143\103\071\271\113  
\367\303\306\144\211\075\224\056\124\200\122\071\071\007\113\113  
\335\205\007\166\207\314\277\057\225\114\314\175\247\075\274\107  
\017\230\160\370\214\205\036\164\216\222\155\033\100\321\231\015  
\273\165\156\310\251\153\232\300\204\061\257\312\103\313\353\053  
\064\350\217\227\153\001\233\325\016\112\010\252\133\222\164\205  
\103\323\200\256\241\210\133\256\263\352\136\313\026\232\167\104  
\310\241\366\124\150\316\336\217\227\053\272\133\100\002\014\144  
\027\300\265\223\315\341\361\023\146\316\014\171\357\321\221\050  
\253\137\240\022\122\060\163\031\216\217\341\214\007\242\303\273  
\112\360\352\037\025\250\356\045\314\244\106\370\033\042\357\263  
\016\103\272\054\044\270\305\054\134\324\034\370\135\144\275\303  
\223\136\050\247\077\047\361\216\036\323\052\120\005\243\125\331  
\313\347\071\123\300\230\236\214\124\142\213\046\260\367\175\215  
\174\344\306\236\146\102\125\202\107\347\262\130\215\146\367\007  
\174\056\066\346\120\034\077\333\103\044\305\277\206\107\171\263  
\171\034\367\132\364\023\354\154\370\077\342\131\037\225\356\102  
\076\271\255\250\062\205\111\227\106\376\113\061\217\132\313\255  
\164\107\037\351\221\267\337\050\004\042\240\324\017\135\342\171  
\117\352\154\205\206\275\250\246\316\344\372\303\341\263\256\336

\074\121\356\313\023\174\001\177\204\016\135\121\224\236\023\014  
\266\056\245\114\371\071\160\066\157\226\312\056\014\104\125\305  
\312\372\135\002\243\337\326\144\214\132\263\001\012\251\265\012  
\107\027\377\357\221\100\052\216\241\106\072\061\230\345\021\374  
\314\273\111\126\212\374\271\320\141\232\157\145\154\346\303\313  
\076\165\111\376\217\247\342\211\305\147\327\235\106\023\116\061  
\166\073\044\263\236\021\145\206\253\177\357\035\324\370\274\347  
\254\132\134\267\132\107\134\125\316\125\264\042\161\133\133\013  
\360\317\334\240\141\144\352\251\327\150\012\143\247\340\015\077  
\240\257\323\252\322\176\357\121\240\346\121\053\125\222\025\027  
\123\313\267\146\016\146\114\370\371\165\114\220\347\022\160\307  
\105\002\003\001\000\001\243\143\060\141\060\035\006\003\125\035  
\016\004\026\004\024\056\343\333\262\111\320\234\124\171\134\372  
\047\052\376\314\116\322\350\116\124\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125\035  
\043\004\030\060\026\200\024\056\343\333\262\111\320\234\124\171  
\134\372\047\052\376\314\116\322\350\116\124\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\005  
\067\072\364\115\267\105\342\105\165\044\217\266\167\122\350\034  
\330\020\223\145\363\362\131\006\244\076\036\051\354\135\321\320  
\253\174\340\012\220\110\170\355\116\230\003\231\376\050\140\221  
\035\060\035\270\143\174\250\346\065\265\372\323\141\166\346\326  
\007\113\312\151\232\262\204\172\167\223\105\027\025\237\044\320  
\230\023\022\377\273\240\056\375\116\114\207\370\316\134\252\230  
\033\005\340\000\106\112\202\200\245\063\213\050\334\355\070\323  
\337\345\076\351\376\373\131\335\141\204\117\322\124\226\023\141  
\023\076\217\200\151\276\223\107\265\065\103\322\132\273\075\134  
\357\263\102\107\315\073\125\023\006\260\011\333\375\143\366\072  
\210\012\231\157\176\341\316\033\123\152\104\146\043\121\010\173  
\274\133\122\242\375\006\067\070\100\141\217\112\226\270\220\067  
\370\146\307\170\220\000\025\056\213\255\121\065\123\007\250\153  
\150\256\371\116\074\007\046\315\010\005\160\314\071\077\166\275  
\245\323\147\046\001\206\246\123\322\140\073\174\103\177\125\212  
\274\225\032\301\050\071\114\037\103\322\221\364\162\131\212\271  
\126\374\077\264\235\332\160\234\166\132\214\103\120\356\216\060  
\162\115\337\377\111\367\306\251\147\331\155\254\002\021\342\072  
\026\045\247\130\010\313\157\123\101\234\110\070\107\150\063\321  
\327\307\217\324\164\041\324\303\005\220\172\377\316\226\210\261  
\025\051\135\043\253\320\140\241\022\117\336\364\027\315\062\345  
\311\277\310\103\255\375\056\216\361\257\342\364\230\372\022\037  
\040\330\300\247\014\205\305\220\364\073\055\226\046\261\054\276  
\114\253\353\261\322\212\311\333\170\023\017\036\011\235\155\217  
\000\237\002\332\301\372\037\172\172\011\304\112\346\210\052\227  
\237\211\213\375\067\137\137\072\316\070\131\206\113\257\161\013  
\264\330\362\160\117\237\062\023\343\260\247\127\345\332\332\103  
\313\204\064\362\050\304\352\155\364\052\357\301\153\166\332\373  
\176\273\205\074\322\123\302\115\276\161\341\105\321\375\043\147

```
\015\023\165\373\317\145\147\042\235\256\260\011\321\011\377\035
\064\277\376\043\227\067\322\071\372\075\015\006\013\264\333\073
\243\253\157\134\035\266\176\350\263\202\064\355\006\134\044
END
```

```
CKA_NSS_Mozilla_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
Trust for "E-Tugra Certification Authority"
Issuer: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im
Teknolojileri ve Hizmetleri A...,L=Ankara,C=TR
Serial Number:6a:68:3e:9c:51:9b:cb:53
Subject: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im
Teknolojileri ve Hizmetleri A...,L=Ankara,C=TR
Not Valid Before: Tue Mar 05 12:09:48 2013
Not Valid After : Fri Mar 03 12:09:48 2023
Fingerprint (SHA-256):
B0:BF:D5:2B:B0:D7:D9:BD:92:BF:5D:4D:C1:3D:A2:55:C0:2C:54:2F:37:83:65:EA:89:39:11:F5:5E:55:F2:3C
Fingerprint (SHA1): 51:C6:E7:08:49:06:6E:F3:92:D4:5C:A0:0D:6D:A3:62:8F:C3:52:39
```

```
CKA_CLASS CK_OBJECT_CLASS
CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "E-Tugra Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\121\306\347\010\111\006\156\363\222\324\134\240\015\155\243\142
\217\303\122\071
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\270\241\003\143\260\275\041\161\160\212\157\023\072\273\171\111
END
```

```
CKA_ISSUER MULTILINE_OCTAL
\060\201\262\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141\162
\141\061\100\060\076\006\003\125\004\012\014\067\105\055\124\165
\304\237\162\141\040\105\102\107\040\102\151\154\151\305\237\151
\155\040\124\145\153\156\157\154\157\152\151\154\145\162\151\040
\166\145\040\110\151\172\155\145\164\154\145\162\151\040\101\056
\305\236\056\061\046\060\044\006\003\125\004\013\014\035\105\055
\124\165\147\162\141\040\123\145\162\164\151\146\151\153\141\163
\171\157\156\040\115\145\162\153\145\172\151\061\050\060\046\006
\003\125\004\003\014\037\105\055\124\165\147\162\141\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
```

```
CKA_SERIAL_NUMBER
```

```

MULTILINE_OCTAL
\002\010\152\150\076\234\121\233\313\123
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "T-TeleSec GlobalRoot Class 2"
#
Issuer: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE
Serial Number: 1 (0x1)
Subject: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE
Not Valid Before: Wed Oct 01 10:40:14 2008
Not Valid After : Sat Oct 01 23:59:59 2033
Fingerprint (SHA-256):
91:E2:F5:78:8D:58:10:EB:A7:BA:58:73:7D:E1:54:8A:8E:CA:CD:01:45:98:BC:0B:14:3E:04:1B:17:05:25:52
Fingerprint (SHA1): 59:0D:2D:7D:88:4F:40:2E:61:7E:A5:62:32:17:65:CF:17:D8:94:E9
CKA_CLASS
CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "T-TeleSec GlobalRoot Class 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154
\141\163\163\040\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123

```

\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154  
\141\163\163\040\062  
END  
CKA\_SERIAL\_NUMBER  
MULTILINE\_OCTAL  
\002\001\001  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\003\303\060\202\002\253\240\003\002\001\002\002\001\001  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163\164  
\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040\123  
\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060\035  
\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155\163  
\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045\060  
\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123\145  
\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154\141  
\163\163\040\062\060\036\027\015\060\070\061\060\060\061\061\060  
\064\060\061\064\132\027\015\063\063\061\060\060\061\062\063\065  
\071\065\071\132\060\201\202\061\013\060\011\006\003\125\004\006  
\023\002\104\105\061\053\060\051\006\003\125\004\012\014\042\124  
\055\123\171\163\164\145\155\163\040\105\156\164\145\162\160\162  
\151\163\145\040\123\145\162\166\151\143\145\163\040\107\155\142  
\110\061\037\060\035\006\003\125\004\013\014\026\124\055\123\171  
\163\164\145\155\163\040\124\162\165\163\164\040\103\145\156\164  
\145\162\061\045\060\043\006\003\125\004\003\014\034\124\055\124  
\145\154\145\123\145\143\040\107\154\157\142\141\154\122\157\157  
\164\040\103\154\141\163\163\040\062\060\202\001\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017  
\000\060\202\001\012\002\202\001\001\000\252\137\332\033\137\350  
\163\221\345\332\134\364\242\346\107\345\363\150\125\140\005\035  
\002\244\263\233\131\363\036\212\257\064\255\374\015\302\331\110  
\031\356\151\217\311\040\374\041\252\007\031\355\260\134\254\145  
\307\137\355\002\174\173\174\055\033\326\272\271\200\302\030\202  
\026\204\372\146\260\010\306\124\043\201\344\315\271\111\077\366  
\117\156\067\110\050\070\017\305\276\347\150\160\375\071\227\115  
\322\307\230\221\120\252\304\104\263\043\175\071\107\351\122\142  
\326\022\223\136\267\061\226\102\005\373\166\247\036\243\365\302  
\374\351\172\305\154\251\161\117\352\313\170\274\140\257\307\336  
\364\331\313\276\176\063\245\156\224\203\360\064\372\041\253\352  
\216\162\240\077\244\336\060\133\357\206\115\152\225\133\103\104  
\250\020\025\034\345\001\127\305\230\361\346\006\050\221\252\040  
\305\267\123\046\121\103\262\013\021\225\130\341\300\017\166\331  
\300\215\174\201\363\162\160\236\157\376\032\216\331\137\065\306  
\262\157\064\174\276\110\117\342\132\071\327\330\235\170\236\237  
\206\076\003\136\031\213\104\242\325\307\002\003\001\000\001\243  
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060

```
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024\277
\131\040\066\000\171\240\240\042\153\214\325\362\141\322\270\054
\313\202\112\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\001\001\000\061\003\242\141\013\037\164\350\162
\066\306\155\371\115\236\372\042\250\341\201\126\317\315\273\237
\352\253\221\031\070\257\252\174\025\115\363\266\243\215\245\364
\216\366\104\251\247\350\041\225\255\076\000\142\026\210\360\002
\272\374\141\043\346\063\233\060\172\153\066\142\173\255\004\043
\204\130\145\342\333\053\212\347\045\123\067\142\123\137\274\332
\001\142\051\242\246\047\161\346\072\042\176\301\157\035\225\160
\040\112\007\064\337\352\377\025\200\345\272\327\172\330\133\165
\174\005\172\051\107\176\100\250\061\023\167\315\100\073\264\121
\107\172\056\021\343\107\021\336\235\146\320\213\325\124\146\372
\203\125\352\174\302\051\211\033\351\157\263\316\342\005\204\311
\057\076\170\205\142\156\311\137\301\170\143\164\130\300\110\030
\014\231\071\353\244\314\032\265\171\132\215\025\234\330\024\015
\366\172\007\127\307\042\203\005\055\074\233\045\046\075\030\263
\251\103\174\310\310\253\144\217\016\243\277\234\033\235\060\333
\332\320\031\056\252\074\361\373\063\200\166\344\315\255\031\117
\005\047\216\023\241\156\302
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "T-TeleSec GlobalRoot Class 2"

# Issuer: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services GmbH,C=DE

# Serial Number: 1 (0x1)

# Subject: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services GmbH,C=DE

# Not Valid Before: Wed Oct 01 10:40:14 2008

# Not Valid After : Sat Oct 01 23:59:59 2033

# Fingerprint (SHA-256):

91:E2:F5:78:8D:58:10:EB:A7:BA:58:73:7D:E1:54:8A:8E:CA:CD:01:45:98:BC:0B:14:3E:04:1B:17:05:25:52

#

Fingerprint (SHA1): 59:0D:2D:7D:88:4F:40:2E:61:7E:A5:62:32:17:65:CF:17:D8:94:E9

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "T-TeleSec GlobalRoot Class 2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\131\015\055\175\210\117\100\056\141\176\245\142\062\027\145\317
\027\330\224\351
```

END

```

CKA_CERT_MD5_HASH MULTILINE_OCTAL
\053\233\236\344\173\154\037\000\162\032\314\301\167\171\337\152
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154
\141\163\163\040\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Atos TrustedRoot 2011"
#
Issuer: C=DE,O=Atos,CN=Atos TrustedRoot 2011
Serial Number:5c:33:cb:62:2c:5f:b3:32
Subject: C=DE,O=Atos,CN=Atos TrustedRoot 2011
Not Valid Before: Thu Jul 07 14:58:30 2011
Not Valid After : Tue Dec 31 23:59:59 2030
Fingerprint (SHA-256):
F3:56:BE:A2:44:B7:A9:1E:B3:5D:53:CA:9A:D7:86:4A:CE:01:8E:2D:35:D5:F8:F9:6D:DF:68:A6:F4:1A:A4:74
Fingerprint (SHA1): 2B:B1:F5:3E:55:0C:1D:C5:F1:D4:E6:B7:6A:46:4B:55:06:02:AC:21
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL
CK_FALSE
CKA_LABEL UTF8 "Atos TrustedRoot 2011"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\074\061\036\060\034\006\003\125\004\003\014\025\101\164\157
\163\040\124\162\165\163\164\145\144\122\157\157\164\040\062\060
\061\061\061\015\060\013\006\003\125\004\012\014\004\101\164\157
\163\061\013\060\011\006\003\125\004\006\023\002\104\105
END
CKA_ID UTF8 "0"

```

CKA\_ISSUER MULTILINE\_OCTAL

\060\074\061\036\060\034\006\003\125\004\003\014\025\101\164\157  
\163\040\124\162\165\163\164\145\144\122\157\157\164\040\062\060  
\061\061\061\015\060\013\006\003\125\004\012\014\004\101\164\157  
\163\061\013\060\011\006\003\125\004\006\023\002\104\105

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\134\063\313\142\054\137\263\062

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\167\060\202\002\137\240\003\002\001\002\002\010\134  
\063\313\142\054\137\263\062\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\060\074\061\036\060\034\006\003\125\004  
\003\014\025\101\164\157\163\040\124\162\165\163\164\145\144\122  
\157\157\164\040\062\060\061\061\061\015\060\013\006\003\125\004  
\012\014\004\101\164\157\163\061\013\060\011\006\003\125\004\006  
\023\002\104\105\060\036\027\015\061\061\060\067\060\067\061\064  
\065\070\063\060\132\027\015\063\060\061\062\063\061\062\063\065  
\071\065\071\132\060\074\061\036\060\034\006\003\125\004\003\014  
\025\101\164\157\163\040\124\162\165\163\164\145\144\122\157\157  
\164\040\062\060\061\061\061\015\060\013\006\003\125\004\012\014  
\004\101\164\157\163\061\013\060\011\006\003\125\004\006\023\002  
\104\105\060\202\001\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202  
\001\001\000\225\205\073\227\157\052\073\056\073\317\246\363\051  
\065\276\317\030\254\076\252\331\370\115\240\076\032\107\271\274  
\232\337\362\376\314\076\107\350\172\226\302\044\216\065\364\251  
\014\374\202\375\155\301\162\142\047\275\352\153\353\347\212\314  
\124\076\220\120\317\200\324\225\373\350\265\202\324\024\305\266  
\251\125\045\127\333\261\120\366\260\140\144\131\172\151\317\003  
\267\157\015\276\312\076\157\164\162\352\252\060\052\163\142\276  
\111\221\141\310\021\376\016\003\052\367\152\040\334\002\025\015  
\136\025\152\374\343\202\301\265\305\235\144\011\154\243\131\230  
\007\047\307\033\226\053\141\164\161\154\103\361\367\065\211\020  
\340\236\354\125\241\067\042\242\207\004\005\054\107\175\264\034  
\271\142\051\146\050\312\267\341\223\365\244\224\003\231\271\160  
\205\265\346\110\352\215\120\374\331\336\314\157\007\016\335\013  
\162\235\200\060\026\007\225\077\050\016\375\305\165\117\123\326  
\164\232\264\044\056\216\002\221\317\166\305\233\036\125\164\234  
\170\041\261\360\055\361\013\237\302\325\226\030\037\360\124\042  
\172\214\007\002\003\001\000\001\243\175\060\173\060\035\006\003  
\125\035\016\004\026\004\024\247\245\006\261\054\246\011\140\356  
\321\227\351\160\256\274\073\031\154\333\041\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003  
\125\035\043\004\030\060\026\200\024\247\245\006\261\054\246\011  
\140\356\321\227\351\160\256\274\073\031\154\333\041\060\030\006  
\003\125\035\040\004\021\060\017\060\015\006\013\053\006\001\004  
\001\260\055\003\004\001\001\060\016\006\003\125\035\017\001\001



```
\377\004\004\003\002\001\206\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\003\202\001\001\000\046\167\064\333\224
\110\206\052\101\235\054\076\006\220\140\304\214\254\013\124\270
\037\271\173\323\007\071\344\372\076\173\262\075\116\355\237\043
\275\227\363\153\134\357\356\375\100\246\337\241\223\241\012\206
\254\357\040\320\171\001\275\170\367\031\330\044\061\064\004\001
\246\272\025\232\303\047\334\330\117\017\314\030\143\377\231\017
\016\221\153\165\026\341\041\374\330\046\307\107\267\246\317\130
\162\161\176\272\341\115\225\107\073\311\257\155\241\264\301\354
\211\366\264\017\070\265\342\144\334\045\317\246\333\353\232\134
\231\241\305\010\336\375\346\332\325\326\132\105\014\304\267\302
\265\024\357\264\021\377\016\025\265\365\365\333\306\275\353\132
\247\360\126\042\251\074\145\124\306\025\250\275\206\236\315\203
\226\150\172\161\201\211\341\013\341\352\021\033\150\010\314\151
\236\354\236\101\236\104\062\046\172\342\207\012\161\075\353\344
\132\244\322\333\305\315\306\336\140\177\271\363\117\104\222\357
\052\267\030\076\247\031\331\013\175\261\067\101\102\260\272\140
\035\362\376\011\021\260\360\207\173\247\235
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Atos TrustedRoot 2011"

# Issuer: C=DE,O=Atos,CN=Atos TrustedRoot 2011

# Serial Number:5c:33:cb:62:2c:5f:b3:32

# Subject: C=DE,O=Atos,CN=Atos TrustedRoot 2011

# Not Valid Before: Thu Jul 07 14:58:30 2011

# Not Valid After : Tue Dec 31 23:59:59 2030

# Fingerprint (SHA-256):

F3:56:BE:A2:44:B7:A9:1E:B3:5D:53:CA:9A:D7:86:4A:CE:01:8E:2D:35:D5:F8:F9:6D:DF:68:A6:F4:1A:A4:74

# Fingerprint (SHA1): 2B:B1:F5:3E:55:0C:1D:C5:F1:D4:E6:B7:6A:46:4B:55:06:02:AC:21

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Atos TrustedRoot 2011"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\053\261\365\076\125\014\035\305\361\324\346\267\152\106\113\125
\006\002\254\041
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\256\271\304\062\113\254\177\135\146\314\167\224\273\052\167\126
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\074\061\036\060\034\006\003\125\004\003\014\025\101\164\157
```

```

\163\040\124\162\165\163\164\145\144\122\157\157\164\040\062\060
\061\061\061\015\060\013\006\003\125\004\012\014\004\101\164\157
\163\061\013\060\011\006\003\125\004\006\023\002\104\105
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\134\063\313\142\054\137\263\062
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate
"QuoVadis Root CA 1 G3"
#
Issuer: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM
Serial Number:78:58:5f:2e:ad:2c:19:4b:e3:37:07:35:34:13:28:b5:96:d4:65:93
Subject: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM
Not Valid Before: Thu Jan 12 17:27:44 2012
Not Valid After : Sun Jan 12 17:27:44 2042
Fingerprint (SHA-256):
8A:86:6F:D1:B2:76:B5:7E:57:8E:92:1C:65:82:8A:2B:ED:58:E9:F2:F2:88:05:41:34:B7:F1:F4:BF:C9:CC:74
Fingerprint (SHA1): 1B:8E:EA:57:96:29:1A:C9:39:EA:B8:0A:81:1A:73:73:C0:93:79:67
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 1 G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\061\040\107\063
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\061\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\170\130\137\056\255\054\031\113\343\067\007\065\064\023

```

\050\265\226\324\145\223

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\140\060\202\003\110\240\003\002\001\002\002\024\170  
\130\137\056\255\054\031\113\343\067\007\065\064\023\050\265\226  
\324\145\223\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\110\061\013\060\011\006\003\125\004\006\023\002\102  
\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126  
\141\144\151\163\040\114\151\155\151\164\145\144\061\036\060\034  
\006\003\125\004\003\023\025\121\165\157\126\141\144\151\163\040  
\122\157\157\164\040\103\101\040\061\040\107\063\060\036\027\015  
\061\062\060\061\061\062\061\067\062\067\064\064\132\027\015\064  
\062\060\061\061\062\061\067\062\067\064\064\132\060\110\061\013  
\060\011\006\003\125\004\006\023\002\102\115\061\031\060\027\006  
\003\125\004\012\023\020\121\165\157\126\141\144\151\163\040\114  
\151\155\151\164\145\144\061\036\060\034\006\003\125\004\003\023  
\025\121\165\157\126\141\144\151\163\040\122\157\157\164\040\103  
\101\040\061\040\107\063\060\202\002\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202  
\002\012\002\202\002\001\000\240\276\120\020\216\351\362\154\100  
\264\004\234\205\271\061\312\334\055\344\021\251\004\074\033\125  
\301\347\130\060\035\044\264\303\357\205\336\214\054\341\301\075  
\337\202\346\117\255\107\207\154\354\133\111\301\112\325\273\217  
\354\207\254\177\202\232\206\354\075\003\231\122\001\322\065\236  
\254\332\360\123\311\146\074\324\254\002\001\332\044\323\073\250  
\002\106\257\244\034\343\370\163\130\166\267\366\016\220\015\265  
\360\317\314\372\371\306\114\345\303\206\060\012\215\027\176\065  
\353\305\337\273\016\234\300\215\207\343\210\070\205\147\372\076  
\307\253\340\023\234\005\030\230\317\223\365\261\222\264\374\043  
\323\317\325\304\047\111\340\236\074\233\010\243\213\135\052\041  
\340\374\071\252\123\332\175\176\317\032\011\123\274\135\005\004  
\317\241\112\217\213\166\202\015\241\370\322\307\024\167\133\220  
\066\007\201\233\076\006\372\122\136\143\305\246\000\376\245\351  
\122\033\122\265\222\071\162\003\011\142\275\260\140\026\156\246  
\335\045\302\003\146\335\363\004\321\100\342\116\213\206\364\157  
\345\203\240\047\204\136\004\301\365\220\275\060\075\304\357\250  
\151\274\070\233\244\244\226\321\142\332\151\300\001\226\256\313  
\304\121\064\352\014\252\377\041\216\131\217\112\134\344\141\232  
\247\322\351\052\170\215\121\075\072\025\356\242\131\216\251\134  
\336\305\371\220\042\345\210\105\161\335\221\231\154\172\237\075  
\075\230\174\136\366\276\026\150\240\136\256\013\043\374\132\017  
\252\042\166\055\311\241\020\035\344\323\104\043\220\210\237\306  
\052\346\327\365\232\263\130\036\057\060\211\010\033\124\242\265  
\230\043\354\010\167\034\225\135\141\321\313\211\234\137\242\112  
\221\232\357\041\252\111\026\010\250\275\141\050\061\311\164\255  
\205\366\331\305\261\213\321\345\020\062\115\137\213\040\072\074  
\111\037\063\205\131\015\333\313\011\165\103\151\163\373\153\161  
\175\360\337\304\114\175\306\243\056\310\225\171\313\163\242\216

\116\115\044\373\136\344\004\276\162\033\246\047\055\111\132\231  
\172\327\134\011\040\267\177\224\271\117\361\015\034\136\210\102  
\033\021\267\347\221\333\236\154\364\152\337\214\006\230\003\255  
\314\050\357\245\107\363\123\002\003\001\000\001\243\102\060\100  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\035\006\003\125\035\016\004\026\004\024\243\227\326\363  
\136\242\020\341\253\105\237\074\027\144\074\356\001\160\234\314  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003  
\202\002\001\000\030\372\133\165\374\076\172\307\137\167\307\312  
\337\317\137\303\022\304\100\135\324\062\252\270\152\327\325\025  
\025\106\230\043\245\346\220\133\030\231\114\343\255\102\243\202  
\061\066\210\315\351\373\304\004\226\110\213\001\307\215\001\317  
\133\063\006\226\106\146\164\035\117\355\301\266\271\264\015\141  
\314\143\176\327\056\167\214\226\034\052\043\150\153\205\127\166  
\160\063\023\376\341\117\246\043\167\030\372\032\214\350\275\145  
\311\317\077\364\311\027\334\353\307\274\300\004\056\055\106\057  
\151\146\303\033\217\376\354\076\323\312\224\277\166\012\045\015  
\251\173\002\034\251\320\073\137\013\300\201\072\075\144\341\277  
\247\055\116\275\115\304\330\051\306\042\030\320\305\254\162\002  
\202\077\252\072\242\072\042\227\061\335\010\143\303\165\024\271  
\140\050\055\133\150\340\026\251\146\202\043\121\365\353\123\330  
\061\233\173\351\267\235\113\353\210\026\317\371\135\070\212\111  
\060\217\355\361\353\031\364\167\032\061\030\115\147\124\154\057  
\157\145\371\333\075\354\041\354\136\364\364\213\312\140\145\124  
\321\161\144\364\371\246\243\201\063\066\063\161\360\244\170\137  
\116\255\203\041\336\064\111\215\350\131\254\235\362\166\132\066  
\362\023\364\257\340\011\307\141\052\154\367\340\235\256\273\206  
\112\050\157\056\356\264\171\315\220\063\303\263\166\372\365\360  
\154\235\001\220\372\236\220\366\234\162\317\107\332\303\037\344  
\065\040\123\362\124\321\337\141\203\246\002\342\045\070\336\205  
\062\055\136\163\220\122\135\102\304\316\075\113\341\371\031\204  
\035\325\242\120\314\101\373\101\024\303\275\326\311\132\243\143  
\146\002\200\275\005\072\073\107\234\354\000\046\114\365\210\121  
\277\250\043\177\030\007\260\013\355\213\046\241\144\323\141\112  
\353\134\237\336\263\257\147\003\263\037\335\155\135\151\150\151  
\253\136\072\354\174\151\274\307\073\205\116\236\025\271\264\025  
\117\303\225\172\130\327\311\154\351\154\271\363\051\143\136\264  
\054\360\055\075\355\132\145\340\251\133\100\302\110\231\201\155  
\236\037\006\052\074\022\264\213\017\233\242\044\360\246\215\326  
\172\340\113\266\144\226\143\225\204\302\112\315\034\056\044\207  
\063\140\345\303

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

```

Trust for "QuoVadis Root CA 1 G3"
Issuer: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM
Serial Number:78:58:5f:2e:ad:2c:19:4b:e3:37:07:35:34:13:28:b5:96:d4:65:93
Subject: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM
Not Valid Before: Thu Jan 12 17:27:44 2012
Not Valid After : Sun Jan 12 17:27:44 2042
Fingerprint (SHA-256):
8A:86:6F:D1:B2:76:B5:7E:57:8E:92:1C:65:82:8A:2B:ED:58:E9:F2:F2:88:05:41:34:B7:F1:F4:BF:C9:CC:74
Fingerprint (SHA1): 1B:8E:EA:57:96:29:1A:C9:39:EA:B8:0A:81:1A:73:73:C0:93:79:67
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis
Root CA 1 G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\033\216\352\127\226\051\032\311\071\352\270\012\201\032\163\163
\300\223\171\147
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\244\274\133\077\376\067\232\372\144\360\342\372\005\075\013\253
END
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\061\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\170\130\137\056\255\054\031\113\343\067\007\065\064\023
\050\265\226\324\145\223
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "QuoVadis Root CA 2 G3"
#
Issuer: CN=QuoVadis Root CA
2 G3,O=QuoVadis Limited,C=BM
Serial Number:44:57:34:24:5b:81:89:9b:35:f2:ce:b8:2b:3b:5b:a7:26:f0:75:28
Subject: CN=QuoVadis Root CA 2 G3,O=QuoVadis Limited,C=BM
Not Valid Before: Thu Jan 12 18:59:32 2012
Not Valid After : Sun Jan 12 18:59:32 2042
Fingerprint (SHA-256):

```

8F:E4:FB:0A:F9:3A:4D:0D:67:DB:0B:EB:B2:3E:37:C7:1B:F3:25:DC:BC:DD:24:0E:A0:4D:AF:58:B4:7E:18:40

# Fingerprint (SHA1): 09:3C:61:F3:8B:8B:DC:7D:55:DF:75:38:02:05:00:E1:25:F5:C8:36

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "QuoVadis Root CA 2 G3"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061  
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144  
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003  
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157  
\157\164\040\103\101\040\062\040\107\063

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061  
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144  
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003  
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157  
\157\164\040\103\101\040\062\040\107\063

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\024\104\127\064\044\133\201\211\233\065\362\316\270\053\073  
\133\247\046\360\165\050

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\140\060\202\003\110\240\003\002\001\002\002\024\104  
\127\064\044\133\201\211\233\065\362\316\270\053\073\133\247\046  
\360\165\050\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\110\061\013\060\011\006\003\125\004\006\023\002\102  
\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126  
\141\144\151\163\040\114\151\155\151\164\145\144\061\036\060\034  
\006\003\125\004\003\023\025\121\165\157\126\141\144\151\163\040  
\122\157\157\164\040\103\101\040\062\040\107\063\060\036\027\015  
\061\062\060\061\061\062\061\070\065\071\063\062\132\027\015\064  
\062\060\061\061\062\061\070\065\071\063\062\132\060\110\061\013  
\060\011\006\003\125\004\006\023\002\102\115\061\031\060\027\006  
\003\125\004\012\023\020\121\165\157\126\141\144\151\163\040\114  
\151\155\151\164\145\144\061\036\060\034\006\003\125\004\003\023  
\025\121\165\157\126\141\144\151\163\040\122\157\157\164\040\103  
\101\040\062\040\107\063\060\202\002\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202  
\002\012\002\202\002\001\000\241\256\045\262\001\030\334\127\210  
\077\106\353\371\257\342\353\043\161\342\232\321\141\146\041\137  
\252\257\047\121\345\156\033\026\324\055\175\120\260\123\167\275

\170\072\140\342\144\002\233\174\206\233\326\032\216\255\377\037  
\025\177\325\225\036\022\313\346\024\204\004\301\337\066\263\026  
\237\212\343\311\333\230\064\316\330\063\027\050\106\374\247\311  
\360\322\264\325\115\011\162\111\371\362\207\343\251\332\175\241  
\175\153\262\072\045\251\155\122\104\254\370\276\156\373\334\246  
\163\221\220\141\246\003\024\040\362\347\207\243\210\255\255\240  
\214\377\246\013\045\122\045\347\026\001\325\313\270\065\201\014  
\243\073\360\341\341\374\132\135\316\200\161\155\370\111\253\076  
\073\272\270\327\200\001\373\245\353\133\263\305\136\140\052\061  
\240\257\067\350\040\072\237\250\062\054\014\314\011\035\323\236  
\216\135\274\114\230\356\305\032\150\173\354\123\246\351\024\065  
\243\337\315\200\237\014\110\373\034\364\361\277\112\270\372\325  
\214\161\112\307\037\255\376\101\232\263\203\135\362\204\126\357  
\245\127\103\316\051\255\214\253\125\277\304\373\133\001\335\043  
\041\241\130\000\216\303\320\152\023\355\023\343\022\053\200\334  
\147\346\225\262\315\036\042\156\052\370\101\324\362\312\024\007  
\215\212\125\022\306\151\365\270\206\150\057\123\136\260\322\252  
\041\301\230\346\060\343\147\125\307\233\156\254\031\250\125\246  
\105\006\320\043\072\333\353\145\135\052\021\021\360\073\117\312  
\155\364\064\304\161\344\377\000\132\366\134\256\043\140\205\163  
\361\344\020\261\045\256\325\222\273\023\301\014\340\071\332\264  
\071\127\265\253\065\252\162\041\073\203\065\347\061\337\172\041  
\156\270\062\010\175\035\062\221\025\112\142\162\317\343\167\241  
\274\325\021\033\166\001\147\010\340\101\013\303\353\025\156\370  
\244\031\331\242\253\257\342\047\122\126\053\002\212\054\024\044  
\371\277\102\002\277\046\310\306\217\340\156\070\175\123\055\345  
\355\230\263\225\143\150\177\371\065\364\337\210\305\140\065\222  
\300\174\151\034\141\225\026\320\353\336\013\257\076\004\020\105  
\145\130\120\070\257\110\362\131\266\026\362\074\015\220\002\306  
\160\056\001\255\074\025\327\002\003\001\000\001\243\102\060\100  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\035\006\003\125\035\016\004\026\004\024\355\347\157\166  
\132\277\140\354\111\133\306\245\167\273\162\026\161\233\304\075  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003  
\202\002\001\000\221\337\200\077\103\011\176\161\302\367\353\263  
\210\217\341\121\262\274\075\165\371\050\135\310\274\231\233\173  
\135\252\345\312\341\012\367\350\262\323\237\335\147\061\176\272  
\001\252\307\152\101\073\220\324\010\134\262\140\152\220\360\310  
\316\003\142\371\213\355\373\156\052\334\006\115\074\051\017\211  
\026\212\130\114\110\017\350\204\141\352\074\162\246\167\344\102  
\256\210\243\103\130\171\176\256\312\245\123\015\251\075\160\275  
\040\031\141\244\154\070\374\103\062\341\301\107\377\370\354\361  
\021\042\062\226\234\302\366\133\151\226\173\040\014\103\101\232  
\133\366\131\031\210\336\125\210\067\121\013\170\134\012\036\243  
\102\375\307\235\210\017\300\362\170\002\044\124\223\257\211\207  
\210\311\112\200\035\352\320\156\076\141\056\066\273\065\016\047  
\226\375\146\064\073\141\162\163\361\026\134\107\006\124\111\000

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\172\130\022\260\012\357\205\375\261\270\063\165\152\223\034\022
\346\140\136\157\035\177\311\037\043\313\204\141\237\036\202\104
\371\137\255\142\125\044\232\122\230\355\121\347\241\176\227\072
\346\057\037\021\332\123\200\054\205\236\253\065\020\333\042\137
\152\305\136\227\123\362\062\002\011\060\243\130\360\015\001\325
\162\306\261\174\151\173\303\365\066\105\314\141\156\136\114\224
\305\136\256\350\016\136\213\277\367\315\340\355\241\016\033\063
\356\124\030\376\017\276\357\176\204\153\103\343\160\230\333\135
\165\262\015\131\007\205\025\043\071\326\361\337\251\046\017\326
\110\307\263\246\042\365\063\067\132\225\107\237\173\272\030\025
\157\377\326\024\144\203\111\322\012\147\041\333\017\065\143\140
\050\042\343\261\225\203\315\205\246\335\057\017\347\147\122\156
\273\057\205\174\365\112\163\347\305\076\300\275\041\022\005\077
\374\267\003\111\002\133\310\045\346\342\124\070\365\171\207\214
\035\123\262\116\205\173\006\070\307\054\370\370\260\162\215\045
\345\167\122\364\003\034\110\246\120\137\210\040\060\156\362\202
\103\253\075\227\204\347\123\373\041\301\117\017\042\232\206\270
\131\052\366\107\075\031\210\055\350\205\341\236\354\205\010\152
\261\154\064\311\035\354\110\053\073\170\355\146\304\216\171\151
\203\336\177\214
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END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "QuoVadis Root CA 2 G3"

# Issuer: CN=QuoVadis Root CA 2 G3,O=QuoVadis Limited,C=BM

# Serial Number:44:57:34:24:5b:81:89:9b:35:f2:ce:b8:2b:3b:5b:a7:26:f0:75:28

# Subject: CN=QuoVadis Root CA 2 G3,O=QuoVadis Limited,C=BM

# Not Valid Before: Thu Jan 12 18:59:32 2012

# Not Valid After : Sun Jan 12 18:59:32 2042

# Fingerprint (SHA-256):

8F:E4:FB:0A:F9:3A:4D:0D:67:DB:0B:EB:B2:3E:37:C7:1B:F3:25:DC:BC:DD:24:0E:A0:4D:AF:58:B4:7E:18:40

# Fingerprint (SHA1): 09:3C:61:F3:8B:8B:DC:7D:55:DF:75:38:02:05:00:E1:25:F5:C8:36

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "QuoVadis Root CA 2 G3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\011\074\141\363\213\213\334\175\125\337\165\070\002\005\000\341
\045\365\310\066
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END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

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\257\014\206\156\277\100\055\177\013\076\022\120\272\022\075\006
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END



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CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\104\127\064\044\133\201\211\233\065\362\316\270\053\073
\133\247\046\360\165\050
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "QuoVadis Root CA 3 G3"
#
Issuer: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM
Serial Number:2e:f5:9b:02:28:a7:db:7a:ff:d5:a3:a9:ee:bd:03:a0:cf:12:6a:1d
#
Subject: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM
Not Valid Before: Thu Jan 12 20:26:32 2012
Not Valid After : Sun Jan 12 20:26:32 2042
Fingerprint (SHA-256):
88:EF:81:DE:20:2E:B0:18:45:2E:43:F8:64:72:5C:EA:5F:BD:1F:C2:D9:D2:05:73:07:09:C5:D8:B8:69:0F:46
Fingerprint (SHA1): 48:12:BD:92:3C:A8:C4:39:06:E7:30:6D:27:96:E6:A4:CF:22:2E:7D
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 3 G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063\040\107\063

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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\024\056\365\233\002\050\247\333\172\377\325\243\251\356\275  
\003\240\317\022\152\035

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\140\060\202\003\110\240\003\002\001\002\002\024\056  
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\022\152\035\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\110\061\013\060\011\006\003\125\004\006\023\002\102  
\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126  
\141\144\151\163\040\114\151\155\151\164\145\144\061\036\060\034  
\006\003\125\004\003\023\025\121\165\157\126\141\144\151\163\040  
\122\157\157\164\040\103\101\040\063\040\107\063\060\036\027\015  
\061\062\060\061\061\062\062\060\062\066\063\062\132\027\015\064  
\062\060\061\061\062\062\060\062\066\063\062\132\060\110\061\013  
\060\011\006\003\125\004\006\023\002\102\115\061\031\060\027\006  
\003\125\004\012\023\020\121\165\157\126\141\144\151\163\040\114  
\151\155\151\164\145\144\061\036\060\034\006\003\125\004\003\023  
\025\121\165\157\126\141\144\151\163\040\122\157\157\164\040\103  
\101\040\063\040\107\063\060\202\002\042\060\015\006\011\052\206  
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\002\012\002\202\002\001\000\263\313\016\020\147\216\352\024\227  
\247\062\052\012\126\066\177\150\114\307\263\157\072\043\024\221  
\377\031\177\245\312\254\356\263\166\235\172\351\213\033\253\153  
\061\333\372\013\123\114\257\305\245\032\171\074\212\114\377\254  
\337\045\336\116\331\202\062\013\104\336\312\333\214\254\243\156  
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\235\161\074\336\243\313\300\062\363\001\071\040\103\033\065\321  
\123\263\261\356\305\223\151\202\076\026\265\050\106\241\336\352  
\211\011\355\103\270\005\106\212\206\365\131\107\276\033\157\001  
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\150\157\167\246\056\201\276\007\115\157\257\316\304\105\023\221  
\024\160\006\217\037\237\370\207\151\261\016\357\303\211\031\353  
\352\034\141\374\172\154\212\334\326\003\013\236\046\272\022\335  
\324\124\071\253\046\243\063\352\165\201\332\055\315\017\117\344  
\003\321\357\025\227\033\153\220\305\002\220\223\146\002\041\261  
\107\336\213\232\112\200\271\125\217\265\242\057\300\326\063\147  
\332\176\304\247\264\004\104\353\107\373\346\130\271\367\014\360  
\173\053\261\300\160\051\303\100\142\055\073\110\151\334\043\074  
\110\353\173\011\171\251\155\332\250\060\230\317\200\162\003\210  
\246\133\106\256\162\171\174\010\003\041\145\256\267\341\034\245  
\261\052\242\061\336\146\004\367\300\164\350\161\336\377\075\131  
\314\226\046\022\213\205\225\127\032\253\153\165\013\104\075\021

\050\074\173\141\267\342\217\147\117\345\354\074\114\140\200\151  
\127\070\036\001\133\215\125\350\307\337\300\314\167\043\064\111  
\165\174\366\230\021\353\055\336\355\101\056\024\005\002\177\340  
\376\040\353\065\347\021\254\042\316\127\075\336\311\060\155\020  
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\117\225\367\366\055\255\001\071\007\004\372\165\200\175\277\111  
\120\355\357\311\304\174\034\353\200\176\333\266\320\335\023\376  
\311\323\234\327\262\227\251\002\003\001\000\001\243\102\060\100  
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\006\060\035\006\003\125\035\016\004\026\004\024\306\027\320\274  
\250\352\002\103\362\033\006\231\135\053\220\040\271\327\234\344  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003  
\202\002\001\000\064\141\331\126\265\022\207\125\115\335\243\065  
\061\106\273\244\007\162\274\137\141\142\350\245\373\013\067\261  
\074\266\263\372\051\235\177\002\365\244\311\250\223\267\172\161  
\050\151\217\163\341\122\220\332\325\276\072\345\267\166\152\126  
\200\041\337\135\346\351\072\236\345\076\366\242\151\307\052\012  
\260\030\107\334\040\160\175\122\243\076\131\174\301\272\311\310  
\025\100\141\312\162\326\160\254\322\267\360\034\344\206\051\360  
\316\357\150\143\320\265\040\212\025\141\232\176\206\230\264\311  
\302\166\373\314\272\060\026\314\243\141\306\164\023\345\153\357  
\243\025\352\003\376\023\213\144\344\323\301\322\350\204\373\111  
\321\020\115\171\146\353\252\375\364\215\061\036\160\024\255\334  
\336\147\023\114\201\025\141\274\267\331\221\167\161\031\201\140  
\273\360\130\245\265\234\013\367\217\042\125\047\300\113\001\155  
\073\231\015\324\035\233\143\147\057\320\356\015\312\146\274\224  
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\320\010\377\270\166\024\156\336\345\047\354\253\170\265\123\271  
\266\077\350\040\371\322\250\276\141\106\312\207\214\204\363\371  
\361\240\150\233\042\036\201\046\233\020\004\221\161\300\006\037  
\334\240\323\271\126\247\343\230\055\177\203\235\337\214\053\234  
\062\216\062\224\360\001\074\042\052\237\103\302\056\303\230\071  
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\360\301\121\022\300\013\036\004\043\014\124\245\114\057\111\305  
\112\321\266\156\140\015\153\374\153\213\205\044\144\267\211\016  
\253\045\107\133\074\317\176\111\275\307\351\012\306\332\367\176  
\016\027\010\323\110\227\320\161\222\360\017\071\076\064\152\034  
\175\330\362\042\256\273\151\364\063\264\246\110\125\321\017\016  
\046\350\354\266\013\055\247\205\065\315\375\131\310\237\321\315  
\076\132\051\064\271\075\204\316\261\145\324\131\221\221\126\165  
\041\301\167\236\371\172\341\140\235\323\255\004\030\364\174\353  
\136\223\217\123\112\042\051\370\110\053\076\115\206\254\133\177  
\313\006\231\131\140\330\130\145\225\215\104\321\367\177\176\047  
\177\175\256\200\365\007\114\266\076\234\161\124\231\004\113\375  
\130\371\230\364

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

```

CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "QuoVadis Root CA 3 G3"
Issuer: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM
Serial Number:2e:f5:9b:02:28:a7:db:7a:ff:d5:a3:a9:ee:bd:03:a0:cf:12:6a:1d
Subject: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM
Not Valid Before: Thu Jan 12 20:26:32 2012
Not Valid After : Sun Jan 12 20:26:32 2042
Fingerprint (SHA-256):
88:EF:81:DE:20:2E:B0:18:45:2E:43:F8:64:72:5C:EA:5F:BD:1F:C2:D9:D2:05:73:07:09:C5:D8:B8:69:0F:46
Fingerprint (SHA1): 48:12:BD:92:3C:A8:C4:39:06:E7:30:6D:27:96:E6:A4:CF:22:2E:7D
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 3 G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\110\022\275\222\074\250\304\071\006\347\060\155\047\226\346\244
\317\042\056\175
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\337\175\271\255\124\157\150\241\337\211\127\003\227\103\260\327
END
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\056\365\233\002\050\247\333\172\377\325\243\251\356\275
\003\240\317\022\152\035
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DigiCert Assured ID Root G2"
#
Issuer: CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
Serial Number:0b:93:1c:3a:d6:39:67:ea:67:23:bf:c3:af:9a:f4:4b
Subject:

```

```
CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
Not Valid Before: Thu Aug 01 12:00:00 2013
Not Valid After : Fri Jan 15 12:00:00 2038
Fingerprint (SHA-256):
7D:05:EB:B6:82:33:9F:8C:94:51:EE:09:4E:EB:FE:FA:79:53:A1:14:ED:B2:F4:49:49:45:2F:AB:7D:2F:C1:85
Fingerprint (SHA1): A1:4B:48:D9:43:EE:0A:0E:40:90:4F:3C:E0:A4:C0:91:93:51:5D:3F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Assured ID Root G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\062
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\013\223\034\072\326\071\147\352\147\043\277\303\257\232
\364\113
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\226\060\202\002\176\240\003\002\001\002\002\020\013
\223\034\072\326\071\147\352\147\043\277\303\257\232\364\113\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\145
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061
\044\060\042\006\003\125\004\003\023\033\104\151\147\151\103\145
\162\164\040\101\163\163\165\162\145\144\040\111\104\040\122\157
\157\164\040\107\062\060\036\027\015\061\063\060\070\060\061\061
\062\060\060\060\060\132\027\015\063\070\060\061\061\065\061\062
```

\060\060\060\060\132\060\145\061\013\060\011\006\003\125\004\006  
\023\002\125\123\061\025\060\023\006\003\125\004\012\023\014\104  
\151\147\151\103\145\162\164\040\111\156\143\061\031\060\027\006  
\003\125\004\013\023\020\167\167\167\056\144\151\147\151\143\145  
\162\164\056\143\157\155\061\044\060\042\006\003\125\004\003\023  
\033\104\151\147\151\103\145\162\164\040\101\163\163\165\162\145  
\144\040\111\104\040\122\157\157\164\040\107\062\060\202\001\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\001\017\000\060\202\001\012\002\202\001\001\000\331\347\050  
\057\122\077\066\162\111\210\223\064\363\370\152\036\061\124\200  
\237\255\124\101\265\107\337\226\250\324\257\200\055\271\012\317  
\165\375\211\245\175\044\372\343\042\014\053\274\225\027\013\063  
\277\031\115\101\006\220\000\275\014\115\020\376\007\265\347\034  
\156\042\125\061\145\227\275\323\027\322\036\142\363\333\352\154  
\120\214\077\204\014\226\317\267\313\003\340\312\155\241\024\114  
\033\211\335\355\000\260\122\174\257\221\154\261\070\023\321\351  
\022\010\300\000\260\034\053\021\332\167\160\066\233\256\316\171  
\207\334\202\160\346\011\164\160\125\151\257\243\150\237\277\335  
\266\171\263\362\235\160\051\125\364\253\377\225\141\363\311\100  
\157\035\321\276\223\273\323\210\052\273\235\277\162\132\126\161  
\073\077\324\363\321\012\376\050\357\243\356\331\231\257\003\323  
\217\140\267\362\222\241\261\275\211\211\037\060\315\303\246\056  
\142\063\256\026\002\167\104\132\347\201\012\074\247\104\056\171  
\270\077\004\274\134\240\207\341\033\257\121\216\315\354\054\372  
\370\376\155\360\072\174\252\213\344\147\225\061\215\002\003\001  
\000\001\243\102\060\100\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001  
\377\004\004\003\002\001\206\060\035\006\003\125\035\016\004\026  
\004\024\316\303\112\271\231\125\362\270\333\140\277\251\176\275  
\126\265\227\066\247\326\060\015\006\011\052\206\110\206\367\015  
\001\001\013\005\000\003\202\001\001\000\312\245\125\214\343\310  
\101\156\151\047\247\165\021\357\074\206\066\157\322\235\306\170  
\070\035\151\226\242\222\151\056\070\154\233\175\004\324\211\245  
\261\061\067\212\311\041\314\253\154\315\213\034\232\326\277\110  
\322\062\146\301\212\300\363\057\072\357\300\343\324\221\206\321  
\120\343\003\333\163\167\157\112\071\123\355\336\046\307\265\175  
\257\053\102\321\165\142\343\112\053\002\307\120\113\340\151\342  
\226\154\016\104\146\020\104\217\255\005\353\370\171\254\246\033  
\350\067\064\235\123\311\141\252\242\122\257\112\160\026\206\302  
\072\310\261\023\160\066\330\317\356\364\012\064\325\133\114\375  
\007\234\242\272\331\001\162\134\363\115\301\335\016\261\034\015  
\304\143\276\255\364\024\373\211\354\242\101\016\114\314\310\127  
\100\320\156\003\252\315\014\216\211\231\231\154\360\074\060\257  
\070\337\157\274\243\276\051\040\047\253\164\377\023\042\170\336  
\227\122\125\036\203\265\124\040\003\356\256\300\117\126\336\067  
\314\303\177\252\004\047\273\323\167\270\142\333\027\174\234\050  
\042\023\163\154\317\046\365\212\051\347

END

```

CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "DigiCert Assured ID Root G2"
Issuer: CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
Serial Number:0b:93:1c:3a:d6:39:67:ea:67:23:bf:c3:af:9a:f4:4b
Subject: CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
Not Valid Before: Thu Aug 01 12:00:00 2013
Not Valid After : Fri Jan 15 12:00:00 2038
Fingerprint (SHA-256):
7D:05:EB:B6:82:33:9F:8C:94:51:EE:09:4E:EB:FE:FA:79:53:A1:14:ED:B2:F4:49:49:45:2F:AB:7D:2F:C1:85
#
Fingerprint (SHA1): A1:4B:48:D9:43:EE:0A:0E:40:90:4F:3C:E0:A4:C0:91:93:51:5D:3F
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Assured ID Root G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\241\113\110\331\103\356\012\016\100\220\117\074\340\244\300\221
\223\121\135\077
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\222\070\271\370\143\044\202\145\054\127\063\346\376\201\217\235
END
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\013\223\034\072\326\071\147\352\147\043\277\303\257\232
\364\113
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DigiCert Assured ID Root G3"

```

```
#
Issuer: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
Serial Number:0b:a1:5a:fa:1d:df:a0:b5:49:44:af:cd:24:a0:6c:ec
Subject: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
Not Valid Before: Thu Aug 01 12:00:00 2013
Not Valid After : Fri Jan 15 12:00:00 2038
Fingerprint (SHA-256):
7E:37:CB:8B:4C:47:09:0C:AB:36:55:1B:A6:F4:5D:B8:40:68:0F:BA:16:6A:95:2D:B1:00:71:7F:43:05:3F:C2
Fingerprint (SHA1): F5:17:A2:4F:9A:48:C6:C9:F8:A2:00:26:9F:DC:0F:48:2C:AB:30:89
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL
UTF8 "DigiCert Assured ID Root G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\013\241\132\372\035\337\240\265\111\104\257\315\044\240
\154\354
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\106\060\202\001\315\240\003\002\001\002\002\020\013
\241\132\372\035\337\240\265\111\104\257\315\044\240\154\354\060
\012\006\010\052\206\110\316\075\004\003\003\060\145\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\025\060\023\006\003
\125\004\012\023\014\104\151\147\151\103\145\162\164\040\111\156
\143\061\031\060\027\006\003\125\004\013\023\020\167\167\167\056
\144\151\147\151\143\145\162\164\056\143\157\155\061\044\060\042
```



\006\003\125\004\003\023\033\104\151\147\151\103\145\162\164\040  
\101\163\163\165\162\145\144\040\111\104\040\122\157\157\164\040  
\107\063\060\036\027\015\061\063\060\070\060\061\061\062\060\060  
\060\060\132\027\015\063\070\060\061\061\065\061\062\060\060\060  
\060\132\060\145\061\013\060\011\006\003\125\004\006\023\002\125  
\123\061\025\060\023\006\003\125\004\012\023\014\104\151\147\151  
\103\145\162\164\040\111\156\143\061\031\060\027\006\003\125\004  
\013\023\020\167\167\167\056\144\151\147\151\143\145\162\164\056  
\143\157\155\061\044\060\042\006\003\125\004\003\023\033\104\151  
\147\151\103\145\162\164\040\101\163\163\165\162\145\144\040\111  
\104\040\122\157\157\164\040\107\063\060\166\060\020\006\007\052  
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000  
\004\031\347\274\254\104\145\355\315\270\077\130\373\215\261\127  
\251\104\055\005\025\362\357\013\377\020\164\237\265\142\122\137  
\146\176\037\345\334\033\105\171\013\314\306\123\012\235\215\135  
\002\331\251\131\336\002\132\366\225\052\016\215\070\112\212\111  
\306\274\306\003\070\007\137\125\332\176\011\156\342\177\136\320  
\105\040\017\131\166\020\326\240\044\360\055\336\066\362\154\051  
\071\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\206\060\035\006\003\125\035\016\004\026\004  
\024\313\320\275\251\341\230\005\121\241\115\067\242\203\171\316  
\215\035\052\344\204\060\012\006\010\052\206\110\316\075\004\003  
\003\003\147\000\060\144\002\060\045\244\201\105\002\153\022\113  
\165\164\117\310\043\343\160\362\165\162\336\174\211\360\317\221  
\162\141\236\136\020\222\131\126\271\203\307\020\347\070\351\130  
\046\066\175\325\344\064\206\071\002\060\174\066\123\360\060\345  
\142\143\072\231\342\266\243\073\233\064\372\036\332\020\222\161  
\136\221\023\247\335\244\156\222\314\062\326\365\041\146\307\057  
\352\226\143\152\145\105\222\225\001\264

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert Assured ID Root G3"

# Issuer: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:0b:a1:5a:fa:1d:df:a0:b5:49:44:af:cd:24:a0:6c:ec

# Subject: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Thu Aug 01 12:00:00 2013

# Not Valid After : Fri

Jan 15 12:00:00 2038

# Fingerprint (SHA-256):

7E:37:CB:8B:4C:47:09:0C:AB:36:55:1B:A6:F4:5D:B8:40:68:0F:BA:16:6A:95:2D:B1:00:71:7F:43:05:3F:C2

# Fingerprint (SHA1): F5:17:A2:4F:9A:48:C6:C9:F8:A2:00:26:9F:DC:0F:48:2C:AB:30:89

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Assured ID Root G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\365\027\242\117\232\110\306\311\370\242\000\046\237\334\017\110
\054\253\060\211
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\174\177\145\061\014\201\337\215\272\076\231\342\134\255\156\373
END
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\013\241\132\372\035\337\240\265\111\104\257\315\044\240
\154\354
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DigiCert Global Root G2"
#
Issuer: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
Serial Number:03:3a:f1:e6:a7:11:a9:a0:bb:28:64:b1:1d:09:fa:e5
Subject: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
Not Valid Before: Thu Aug 01 12:00:00 2013
Not Valid After : Fri Jan 15 12:00:00 2038
Fingerprint (SHA-256):
CB:3C:CB:B7:60:31:E5:E0:13:8F:8D:D3:9A:23:F9:DE:47:FF:C3:5E:43:C1:14:4C:EA:27:D4:6A:5A:B1:CB:5F
Fingerprint (SHA1): DF:3C:24:F9:BF:D6:66:76:1B:26:80:73:FE:06:D1:CC:8D:4F:82:A4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN
CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Global Root G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL

```

\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145  
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151  
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164  
\040\107\062

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145  
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151  
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164  
\040\107\062

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\003\072\361\346\247\021\251\240\273\050\144\261\035\011  
\372\345

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\216\060\202\002\166\240\003\002\001\002\002\020\003  
\072\361\346\247\021\251\240\273\050\144\261\035\011\372\345\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\141  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060  
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164  
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167  
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061  
\040\060\036\006\003\125\004\003\023\027\104\151\147\151\103\145  
\162\164\040\107\154\157\142\141\154\040\122\157\157\164\040\107  
\062\060\036\027\015\061\063\060\070\060\061\061\062\060\060\060  
\060\132\027\015\063\070\060\061\061\065\061\062\060\060\060\060  
\132\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103  
\145\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013  
\023\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143  
\157\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147  
\151\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157  
\164\040\107\062\060\202\001\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012  
\002\202\001\001\000\273\067\315\064\334\173\153\311\262\150\220  
\255\112\165\377\106\272\041\012\010\215\365\031\124\311\373\210  
\333\363\256\362\072\211\221\074\172\346\253\006\032\153\317\254  
\055\350\136\011\044\104\272\142\232\176\326\243\250\176\340\124  
\165\040\005\254\120\267\234\143\032\154\060\334\332\037\031\261

\327\036\336\375\327\340\313\224\203\067\256\354\037\103\116\335  
\173\054\322\275\056\245\057\344\251\270\255\072\324\231\244\266  
\045\351\233\153\000\140\222\140\377\117\041\111\030\367\147\220  
\253\141\006\234\217\362\272\351\264\351\222\062\153\265\363\127  
\350\135\033\315\214\035\253\225\004\225\111\363\065\055\226\343  
\111\155\335\167\343\373\111\113\264\254\125\007\251\217\225\263  
\264\043\273\114\155\105\360\366\251\262\225\060\264\375\114\125  
\214\047\112\127\024\174\202\235\315\163\222\323\026\112\006\014  
\214\120\321\217\036\011\276\027\241\346\041\312\375\203\345\020  
\274\203\245\012\304\147\050\366\163\024\024\075\106\166\303\207  
\024\211\041\064\115\257\017\105\014\246\111\241\272\273\234\305  
\261\063\203\051\205\002\003\001\000\001\243\102\060\100\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060  
\035\006\003\125\035\016\004\026\004\024\116\042\124\040\030\225  
\346\343\156\346\017\372\372\271\022\355\006\027\217\071\060\015  
\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001  
\001\000\140\147\050\224\157\016\110\143\353\061\335\352\147\030  
\325\211\175\074\305\213\112\177\351\276\333\053\027\337\260\137  
\163\167\052\062\023\071\201\147\102\204\043\362\105\147\065\354  
\210\277\370\217\260\141\014\064\244\256\040\114\204\306\333\370  
\065\341\166\331\337\246\102\273\307\104\010\206\177\066\164\044  
\132\332\154\015\024\131\065\275\362\111\335\266\037\311\263\015  
\107\052\075\231\057\273\134\273\265\324\040\341\231\137\123\106  
\025\333\150\233\360\363\060\325\076\061\342\215\204\236\343\212  
\332\332\226\076\065\023\245\137\360\371\160\120\160\107\101\021  
\127\031\116\300\217\256\006\304\225\023\027\057\033\045\237\165  
\362\261\216\231\241\157\023\261\101\161\376\210\052\310\117\020  
\040\125\327\363\024\105\345\340\104\364\352\207\225\062\223\016  
\376\123\106\372\054\235\377\213\042\271\113\331\011\105\244\336  
\244\270\232\130\335\033\175\122\237\216\131\103\210\201\244\236  
\046\325\157\255\335\015\306\067\175\355\003\222\033\345\167\137  
\166\356\074\215\304\135\126\133\242\331\146\156\263\065\067\345  
\062\266

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert Global Root G2"

# Issuer: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:03:3a:f1:e6:a7:11:a9:a0:bb:28:64:b1:1d:09:fa:e5

# Subject: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Thu Aug 01 12:00:00 2013

# Not Valid After : Fri Jan 15 12:00:00 2038

# Fingerprint (SHA-256):

```

CB:3C:CB:B7:60:31:E5:E0:13:8F:8D:D3:9A:23:F9:DE:47:FF:C3:5E:43:C1:14:4C:EA:27:D4:6A:5A:B1:CB:5F
Fingerprint (SHA1): DF:3C:24:F9:BF:D6:66:76:1B:26:80:73:FE:06:D1:CC:8D:4F:82:A4
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Global Root G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\337\074\044\371\277\326\146\166\033\046\200\163\376\006\321\314
\215\117\202\244
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\344\246\212\310\124\254\122\102\106\012\375\162\110\033\052\104
END
CKA_ISSUER
MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\003\072\361\346\247\021\251\240\273\050\144\261\035\011
\372\345
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DigiCert Global Root G3"
#
Issuer: CN=DigiCert Global Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
Serial Number:05:55:56:bc:f2:5e:a4:35:35:c3:a4:0f:d5:ab:45:72
Subject: CN=DigiCert Global
Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
Not Valid Before: Thu Aug 01 12:00:00 2013
Not Valid After : Fri Jan 15 12:00:00 2038
Fingerprint (SHA-256):
31:AD:66:48:F8:10:41:38:C7:38:F3:9E:A4:32:01:33:39:3E:3A:18:CC:02:29:6E:F9:7C:2A:C9:EF:67:31:D0
Fingerprint (SHA1): 7E:04:DE:89:6A:3E:66:6D:00:E6:87:D3:3F:FA:D9:3B:E8:3D:34:9E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE

```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Global Root G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\063
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\005\125\126\274\362\136\244\065\065\303\244\017\325\253
\105\162
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\077\060\202\001\305\240\003\002\001\002\002\020\005
\125\126\274\362\136\244\065\065\303\244\017\325\253\105\162\060
\012\006\010\052\206\110\316\075\004\003\003\060\141\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\025\060\023\006\003
\125\004\012\023\014\104\151\147\151\103\145\162\164\040\111\156
\143\061\031\060\027\006\003\125\004\013\023\020\167\167\167\056
\144\151\147\151\143\145\162\164\056\143\157\155\061\040\060\036
\006\003\125\004\003\023\027\104\151\147\151\103\145\162\164\040
\107\154\157\142\141\154\040\122\157\157\164\040\107\063\060\036
\027\015\061\063\060\070\060\061\061\062\060\060\060\060\132\027
\015\063\070\060\061\061\065\061\062\060\060\060\060\132\060\141
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061
\040\060\036\006\003\125\004\003\023\027\104\151\147\151\103\145
\162\164\040\107\154\157\142\141\154\040\122\157\157\164\040\107
\063\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005
\053\201\004\000\042\003\142\000\004\335\247\331\273\212\270\013
\373\013\177\041\322\360\276\276\163\363\063\135\032\274\064\352
```

```
\336\306\233\274\320\225\366\360\314\320\013\272\141\133\121\106
\176\236\055\237\356\216\143\014\027\354\007\160\365\317\204\056
\100\203\234\350\077\101\155\073\255\323\244\024\131\066\170\235
\003\103\356\020\023\154\162\336\256\210\247\241\153\265\103\316
\147\334\043\377\003\034\243\342\076\243\102\060\100\060\017\006
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060\035
\006\003\125\035\016\004\026\004\024\263\333\110\244\371\241\305
\330\256\066\101\314\021\143\151\142\051\274\113\306\060\012\006
\010\052\206\110\316\075\004\003\003\003\150\000\060\145\002\061
\000\255\274\362\154\077\022\112\321\055\071\303\012\011\227\163
\364\210\066\214\210\047\273\346\210\215\120\205\247\143\371\236
\062\336\146\223\017\361\314\261\011\217\335\154\253\372\153\177
\240\002\060\071\146\133\302\144\215\270\236\120\334\250\325\111
\242\355\307\334\321\111\177\027\001\270\310\206\217\116\214\210
\053\250\232\251\212\305\321\000\275\370\124\342\232\345\133\174
\263\047\027
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert Global Root G3"

# Issuer: CN=DigiCert Global Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:05:55:56:bc:f2:5e:a4:35:35:c3:a4:0f:d5:ab:45:72

# Subject: CN=DigiCert Global Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Thu Aug 01 12:00:00 2013

# Not Valid After : Fri Jan 15 12:00:00 2038

# Fingerprint (SHA-256):

31:AD:66:48:F8:10:41:38:C7:38:F3:9E:A4:32:01:33:39:3E:3A:18:CC:02:29:6E:F9:7C:2A:C9:EF:67:31:D0

# Fingerprint (SHA1): 7E:04:DE:89:6A:3E:66:6D:00:E6:87:D3:3F:FA:D9:3B:E8:3D:34:9E

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert Global Root G3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\176\004\336\211\152\076\146\155\000\346\207\323\077\372\331\073
\350\075\064\236
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\365\135\244\120\245\373\050\176\036\017\015\314\226\127\126\312
```

END

CKA\_ISSUER

MULTILINE\_OCTAL

```
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
```

```
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\063
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\005\125\126\274\362\136\244\065\065\303\244\017\325\253
\105\162
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "DigiCert Trusted Root G4"

#

# Issuer: CN=DigiCert Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:05:9b:1b:57:9e:8e:21:32:e2:39:07:bd:a7:77:75:5c

# Subject: CN=DigiCert

Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Thu Aug 01 12:00:00 2013

# Not Valid After : Fri Jan 15 12:00:00 2038

# Fingerprint (SHA-256):

55:2F:7B:DC:F1:A7:AF:9E:6C:E6:72:01:7F:4F:12:AB:F7:72:40:C7:8E:76:1A:C2:03:D1:D9:D2:0A:C8:99:88

# Fingerprint (SHA1): DD:FB:16:CD:49:31:C9:73:A2:03:7D:3F:C8:3A:4D:7D:77:5D:05:E4

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert Trusted Root G4"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\142\061\013\060\011\006\003\125\004\006\023\002\125\123\061
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\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
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END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
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CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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CKA\_VALUE MULTILINE\_OCTAL

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END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert Trusted Root G4"

# Issuer: CN=DigiCert Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:05:9b:1b:57:9e:8e:21:32:e2:39:07:bd:a7:77:75:5c

# Subject: CN=DigiCert Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Thu Aug 01 12:00:00 2013

# Not Valid After : Fri Jan 15 12:00:00 2038

# Fingerprint (SHA-256):

55:2F:7B:DC:F1:A7:AF:9E:6C:E6:72:01:7F:4F:12:AB:F7:72:40:C7:8E:76:1A:C2:03:D1:D9:D2:0A:C8:99:88

#

Fingerprint (SHA1): DD:FB:16:CD:49:31:C9:73:A2:03:7D:3F:C8:3A:4D:7D:77:5D:05:E4

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert Trusted Root G4"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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\335\373\026\315\111\061\311\163\242\003\175\077\310\072\115\175
\167\135\005\344
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END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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END

CKA\_ISSUER MULTILINE\_OCTAL

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\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\041\060\037\006\003\125\004\003\023\030\104\151\147\151
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END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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\165\134
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END

CKA\_TRUST\_SERVER\_AUTH

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CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "COMODO RSA Certification Authority"
#
Issuer: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
Serial Number:4c:aa:f9:ca:db:63:6f:e0:1f:f7:4e:d8:5b:03:86:9d
Subject: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
Not Valid Before: Tue Jan 19 00:00:00 2010
Not Valid After : Mon Jan 18 23:59:59 2038
Fingerprint (SHA-256):
52:F0:E1:C4:E5:8E:C6:29:29:1B:60:31:7F:07:46:71:B8:5D:7E:A8:0D:5B:07:27:34:63:53:4B:32:B4:02:34
Fingerprint (SHA1): AF:E5:D2:44:A8:D1:19:42:30:FF:47:9F:E2:F8:97:BB:CD:7A:8C:B4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE
CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "COMODO RSA Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
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END

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CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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END

CKA\_VALUE MULTILINE\_OCTAL

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\023\055\254\126\242\260\326\176\021\222\351\056\272\236\056\232  
\162\261\275\031\104\154\141\065\242\232\264\026\022\151\132\214  
\341\327\076\244\032\350\057\003\364\256\141\035\020\033\052\244  
\213\172\305\376\005\246\341\300\326\310\376\236\256\217\053\272  
\075\231\370\330\163\011\130\106\156\246\234\364\327\047\323\225  
\332\067\203\162\034\323\163\340\242\107\231\003\070\135\325\111  
\171\000\051\034\307\354\233\040\034\007\044\151\127\170\262\071  
\374\072\204\240\265\234\174\215\277\056\223\142\047\267\071\332  
\027\030\256\275\074\011\150\377\204\233\074\325\326\013\003\343  
\127\236\024\367\321\353\117\310\275\207\043\267\266\111\103\171  
\205\134\272\353\222\013\241\306\350\150\250\114\026\261\032\231  
\012\350\123\054\222\273\241\011\030\165\014\145\250\173\313\043  
\267\032\302\050\205\303\033\377\320\053\142\357\244\173\011\221  
\230\147\214\024\001\315\150\006\152\143\041\165\003\200\210\212  
\156\201\306\205\362\251\244\055\347\364\245\044\020\107\203\312  
\315\364\215\171\130\261\006\233\347\032\052\331\235\001\327\224  
\175\355\003\112\312\360\333\350\251\001\076\365\126\231\311\036  
\216\111\075\273\345\011\271\340\117\111\222\075\026\202\100\314  
\314\131\306\346\072\355\022\056\151\074\154\225\261\375\252\035  
\173\177\206\276\036\016\062\106\373\373\023\217\165\177\114\213  
\113\106\143\376\000\064\100\160\301\303\271\241\335\246\160\342  
\004\263\101\274\351\200\221\352\144\234\172\341\042\003\251\234  
\156\157\016\145\117\154\207\207\136\363\156\240\371\165\245\233  
\100\350\123\262\047\235\112\271\300\167\041\215\377\207\362\336  
\274\214\357\027\337\267\111\013\321\362\156\060\013\032\016\116  
\166\355\021\374\365\351\126\262\175\277\307\155\012\223\214\245

```
\320\300\266\035\276\072\116\224\242\327\156\154\013\302\212\174
\372\040\363\304\344\345\315\015\250\313\221\222\261\174\205\354
\265\024\151\146\016\202\347\315\316\310\055\246\121\177\041\301
\065\123\205\006\112\135\237\255\273\033\137\164
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "COMODO RSA Certification Authority"

# Issuer: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater Manchester,C=GB

# Serial Number:4c:aa:f9:ca:db:63:6f:e0:1f:f7:4e:d8:5b:03:86:9d

# Subject: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater Manchester,C=GB

# Not Valid Before: Tue Jan 19 00:00:00 2010

# Not Valid After : Mon Jan 18 23:59:59 2038

# Fingerprint (SHA-256):

52:F0:E1:C4:E5:8E:C6:29:29:1B:60:31:7F:07:46:71:B8:5D:7E:A8:0D:5B:07:27:34:63:53:4B:32:B4:02:34

# Fingerprint (SHA1): AF:E5:D2:44:A8:D1:19:42:30:FF:47:9F:E2:F8:97:BB:CD:7A:8C:B4

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "COMODO RSA Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\257\345\322\104\250\321\031\102\060\377\107\237\342\370\227\273
\315\172\214\264
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\033\061\260\161\100\066\314\024\066\221\255\304\076\375\354\030
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\122\123\101
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\020\114\252\371\312\333\143\157\340\037\367\116\330\133\003
\206\235
```

```

END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "USERTrust RSA Certification Authority"
#
Issuer: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
Serial Number:01:fd:6d:30:fc:a3:ca:51:a8:1b:bc:64:0e:35:03:2d
Subject: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
Not Valid Before: Mon
Feb 01 00:00:00 2010
Not Valid After : Mon Jan 18 23:59:59 2038
Fingerprint (SHA-256):
E7:93:C9:B0:2F:D8:AA:13:E2:1C:31:22:8A:CC:B0:81:19:64:3B:74:9C:89:89:64:B1:74:6D:46:C3:D4:CB:D2
Fingerprint (SHA1): 2B:8F:1B:57:33:0D:BB:A2:D0:7A:6C:51:F7:0E:E9:0D:DA:B9:AD:8E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "USERTrust RSA Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\122\123\101\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\122\123\101\040\103\145\162\164\151\146\151\143\141\164\151\157

```



\156\040\101\165\164\150\157\162\151\164\171  
END  
CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\020\001\375\155\060\374\243\312\121\250\033\274\144\016\065  
\003\055  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\005\336\060\202\003\306\240\003\002\001\002\002\020\001  
\375\155\060\374\243\312\121\250\033\274\144\016\065\003\055\060  
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\201  
\210\061\013\060\011\006\003\125\004\006\023\002\125\123\061\023  
\060\021\006\003\125\004\010\023\012\116\145\167\040\112\145\162  
\163\145\171\061\024\060\022\006\003\125\004\007\023\013\112\145  
\162\163\145\171\040\103\151\164\171\061\036\060\034\006\003\125  
\004\012\023\025\124\150\145\040\125\123\105\122\124\122\125\123  
\124\040\116\145\164\167\157\162\153\061\056\060\054\006\003\125  
\004\003\023\045\125\123\105\122\124\162\165\163\164\040\122\123  
\101\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040  
\101\165\164\150\157\162\151\164\171\060\036\027\015\061\060\060  
\062\060\061\060\060\060\060\060\060\132\027\015\063\070\060\061  
\061\070\062\063\065\071\065\071\132\060\201\210\061\013\060\011  
\006\003\125\004\006\023\002\125\123\061\023\060\021\006\003\125  
\004\010\023\012\116\145\167\040\112\145\162\163\145\171\061\024  
\060\022\006\003\125\004\007\023\013\112\145\162\163\145\171\040  
\103\151\164\171\061\036\060\034\006\003\125\004\012\023\025\124  
\150\145\040\125\123\105\122\124\122\125\123\124\040\116\145\164  
\167\157\162\153\061\056\060\054\006\003\125\004\003\023\045\125  
\123\105\122\124\162\165\163\164\040\122\123\101\040\103\145\162  
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157  
\162\151\164\171\060\202\002\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012  
\002\202\002\001\000\200\022\145\027\066\016\303\333\010\263\320  
\254\127\015\166\355\315\047\323\114\255\120\203\141\342\252\040  
\115\011\055\144\011\334\316\211\237\314\075\251\354\366\317\301  
\334\361\323\261\326\173\067\050\021\053\107\332\071\306\274\072  
\031\264\137\246\275\175\235\243\143\102\266\166\362\251\073\053  
\221\370\342\157\320\354\026\040\220\011\076\342\350\164\311\030  
\264\221\324\142\144\333\177\243\006\361\210\030\152\220\042\074  
\274\376\023\360\207\024\173\366\344\037\216\324\344\121\306\021  
\147\106\010\121\313\206\024\124\077\274\063\376\176\154\234\377  
\026\235\030\275\121\216\065\246\247\146\310\162\147\333\041\146  
\261\324\233\170\003\300\120\072\350\314\360\334\274\236\114\376  
\257\005\226\065\037\127\132\267\377\316\371\075\267\054\266\366  
\124\335\310\347\022\072\115\256\114\212\267\134\232\264\267\040  
\075\312\177\042\064\256\176\073\150\146\001\104\347\001\116\106  
\123\233\063\140\367\224\276\123\067\220\163\103\363\062\303\123  
\357\333\252\376\164\116\151\307\153\214\140\223\336\304\307\014  
\337\341\062\256\314\223\073\121\170\225\147\213\356\075\126\376

\014\320\151\017\033\017\363\045\046\153\063\155\367\156\107\372  
\163\103\345\176\016\245\146\261\051\174\062\204\143\125\211\304  
\015\301\223\124\060\031\023\254\323\175\067\247\353\135\072\154  
\065\134\333\101\327\022\332\251\111\013\337\330\200\212\011\223  
\142\216\265\146\317\045\210\315\204\270\261\077\244\071\017\331  
\002\236\353\022\114\225\174\363\153\005\251\136\026\203\314\270  
\147\342\350\023\235\314\133\202\323\114\263\355\133\377\336\345  
\163\254\043\073\055\000\277\065\125\164\011\111\330\111\130\032  
\177\222\066\346\121\222\016\363\046\175\034\115\027\274\311\354  
\103\046\320\277\101\137\100\251\104\104\364\231\347\127\207\236  
\120\037\127\124\250\076\375\164\143\057\261\120\145\011\346\130  
\102\056\103\032\114\264\360\045\107\131\372\004\036\223\324\046  
\106\112\120\201\262\336\276\170\267\374\147\025\341\311\127\204  
\036\017\143\326\351\142\272\326\137\125\056\352\134\306\050\010  
\004\045\071\270\016\053\251\362\114\227\034\007\077\015\122\365  
\355\357\057\202\017\002\003\001\000\001\243\102\060\100\060\035  
\006\003\125\035\016\004\026\004\024\123\171\277\132\252\053\112  
\317\124\200\341\330\233\300\235\362\262\003\146\313\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006  
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\015  
\006\011\052\206\110\206\367\015\001\001\014\005\000\003\202\002  
\001\000\134\324\174\015\317\367\001\175\101\231\145\014\163\305  
\122\237\313\370\317\231\006\177\033\332\103\025\237\236\002\125  
\127\226\024\361\122\074\047\207\224\050\355\037\072\001\067\242  
\166\374\123\120\300\204\233\306\153\116\272\214\041\117\242\216  
\125\142\221\363\151\025\330\274\210\343\304\252\013\375\357\250  
\351\113\125\052\006\040\155\125\170\051\031\356\137\060\134\113  
\044\021\125\377\044\232\156\136\052\053\356\013\115\237\177\367  
\001\070\224\024\225\103\007\011\373\140\251\356\034\253\022\214  
\240\232\136\247\230\152\131\155\213\077\010\373\310\321\105\257  
\030\025\144\220\022\017\163\050\056\305\342\044\116\374\130\354  
\360\364\105\376\042\263\353\057\216\322\331\105\141\005\301\227  
\157\250\166\162\217\213\214\066\257\277\015\005\316\161\215\346  
\246\157\037\154\246\161\142\305\330\320\203\162\014\361\147\021  
\211\014\234\023\114\162\064\337\274\325\161\337\252\161\335\341  
\271\154\214\074\022\135\145\332\275\127\022\266\103\153\377\345  
\336\115\146\021\121\317\231\256\354\027\266\350\161\221\214\336  
\111\376\335\065\161\242\025\047\224\034\317\141\343\046\273\157  
\243\147\045\041\135\346\335\035\013\056\150\033\073\202\257\354  
\203\147\205\324\230\121\164\261\271\231\200\211\377\177\170\031  
\134\171\112\140\056\222\100\256\114\067\052\054\311\307\142\310  
\016\135\367\066\133\312\340\045\045\001\264\335\032\007\234\167  
\000\077\320\334\325\354\075\324\372\273\077\314\205\326\157\177  
\251\055\337\271\002\367\365\227\232\265\065\332\303\147\260\207  
\112\251\050\236\043\216\377\134\047\153\341\260\117\363\007\356  
\000\056\324\131\207\313\122\101\225\352\364\107\327\356\144\101  
\125\174\215\131\002\225\335\142\235\302\271\356\132\050\164\204  
\245\233\267\220\307\014\007\337\365\211\066\164\062\326\050\301

```
\260\260\013\340\234\114\303\034\326\374\343\151\265\107\106\201
\057\242\202\253\323\143\104\160\304\215\377\055\063\272\255\217
\173\265\160\210\256\076\031\317\100\050\330\374\310\220\273\135
\231\042\365\122\346\130\305\037\210\061\103\356\210\035\327\306
\216\074\103\152\035\247\030\336\175\075\026\361\142\371\312\220
\250\375
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "USERTrust RSA Certification Authority"

# Issuer: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New Jersey,C=US

# Serial Number:01:fd:6d:30:fc:a3:ca:51:a8:1b:bc:64:0e:35:03:2d

# Subject: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New Jersey,C=US

# Not Valid Before: Mon Feb 01 00:00:00 2010

# Not Valid After : Mon Jan 18 23:59:59 2038

# Fingerprint (SHA-256):

E7:93:C9:B0:2F:D8:AA:13:E2:1C:31:22:8A:CC:B0:81:19:64:3B:74:9C:89:89:64:B1:74:6D:46:C3:D4:CB:D2

# Fingerprint (SHA1): 2B:8F:1B:57:33:0D:BB:A2:D0:7A:6C:51:F7:0E:E9:0D:DA:B9:AD:8E

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "USERTrust RSA Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\053\217\033\127\063\015\273\242\320\172\154\121\367\016\351\015
\332\271\255\216
```

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

```
\033\376\151\321\221\267\031\063\243\162\250\017\341\125\345\265
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\122\123\101\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\001\375\155\060\374\243\312\121\250\033\274\144\016\065
\003\055
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING
CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "USERTrust ECC Certification Authority"
#
Issuer: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
Serial Number:5c:8b:99:c5:5a:94:c5:d2:71:56:de:cd:89:80:cc:26
Subject: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
Not Valid Before: Mon Feb 01 00:00:00 2010
Not Valid After : Mon Jan 18 23:59:59 2038
Fingerprint (SHA-256):
4F:F4:60:D5:4B:9C:86:DA:BF:BC:FC:57:12:E0:40:0D:2B:ED:3F:BC:4D:4F:BD:AA:86:E0:6A:DC:D2:A9:AD:7A
Fingerprint (SHA1): D1:CB:CA:5D:B2:D5:2A:7F:69:3B:67:4D:E5:F0:5A:1D:0C:95:7D:F0
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "USERTrust ECC Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
```

```
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\134\213\231\305\132\224\305\322\161\126\336\315\211\200
\314\046
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\217\060\202\002\025\240\003\002\001\002\002\020\134
\213\231\305\132\224\305\322\161\126\336\315\211\200\314\046\060
\012\006\010\052\206\110\316\075\004\003\003\060\201\210\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\023\060\021\006
\003\125\004\010\023\012\116\145\167\040\112\145\162\163\145\171
\061\024\060\022\006\003\125\004\007\023\013\112\145\162\163\145
\171\040\103\151\164\171\061\036\060\034\006\003\125\004\012\023
\025\124\150\145\040\125\123\105\122\124\122\125\123\124\040\116
\145\164\167\157\162\153\061\056\060\054\006\003\125\004\003\023
\045\125\123\105\122\124\162\165\163\164\040\105\103\103\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\060\036\027\015\061\060\060\062\060\061
\060\060\060\060\060\060\132\027\015\063\070\060\061\061\070\062
\063\065\071\065\071\132\060\201\210\061\013\060\011\006\003\125
\004\006\023\002\125\123\061\023\060\021\006\003\125\004\010\023
\012\116\145\167\040\112\145\162\163\145\171\061\024\060\022\006
\003\125\004\007\023\013\112\145\162\163\145\171\040\103\151\164
\171\061\036\060\034\006\003\125\004\012\023\025\124\150\145\040
\125\123\105\122\124\122\125\123\124\040\116\145\164\167\157\162
\153\061\056\060\054\006\003\125\004\003\023\045\125\123\105\122
\124\162\165\163\164\040\105\103\103\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005
\053\201\004\000\042\003\142\000\004\032\254\124\132\251\371\150
\043\347\172\325\044\157\123\306\132\330\113\253\306\325\266\321
\346\163\161\256\335\234\326\014\141\375\333\240\211\003\270\005
\024\354\127\316\356\135\077\342\041\263\316\367\324\212\171\340
\243\203\176\055\227\320\141\304\361\231\334\045\221\143\253\177
\060\243\264\160\342\307\241\063\234\363\277\056\134\123\261\137
\263\175\062\177\212\064\343\171\171\243\102\060\100\060\035\006
\003\125\035\016\004\026\004\024\072\341\011\206\324\317\031\302
\226\166\164\111\166\334\340\065\306\143\143\232\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\012\006
\010\052\206\110\316\075\004\003\003\003\150\000\060\145\002\060
\066\147\241\026\010\334\344\227\000\101\035\116\276\341\143\001
\317\073\252\102\021\144\240\235\224\071\002\021\171\134\173\035
\372\144\271\356\026\102\263\277\212\302\011\304\354\344\261\115
```

```
\002\061\000\351\052\141\107\214\122\112\113\116\030\160\366\326
\104\326\156\365\203\272\155\130\275\044\331\126\110\352\357\304
\242\106\201\210\152\072\106\321\251\233\115\311\141\332\321\135
\127\152\030
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "USERTrust ECC Certification Authority"

# Issuer: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New Jersey,C=US

# Serial Number:5c:8b:99:c5:5a:94:c5:d2:71:56:de:cd:89:80:cc:26

# Subject: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New Jersey,C=US

# Not Valid Before: Mon Feb 01 00:00:00 2010

# Not Valid After : Mon Jan 18 23:59:59 2038

# Fingerprint (SHA-256):

4F:F4:60:D5:4B:9C:86:DA:BF:BC:FC:57:12:E0:40:0D:2B:ED:3F:BC:4D:4F:BD:AA:86:E0:6A:DC:D2:A9:AD:7A

# Fingerprint (SHA1): D1:CB:CA:5D:B2:D5:2A:7F:69:3B:67:4D:E5:F0:5A:1D:0C:95:7D:F0

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "USERTrust ECC Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\321\313\312\135\262\325\052\177\151\073\147\115\345\360\132\035
\014\225\175\360
```

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

```
\372\150\274\331\265\177\255\375\311\035\006\203\050\314\044\301
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\134\213\231\305\132\224\305\322\161\126\336\315\211\200
\314\046
```

```

END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING
CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GlobalSign ECC Root CA - R5"
#
Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5
Serial Number:60:59:49:e0:26:2e:bb:55:f9:0a:77:8a:71:f9:4a:d8:6c
Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5
Not Valid Before: Tue Nov 13 00:00:00 2012
Not Valid After : Tue Jan 19 03:14:07 2038
Fingerprint (SHA-256):
17:9F:BC:14:8A:3D:D0:0F:D2:4E:A1:34:58:CC:43:BF:A7:F5:9C:81:82:D7:83:A5:13:F6:EB:EC:10:0C:89:24
Fingerprint (SHA1): 1F:24:C6:30:CD:A4:18:EF:20:69:FF:AD:4F:DD:5F:46:3A:1B:69:AA
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign ECC Root CA - R5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\065\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\065\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\140\131\111\340\046\056\273\125\371\012\167\212\161\371
\112\330\154
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\036\060\202\001\244\240\003\002\001\002\002\021\140

```

\131\111\340\046\056\273\125\371\012\167\212\161\371\112\330\154  
\060\012\006\010\052\206\110\316\075\004\003\003\060\120\061\044  
\060\042\006\003\125\004\013\023\033\107\154\157\142\141\154\123  
\151\147\156\040\105\103\103\040\122\157\157\164\040\103\101\040  
\055\040\122\065\061\023\060\021\006\003\125\004\012\023\012\107  
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125  
\004\003\023\012\107\154\157\142\141\154\123\151\147\156\060\036  
\027\015\061\062\061\061\061\063\060\060\060\060\060\060\132\027  
\015\063\070\060\061\061\071\060\063\061\064\060\067\132\060\120  
\061\044\060\042\006\003\125\004\013\023\033\107\154\157\142\141  
\154\123\151\147\156\040\105\103\103\040\122\157\157\164\040\103  
\101\040\055\040\122\065\061\023\060\021\006\003\125\004\012\023  
\012\107\154\157\142\141\154\123\151\147\156\061\023\060\021\006  
\003\125\004\003\023\012\107\154\157\142\141\154\123\151\147\156  
\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053  
\201\004\000\042\003\142\000\004\107\105\016\226\373\175\135\277  
\351\071\321\041\370\237\013\266\325\173\036\222\072\110\131\034  
\360\142\061\055\300\172\050\376\032\247\134\263\266\314\227\347  
\105\324\130\372\321\167\155\103\242\300\207\145\064\012\037\172  
\335\353\074\063\241\305\235\115\244\157\101\225\070\177\311\036  
\204\353\321\236\111\222\207\224\207\014\072\205\112\146\237\235  
\131\223\115\227\141\006\206\112\243\102\060\100\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006  
\003\125\035\016\004\026\004\024\075\346\051\110\233\352\007\312  
\041\104\112\046\336\156\336\322\203\320\237\131\060\012\006\010  
\052\206\110\316\075\004\003\003\003\150\000\060\145\002\061\000  
\345\151\022\311\156\333\306\061\272\011\101\341\227\370\373\375  
\232\342\175\022\311\355\174\144\323\313\005\045\213\126\331\240  
\347\136\135\116\013\203\234\133\166\051\240\011\046\041\152\142  
\002\060\161\322\265\217\134\352\073\341\170\011\205\250\165\222  
\073\310\134\375\110\357\015\164\042\250\010\342\156\305\111\316  
\307\014\274\247\141\151\361\367\073\341\052\313\371\053\363\146  
\220\067

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign ECC Root CA - R5"

# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5

# Serial Number:60:59:49:e0:26:2e:bb:55:f9:0a:77:8a:71:f9:4a:d8:6c

# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5

# Not Valid Before: Tue Nov 13 00:00:00 2012

# Not Valid After : Tue Jan 19 03:14:07 2038

# Fingerprint (SHA-256):

17:9F:BC:14:8A:3D:D0:0F:D2:4E:A1:34:58:CC:43:BF:A7:F5:9C:81:82:D7:83:A5:13:F6:EB:EC:10:0C:89:24



```

Fingerprint (SHA1): 1F:24:C6:30:CD:A4:18:EF:20:69:FF:AD:4F:DD:5F:46:3A:1B:69:AA
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign ECC Root CA - R5"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\037\044\306\060\315\244\030\357\040\151\377\255\117\335\137\106
\072\033\151\252
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\237\255\073\034\002\036\212\272\027\164\070\201\014\242\274\010
END
CKA_ISSUER
MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\065\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\140\131\111\340\046\056\273\125\371\012\167\212\161\371
\112\330\154
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Staat der Nederlanden Root CA - G3"
#
Issuer: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL
Serial Number: 10003001 (0x98a239)
Subject: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL
#
Not Valid Before: Thu Nov 14 11:28:42 2013
Not Valid After : Mon Nov 13 23:00:00 2028
Fingerprint (SHA-256):
3C:4F:B0:B9:5A:B8:B3:00:32:F4:32:B8:6F:53:5F:E1:72:C1:85:D0:FD:39:86:58:37:CF:36:18:7F:A6:F4:28
Fingerprint (SHA1): D8:EB:6B:41:51:92:59:E0:F3:E7:85:00:C0:3D:B6:88:97:C9:EE:FC
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Staat der Nederlanden Root CA - G3"

```

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\132\061\013\060\011\006\003\125\004\006\023\002\116\114\061  
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040  
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061  
\053\060\051\006\003\125\004\003\014\042\123\164\141\141\164\040  
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040  
\122\157\157\164\040\103\101\040\055\040\107\063

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\132\061\013\060\011\006\003\125\004\006\023\002\116\114\061  
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040  
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061  
\053\060\051\006\003\125\004\003\014\042\123\164\141\141\164\040  
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040  
\122\157\157\164\040\103\101\040\055\040\107\063

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\004\000\230\242\071

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\164\060\202\003\134\240\003\002\001\002\002\004\000  
\230\242\071\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\132\061\013\060\011\006\003\125\004\006\023\002\116  
\114\061\036\060\034\006\003\125\004\012\014\025\123\164\141\141  
\164\040\144\145\162\040\116\145\144\145\162\154\141\156\144\145  
\156\061\053\060\051\006\003\125\004\003\014\042\123\164\141\141  
\164\040\144\145\162\040\116\145\144\145\162\154\141\156\144\145  
\156\040\122\157\157\164\040\103\101\040\055\040\107\063\060\036  
\027\015\061\063\061\061\061\064\061\061\062\070\064\062\132\027  
\015\062\070\061\061\061\063\062\063\060\060\060\060\132\060\132  
\061\013\060\011\006\003\125\004\006\023\002\116\114\061\036\060  
\034\006\003\125\004\012\014\025\123\164\141\141\164\040\144\145  
\162\040\116\145\144\145\162\154\141\156\144\145\156\061\053\060  
\051\006\003\125\004\003\014\042\123\164\141\141\164\040\144\145  
\162\040\116\145\144\145\162\154\141\156\144\145\156\040\122\157  
\157\164\040\103\101\040\055\040\107\063\060\202\002\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002  
\017\000\060\202\002\012\002\202\002\001\000\276\062\242\124\017  
\160\373\054\134\131\353\154\304\244\121\350\205\052\263\314\112  
\064\362\260\137\363\016\307\034\075\123\036\210\010\150\330\157  
\075\255\302\236\314\202\147\007\047\207\150\161\072\237\165\226  
\042\106\005\260\355\255\307\133\236\052\336\234\374\072\306\225  
\247\365\027\147\030\347\057\111\010\014\134\317\346\314\064\355  
\170\373\120\261\334\153\062\360\242\376\266\074\344\354\132\227  
\307\077\036\160\010\060\240\334\305\263\155\157\320\202\162\021

|253|322|201|150|131|202|027|267|170|222|140|372|314|336|077|204  
|353|215|070|063|220|012|162|043|372|065|314|046|161|061|321|162  
|050|222|331|133|043|155|146|265|155|007|102|353|246|063|316|222  
|333|300|366|154|143|170|315|312|116|075|265|345|122|233|361|276  
|073|346|124|140|260|146|036|011|253|007|376|124|211|021|102|321  
|367|044|272|140|170|032|230|367|311|021|375|026|301|065|032|124  
|165|357|103|323|345|256|116|316|347|173|303|306|116|141|121|113  
|253|232|105|113|241|037|101|275|110|123|025|161|144|013|206|263  
|345|056|276|316|244|033|301|051|204|242|265|313|010|043|166|103  
|042|044|037|027|004|324|156|234|306|374|177|053|146|032|354|212  
|345|326|317|115|365|143|011|267|025|071|326|173|254|353|343|174  
|351|116|374|165|102|310|355|130|225|014|006|102|242|234|367|344  
|160|263|337|162|157|132|067|100|211|330|205|244|327|361|013|336  
|103|031|324|112|130|054|214|212|071|236|277|204|207|361|026|073  
|066|014|351|323|264|312|154|031|101|122|011|241|035|260|152|277  
|202|357|160|121|041|062|334|005|166|214|313|367|144|344|003|120  
|257|214|221|147|253|305|362|356|130|330|336|276|367|347|061|317  
|154|311|073|161|301|325|210|265|145|274|300|350|027|027|007|022  
|265|134|322|253|040|223|264|346|202|203|160|066|305|315|243|215  
|255|213|354|243|301|103|207|346|103|342|064|276|225|213|065|355  
|007|071|332|250|035|172|237|066|236|022|260|014|145|022|220|025  
|140|331|046|100|104|343|126|140|245|020|324|152|074|375|101|334  
|016|132|107|266|357|227|141|165|117|331|376|307|262|035|324|355  
|135|111|263|251|152|313|146|204|023|325|134|240|334|337|156|167  
|006|321|161|165|310|127|157|257|017|167|133|002|003|001|000|001  
|243|102|060|100|060|017|006|003|125|035|023|001|001|377|004|005  
|060|003|001|001|377|060|016|006|003|125|035|017|001|001|377|004  
|004|003|002|001|006|060|035|006|003|125|035|016|004|026|004|024  
|124|255|372|307|222|127|256|312|065|234|056|022|373|344|272|135  
|040|334|224|127|060|015|006|011|052|206|110|206|367|015|001|001  
|013|005|000|003|202|002|001|000|060|231|235|005|062|310|136|016  
|073|230|001|072|212|244|347|007|367|172|370|347|232|337|120|103  
|123|227|052|075|312|074|107|230|056|341|025|173|361|222|363|141  
|332|220|045|026|145|300|237|124|135|016|003|073|133|167|002|234  
|204|266|015|230|137|064|335|073|143|302|303|050|201|302|234|051  
|056|051|342|310|303|001|362|063|352|052|252|314|011|010|367|145  
|147|306|315|337|323|266|053|247|275|314|321|016|160|137|270|043  
|321|313|221|116|012|364|310|172|345|331|143|066|301|324|337|374  
|042|227|367|140|135|352|051|057|130|262|275|130|275|215|226|117  
|020|165|277|110|173|075|121|207|241|074|164|042|302|374|007|177  
|200|334|304|254|376|152|301|160|060|260|351|216|151|342|054|151  
|201|224|011|272|335|376|115|300|203|214|224|130|300|106|040|257  
|234|037|002|370|065|125|111|057|106|324|300|360|240|226|002|017  
|063|305|161|363|236|043|175|224|267|375|072|323|011|203|006|041  
|375|140|075|256|062|300|322|356|215|246|360|347|264|202|174|012  
|314|160|311|171|200|370|376|114|367|065|204|031|212|061|373|012  
|331|327|177|233|360|242|232|153|303|005|112|355|101|140|024|060  
|321|252|021|102|156|323|043|002|004|013|306|145|335|335|122|167

```
\332\201\153\262\250\372\001\070\271\226\352\052\154\147\227\211
\224\236\274\341\124\325\344\152\170\357\112\275\053\232\075\100
\176\306\300\165\322\156\373\150\060\354\354\213\235\371\111\065
\232\032\054\331\263\225\071\325\036\222\367\246\271\145\057\345
\075\155\072\110\114\010\334\344\050\022\050\276\175\065\134\352
\340\026\176\023\033\152\327\076\327\236\374\055\165\262\301\024
\325\043\003\333\133\157\013\076\170\057\015\336\063\215\026\267
\110\347\203\232\201\017\173\301\103\115\125\004\027\070\112\121
\325\131\242\211\164\323\237\276\036\113\327\306\155\267\210\044
\157\140\221\244\202\205\133\126\101\274\320\104\253\152\023\276
\321\054\130\267\022\063\130\262\067\143\334\023\365\224\035\077
\100\121\365\117\365\072\355\310\305\353\302\036\035\026\225\172
\307\176\102\161\223\156\113\025\267\060\337\252\355\127\205\110
\254\035\152\335\071\151\344\341\171\170\276\316\005\277\241\014
\367\200\173\041\147\047\060\131
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Staat der Nederlanden Root CA - G3"

# Issuer: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL

# Serial Number: 10003001 (0x98a239)

# Subject: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL

# Not Valid Before: Thu Nov 14 11:28:42 2013

# Not Valid After : Mon Nov 13 23:00:00 2028

# Fingerprint (SHA-256):

3C:4F:B0:B9:5A:B8:B3:00:32:F4:32:B8:6F:53:5F:E1:72:C1:85:D0:FD:39:86:58:37:CF:36:18:7F:A6:F4:28

# Fingerprint (SHA1): D8:EB:6B:41:51:92:59:E0:F3:E7:85:00:C0:3D:B6:88:97:C9:EE:FC

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Staat der Nederlanden Root CA - G3"

CKA\_CERT\_SHA1\_HASH

MULTILINE\_OCTAL

```
\330\353\153\101\121\222\131\340\363\347\205\000\300\075\266\210
\227\311\356\374
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\013\106\147\007\333\020\057\031\214\065\120\140\321\013\364\067
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\132\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\053\060\051\006\003\125\004\003\014\042\123\164\141\141\164\040
```

```

\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\122\157\157\164\040\103\101\040\055\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\000\230\242\071
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "IdenTrust Commercial Root CA 1"
#
Issuer: CN=IdenTrust Commercial Root CA
1,O=IdenTrust,C=US
Serial Number:0a:01:42:80:00:00:01:45:23:c8:44:b5:00:00:00:02
Subject: CN=IdenTrust Commercial Root CA 1,O=IdenTrust,C=US
Not Valid Before: Thu Jan 16 18:12:23 2014
Not Valid After : Mon Jan 16 18:12:23 2034
Fingerprint (SHA-256):
5D:56:49:9B:E4:D2:E0:8B:CF:CA:D0:8A:3E:38:72:3D:50:50:3B:DE:70:69:48:E4:2F:55:60:30:19:E5:28:AE
Fingerprint (SHA1): DF:71:7E:AA:4A:D9:4E:C9:55:84:99:60:2D:48:DE:5F:BC:F0:3A:25
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "IdenTrust Commercial Root CA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\047\060\045\006\003\125\004\003\023\036\111\144
\145\156\124\162\165\163\164\040\103\157\155\155\145\162\143\151
\141\154\040\122\157\157\164\040\103\101\040\061
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\047\060\045\006\003\125\004\003\023\036\111\144
\145\156\124\162\165\163\164\040\103\157\155\155\145\162\143\151
\141\154\040\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\012\001\102\200\000\000\001\105\043\310\104\265\000\000
\000\002

```

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\140\060\202\003\110\240\003\002\001\002\002\020\012  
\001\102\200\000\000\001\105\043\310\104\265\000\000\000\002\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\112  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060  
\020\006\003\125\004\012\023\011\111\144\145\156\124\162\165\163  
\164\061\047\060\045\006\003\125\004\003\023\036\111\144\145\156  
\124\162\165\163\164\040\103\157\155\155\145\162\143\151\141\154  
\040\122\157\157\164\040\103\101\040\061\060\036\027\015\061\064  
\060\061\061\066\061\070\061\062\062\063\132\027\015\063\064\060  
\061\061\066\061\070\061\062\062\063\132\060\112\061\013\060\011  
\006\003\125\004\006\023\002\125\123\061\022\060\020\006\003\125  
\004\012\023\011\111\144\145\156\124\162\165\163\164\061\047\060  
\045\006\003\125\004\003\023\036\111\144\145\156\124\162\165\163  
\164\040\103\157\155\155\145\162\143\151\141\154\040\122\157\157  
\164\040\103\101\040\061\060\202\002\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202  
\002\012\002\202\002\001\000\247\120\031\336\077\231\075\324\063  
\106\361\157\121\141\202\262\251\117\217\147\211\135\204\331\123  
\335\014\050\331\327\360\377\256\225\103\162\231\371\265\135\174  
\212\301\102\341\061\120\164\321\201\015\174\315\233\041\253\103  
\342\254\255\136\206\156\363\011\212\037\132\062\275\242\353\224  
\371\350\134\012\354\377\230\322\257\161\263\264\123\237\116\207  
\357\222\274\275\354\117\062\060\210\113\027\136\127\304\123\302  
\366\002\227\215\331\142\053\277\044\037\142\215\337\303\270\051  
\113\111\170\074\223\140\210\042\374\231\332\066\310\302\242\324  
\054\124\000\147\065\156\163\277\002\130\360\244\335\345\260\242  
\046\172\312\340\066\245\031\026\365\375\267\357\256\077\100\365  
\155\132\004\375\316\064\312\044\334\164\043\033\135\063\023\022  
\135\304\001\045\366\060\335\002\135\237\340\325\107\275\264\353  
\033\241\273\111\111\330\237\133\002\363\212\344\044\220\344\142  
\117\117\301\257\213\016\164\027\250\321\162\210\152\172\001\111  
\314\264\106\171\306\027\261\332\230\036\007\131\372\165\041\205  
\145\335\220\126\316\373\253\245\140\235\304\235\371\122\260\213  
\275\207\371\217\053\043\012\043\166\073\367\063\341\311\000\363  
\151\371\113\242\340\116\274\176\223\071\204\007\367\104\160\176  
\376\007\132\345\261\254\321\030\314\362\065\345\111\111\010\312  
\126\311\075\373\017\030\175\213\073\301\023\302\115\217\311\117  
\016\067\351\037\241\016\152\337\142\056\313\065\006\121\171\054  
\310\045\070\364\372\113\247\211\134\234\322\343\015\071\206\112  
\164\174\325\131\207\302\077\116\014\134\122\364\075\367\122\202  
\361\352\243\254\375\111\064\032\050\363\101\210\072\023\356\350  
\336\377\231\035\137\272\313\350\036\362\271\120\140\300\061\323  
\163\345\357\276\240\355\063\013\164\276\040\040\304\147\154\360  
\010\003\172\125\200\177\106\116\226\247\364\036\076\341\366\330  
\011\341\063\144\053\143\327\062\136\237\371\300\173\017\170\157  
\227\274\223\232\371\234\022\220\170\172\200\207\025\327\162\164

\234\125\164\170\261\272\341\156\160\004\272\117\240\272\150\303  
\173\377\061\360\163\075\075\224\052\261\013\101\016\240\376\115  
\210\145\153\171\063\264\327\002\003\001\000\001\243\102\060\100  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\035\006\003\125\035\016\004\026\004\024\355\104\031\300  
\323\360\006\213\356\244\173\276\102\347\046\124\310\216\066\166  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003  
\202\002\001\000\015\256\220\062\366\246\113\174\104\166\031\141  
\036\047\050\315\136\124\357\045\274\343\010\220\371\051\327\256  
\150\010\341\224\000\130\357\056\056\176\123\122\214\266\134\007  
\352\210\272\231\213\120\224\327\202\200\337\141\011\000\223\255  
\015\024\346\316\301\362\067\224\170\260\137\234\263\242\163\270  
\217\005\223\070\315\215\076\260\270\373\300\317\261\362\354\055  
\055\033\314\354\252\232\263\252\140\202\033\055\073\303\204\075  
\127\212\226\036\234\165\270\323\060\315\140\010\203\220\323\216  
\124\361\115\146\300\135\164\003\100\243\356\205\176\302\037\167  
\234\006\350\301\247\030\135\122\225\355\311\335\045\236\155\372  
\251\355\243\072\064\320\131\173\332\355\120\363\065\277\355\353  
\024\115\061\307\140\364\332\361\207\234\342\110\342\306\305\067  
\373\006\020\372\165\131\146\061\107\051\332\166\232\034\351\202  
\256\357\232\271\121\367\210\043\232\151\225\142\074\345\125\200  
\066\327\124\002\377\361\271\135\316\324\043\157\330\105\204\112  
\133\145\357\211\014\335\024\247\040\313\030\245\045\264\015\371  
\001\360\242\322\364\000\310\164\216\241\052\110\216\145\333\023  
\304\342\045\027\175\353\276\207\133\027\040\124\121\223\112\123  
\003\013\354\135\132\063\355\142\375\105\307\057\133\334\130\240  
\200\071\346\372\327\376\023\024\246\355\075\224\112\102\164\324  
\303\167\131\163\315\217\106\276\125\070\357\372\350\221\062\352  
\227\130\004\042\336\070\303\314\274\155\311\063\072\152\012\151  
\077\240\310\352\162\217\214\143\206\043\275\155\074\226\236\225  
\340\111\114\252\242\271\052\033\234\066\201\170\355\303\350\106  
\342\046\131\104\165\036\331\165\211\121\315\020\204\235\141\140  
\313\135\371\227\042\115\216\230\346\343\177\366\133\273\256\315  
\312\112\201\153\136\013\363\121\341\164\053\351\176\047\247\331  
\231\111\116\370\245\200\333\045\017\034\143\142\212\311\063\147  
\153\074\020\203\306\255\336\250\315\026\216\215\360\007\067\161  
\237\362\253\374\101\365\301\213\354\000\067\135\011\345\116\200  
\357\372\261\134\070\006\245\033\112\341\334\070\055\074\334\253  
\037\220\032\325\112\234\356\321\160\154\314\356\364\127\370\030  
\272\204\156\207

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "IdenTrust Commercial Root CA 1"

```
Issuer: CN=IdenTrust Commercial Root CA 1,O=IdenTrust,C=US
Serial Number:0a:01:42:80:00:00:01:45:23:c8:44:b5:00:00:00:02
Subject: CN=IdenTrust Commercial Root CA 1,O=IdenTrust,C=US
Not Valid Before: Thu Jan 16 18:12:23 2014
Not Valid After : Mon Jan 16 18:12:23 2034
Fingerprint (SHA-256):
5D:56:49:9B:E4:D2:E0:8B:CF:CA:D0:8A:3E:38:72:3D:50:50:3B:DE:70:69:48:E4:2F:55:60:30:19:E5:28:AE
Fingerprint (SHA1): DF:71:7E:AA:4A:D9:4E:C9:55:84:99:60:2D:48:DE:5F:BC:F0:3A:25
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "IdenTrust Commercial Root CA 1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\337\161\176\252\112\331\116\311\125\204\231\140\055\110\336\137
\274\360\072\045
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\263\076\167\163\165\356\240\323\343\176\111\143\111\131\273\307
END
CKA_ISSUER MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\047\060\045\006\003\125\004\003\023\036\111\144
\145\156\124\162\165\163\164\040\103\157\155\155\145\162\143\151
\141\154\040\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\012\001\102\200\000\000\001\105\043\310\104\265\000\000
\000\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "IdenTrust Public Sector Root CA 1"
#
Issuer: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US
Serial Number:0a:01:42:80:00:00:01:45:23:cf:46:7c:00:00:00:02
#
Subject: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US
Not Valid Before: Thu Jan 16 17:53:32 2014
Not Valid After : Mon Jan 16 17:53:32 2034
Fingerprint (SHA-256):
30:D0:89:5A:9A:44:8A:26:20:91:63:55:22:D1:F5:20:10:B5:86:7A:CA:E1:2C:78:EF:95:8F:D4:F4:38:9F:2F
```



# Fingerprint (SHA1): BA:29:41:60:77:98:3F:F4:F3:EF:F2:31:05:3B:2E:EA:6D:4D:45:FD

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "IdenTrust Public Sector Root CA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\052\060\050\006\003\125\004\003\023\041\111\144
\145\156\124\162\165\163\164\040\120\165\142\154\151\143\040\123
\145\143\164\157\162\040\122\157\157\164\040\103\101\040\061
END
CKA_ID UTF8 "0"
CKA_ISSUER
MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\052\060\050\006\003\125\004\003\023\041\111\144
\145\156\124\162\165\163\164\040\120\165\142\154\151\143\040\123
\145\143\164\157\162\040\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\012\001\102\200\000\000\001\105\043\317\106\174\000\000
\000\002
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\146\060\202\003\116\240\003\002\001\002\002\020\012
\001\102\200\000\000\001\105\043\317\106\174\000\000\000\002\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\115
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060
\020\006\003\125\004\012\023\011\111\144\145\156\124\162\165\163
\164\061\052\060\050\006\003\125\004\003\023\041\111\144\145\156
\124\162\165\163\164\040\120\165\142\154\151\143\040\123\145\143
\164\157\162\040\122\157\157\164\040\103\101\040\061\060\036\027
\015\061\064\060\061\061\066\061\067\065\063\063\062\132\027\015
\063\064\060\061\061\066\061\067\065\063\063\062\132\060\115\061
\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060\020
\006\003\125\004\012\023\011\111\144\145\156\124\162\165\163\164
\061\052\060\050\006\003\125\004\003\023\041\111\144\145\156\124
\162\165\163\164\040\120\165\142\154\151\143\040\123\145\143\164
\157\162\040\122\157\157\164\040\103\101\040\061\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\266\042\224
\374\244\110\257\350\107\153\012\373\047\166\344\362\077\212\073
\172\112\054\061\052\214\215\260\251\303\061\153\250\167\166\204
\046\266\254\201\102\015\010\353\125\130\273\172\370\274\145\175
```

\362\240\155\213\250\107\351\142\166\036\021\356\010\024\321\262  
\104\026\364\352\320\372\036\057\136\333\313\163\101\256\274\000  
\260\112\053\100\262\254\341\073\113\302\055\235\344\241\233\354  
\032\072\036\360\010\263\320\344\044\065\007\237\234\264\311\122  
\155\333\007\312\217\265\133\360\203\363\117\307\055\245\310\255  
\313\225\040\244\061\050\127\130\132\344\215\033\232\253\236\015  
\014\362\012\063\071\042\071\012\227\056\363\123\167\271\104\105  
\375\204\313\066\040\201\131\055\232\157\155\110\110\141\312\114  
\337\123\321\257\122\274\104\237\253\057\153\203\162\357\165\200  
\332\006\063\033\135\310\332\143\306\115\315\254\146\061\315\321  
\336\076\207\020\066\341\271\244\172\357\140\120\262\313\312\246  
\126\340\067\257\253\064\023\071\045\350\071\146\344\230\172\252  
\022\230\234\131\146\206\076\255\361\260\312\076\006\017\173\360  
\021\113\067\240\104\155\173\313\250\214\161\364\325\265\221\066  
\314\360\025\306\053\336\121\027\261\227\114\120\075\261\225\131  
\174\005\175\055\041\325\000\277\001\147\242\136\173\246\134\362  
\367\042\361\220\015\223\333\252\104\121\146\314\175\166\003\353  
\152\250\052\070\031\227\166\015\153\212\141\371\274\366\356\166  
\375\160\053\335\051\074\370\012\036\133\102\034\213\126\057\125  
\033\034\241\056\265\307\026\346\370\252\074\222\216\151\266\001  
\301\265\206\235\211\017\013\070\224\124\350\352\334\236\075\045  
\274\123\046\355\325\253\071\252\305\100\114\124\253\262\264\331  
\331\370\327\162\333\034\274\155\275\145\137\357\210\065\052\146  
\057\356\366\263\145\360\063\215\174\230\101\151\106\017\103\034  
\151\372\233\265\320\141\152\315\312\113\331\114\220\106\253\025  
\131\241\107\124\051\056\203\050\137\034\302\242\253\162\027\000  
\006\216\105\354\213\342\063\075\177\332\031\104\344\142\162\303  
\337\042\306\362\126\324\335\137\225\162\355\155\137\367\110\003  
\133\375\305\052\240\366\163\043\204\020\033\001\347\002\003\001  
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\343\161\340\236\330\247\102\331\333\161\221\153\224\223  
\353\303\243\321\024\243\060\015\006\011\052\206\110\206\367\015  
\001\001\013\005\000\003\202\002\001\000\107\372\335\012\260\021  
\221\070\255\115\135\367\345\016\227\124\031\202\110\207\124\214  
\252\144\231\330\132\376\210\001\305\130\245\231\261\043\124\043  
\267\152\035\040\127\345\001\142\101\027\323\011\333\165\313\156  
\124\220\165\376\032\237\201\012\302\335\327\367\011\320\133\162  
\025\344\036\011\152\075\063\363\041\232\346\025\176\255\121\325  
\015\020\355\175\102\300\217\356\300\232\010\325\101\326\134\016  
\041\151\156\200\141\016\025\300\270\317\305\111\022\122\314\276  
\072\314\324\056\070\005\336\065\375\037\157\270\200\150\230\075  
\115\240\312\100\145\322\163\174\365\213\331\012\225\077\330\077  
\043\155\032\321\052\044\031\331\205\263\027\357\170\156\251\130  
\321\043\323\307\023\355\162\045\177\135\261\163\160\320\177\006  
\227\011\204\051\200\141\035\372\136\377\163\254\240\343\211\270  
\034\161\025\306\336\061\177\022\334\341\155\233\257\347\350\237

\165\170\114\253\106\073\232\316\277\005\030\135\115\025\074\026  
\232\031\120\004\232\262\232\157\145\213\122\137\074\130\004\050  
\045\300\146\141\061\176\271\340\165\271\032\250\201\326\162\027  
\263\305\003\061\065\021\170\170\242\340\351\060\214\177\200\337  
\130\337\074\272\047\226\342\200\064\155\343\230\323\144\047\254  
\110\176\050\167\134\306\045\141\045\370\205\014\145\372\304\062  
\057\245\230\005\344\370\013\147\026\026\306\202\270\062\031\371  
\371\271\171\334\037\315\353\257\253\016\335\033\333\105\344\172  
\347\002\342\225\135\374\151\360\123\151\141\225\165\171\013\136  
\125\346\070\034\224\251\131\063\236\310\161\164\171\177\121\211  
\266\310\152\270\060\310\152\070\303\156\236\341\067\026\352\005  
\142\114\133\022\107\355\247\264\263\130\126\307\111\363\177\022  
\150\011\061\161\360\155\370\116\107\373\326\205\356\305\130\100  
\031\244\035\247\371\113\103\067\334\150\132\117\317\353\302\144  
\164\336\264\025\331\364\124\124\032\057\034\327\227\161\124\220  
\216\331\040\235\123\053\177\253\217\342\352\060\274\120\067\357  
\361\107\265\175\174\054\004\354\150\235\264\111\104\020\364\162  
\113\034\144\347\374\346\153\220\335\151\175\151\375\000\126\245  
\267\254\266\255\267\312\076\001\357\234

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "IdenTrust Public Sector Root CA 1"

# Issuer: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US

# Serial Number:0a:01:42:80:00:00:01:45:23:cf:46:7c:00:00:00:02

# Subject: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US

# Not Valid Before: Thu Jan 16 17:53:32 2014

# Not Valid After : Mon Jan 16 17:53:32 2034

# Fingerprint (SHA-256):

30:D0:89:5A:9A:44:8A:26:20:91:63:55:22:D1:F5:20:10:B5:86:7A:CA:E1:2C:78:EF:95:8F:D4:F4:38:9F:2F

# Fingerprint (SHA1): BA:29:41:60:77:98:3F:F4:F3:EF:F2:31:05:3B:2E:EA:6D:4D:45:FD

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "IdenTrust Public Sector Root CA 1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\272\051\101\140\167\230\077\364\363\357\362\061\005\073\056\352  
\155\115\105\375

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

\067\006\245\260\374\211\235\272\364\153\214\032\144\315\325\272

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\052\060\050\006\003\125\004\003\023\041\111\144
\145\156\124\162\165\163\164\040\120\165\142\154\151\143\040\123
\145\143\164\157\162\040\122\157\157\164\040\103\101\040\061
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END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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\002\020\012\001\102\200\000\000\001\105\043\317\106\174\000\000
\000\002
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END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Entrust Root Certification Authority - G2"

#

# Issuer: CN=Entrust Root Certification Authority

- G2,OU="(c) 2009 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

# Serial Number: 1246989352 (0x4a538c28)

# Subject: CN=Entrust Root Certification Authority - G2,OU="(c) 2009 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

# Not Valid Before: Tue Jul 07 17:25:54 2009

# Not Valid After : Sat Dec 07 17:55:54 2030

# Fingerprint (SHA-256):

43:DF:57:74:B0:3E:7F:EF:5F:E4:0D:93:1A:7B:ED:F1:BB:2E:6B:42:73:8C:4E:6D:38:41:10:3D:3A:A7:F3:39

# Fingerprint (SHA1): 8C:F4:27:FD:79:0C:3A:D1:66:06:8D:E8:1E:57:EF:BB:93:22:72:D4

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Entrust Root Certification Authority - G2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\060\071\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
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\062  
END  
CKA\_ID  
UTF8 "0"  
CKA\_ISSUER MULTILINE\_OCTAL  
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\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165  
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004  
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165  
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162  
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051  
\040\062\060\060\071\040\105\156\164\162\165\163\164\054\040\111  
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162  
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060  
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040  
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107  
\062

END  
CKA\_SERIAL\_NUMBER  
MULTILINE\_OCTAL  
\002\004\112\123\214\050

END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\004\076\060\202\003\046\240\003\002\001\002\002\004\112  
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\005\000\060\201\276\061\013\060\011\006\003\125\004\006\023\002  
\125\123\061\026\060\024\006\003\125\004\012\023\015\105\156\164  
\162\165\163\164\054\040\111\156\143\056\061\050\060\046\006\003  
\125\004\013\023\037\123\145\145\040\167\167\167\056\145\156\164  
\162\165\163\164\056\156\145\164\057\154\145\147\141\154\055\164  
\145\162\155\163\061\071\060\067\006\003\125\004\013\023\060\050  
\143\051\040\062\060\060\071\040\105\156\164\162\165\163\164\054  
\040\111\156\143\056\040\055\040\146\157\162\040\141\165\164\150  
\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171\061  
\062\060\060\006\003\125\004\003\023\051\105\156\164\162\165\163  
\164\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\055  
\040\107\062\060\036\027\015\060\071\060\067\060\067\061\067\062  
\065\065\064\132\027\015\063\060\061\062\060\067\061\067\065\065  
\065\064\132\060\201\276\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\026\060\024\006\003\125\004\012\023\015\105\156  
\164\162\165\163\164\054\040\111\156\143\056\061\050\060\046\006  
\003\125\004\013\023\037\123\145\145\040\167\167\167\056\145\156  
\164\162\165\163\164\056\156\145\164\057\154\145\147\141\154\055  
\164\145\162\155\163\061\071\060\067\006\003\125\004\013\023\060  
\050\143\051\040\062\060\060\071\040\105\156\164\162\165\163\164  
\054\040\111\156\143\056\040\055\040\146\157\162\040\141\165\164

\150\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171  
\061\062\060\060\006\003\125\004\003\023\051\105\156\164\162\165  
\163\164\040\122\157\157\164\040\103\145\162\164\151\146\151\143  
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040  
\055\040\107\062\060\202\001\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012  
\002\202\001\001\000\272\204\266\162\333\236\014\153\342\231\351  
\060\001\247\166\352\062\270\225\101\032\311\332\141\116\130\162  
\317\376\366\202\171\277\163\141\006\012\245\047\330\263\137\323  
\105\116\034\162\326\116\062\362\162\212\017\367\203\031\320\152  
\200\200\000\105\036\260\307\347\232\277\022\127\047\034\243\150  
\057\012\207\275\152\153\016\136\145\363\034\167\325\324\205\215  
\160\041\264\263\062\347\213\242\325\206\071\002\261\270\322\107  
\316\344\311\111\304\073\247\336\373\124\175\127\276\360\350\156  
\302\171\262\072\013\125\342\120\230\026\062\023\134\057\170\126  
\301\302\224\263\362\132\344\047\232\237\044\327\306\354\320\233  
\045\202\343\314\302\304\105\305\214\227\172\006\153\052\021\237  
\251\012\156\110\073\157\333\324\021\031\102\367\217\007\277\365  
\123\137\234\076\364\027\054\346\151\254\116\062\114\142\167\352  
\267\350\345\273\064\274\031\213\256\234\121\347\267\176\265\123  
\261\063\042\345\155\317\160\074\032\372\342\233\147\266\203\364  
\215\245\257\142\114\115\340\130\254\144\064\022\003\370\266\215  
\224\143\044\244\161\002\003\001\000\001\243\102\060\100\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\035\006\003\125\035\016\004\026\004\024\152\162\046\172\320\036  
\357\175\347\073\151\121\324\154\215\237\220\022\146\253\060\015  
\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001  
\001\000\171\237\035\226\306\266\171\077\042\215\207\323\207\003  
\004\140\152\153\232\056\131\211\163\021\254\103\321\365\023\377  
\215\071\053\300\362\275\117\160\214\251\057\352\027\304\013\124  
\236\324\033\226\230\063\074\250\255\142\242\000\166\253\131\151  
\156\006\035\176\304\271\104\215\230\257\022\324\141\333\012\031  
\106\107\363\353\367\143\301\100\005\100\245\322\267\364\265\232  
\066\277\251\210\166\210\004\125\004\053\234\207\177\032\067\074  
\176\055\245\032\330\324\211\136\312\275\254\075\154\330\155\257  
\325\363\166\017\315\073\210\070\042\235\154\223\232\304\075\277  
\202\033\145\077\246\017\135\252\374\345\262\025\312\265\255\306  
\274\075\320\204\350\352\006\162\260\115\071\062\170\277\076\021  
\234\013\244\235\232\041\363\360\233\013\060\170\333\301\334\207  
\103\376\274\143\232\312\305\302\034\311\307\215\377\073\022\130  
\010\346\266\075\354\172\054\116\373\203\226\316\014\074\151\207  
\124\163\244\163\302\223\377\121\020\254\025\124\001\330\374\005  
\261\211\241\177\164\203\232\111\327\334\116\173\212\110\157\213  
\105\366

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

```

CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "Entrust Root Certification Authority - G2"
Issuer: CN=Entrust Root Certification Authority - G2,OU="(c) 2009 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
Serial Number: 1246989352 (0x4a538c28)
Subject: CN=Entrust Root Certification Authority - G2,OU="(c) 2009 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
Not Valid Before: Tue Jul 07 17:25:54 2009
Not Valid After : Sat Dec 07 17:55:54 2030
Fingerprint (SHA-256):
43:DF:57:74:B0:3E:7F:EF:5F:E4:0D:93:1A:7B:ED:F1:BB:2E:6B:42:73:8C:4E:6D:38:41:10:3D:3A:A7:F3:39
Fingerprint (SHA1): 8C:F4:27:FD:79:0C:3A:D1:66:06:8D:E8:1E:57:EF:BB:93:22:72:D4
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE
CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust Root Certification Authority - G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\214\364\047\375\171\014\072\321\146\006\215\350\036\127\357\273
\223\042\162\324
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\113\342\311\221\226\145\014\364\016\132\223\222\240\012\376\262
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\060\071\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\004\112\123\214\050
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

```

```

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Entrust Root Certification Authority - EC1"
#
Issuer: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
Serial Number:00:a6:8b:79:29:00:00:00:50:d0:91:f9
Subject: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
Not Valid Before: Tue Dec 18 15:25:36 2012
Not Valid After : Fri Dec 18 15:55:36 2037
Fingerprint (SHA-256):
02:ED:0E:B2:8C:14:DA:45:16:5C:56:67:91:70:0D:64:51:D7:FB:56:F0:B2:AB:1D:3B:8E:B0:70:E5:6E:DF:F5
#
Fingerprint (SHA1): 20:D8:06:40:DF:9B:25:F5:12:25:3A:11:EA:F7:59:8A:EB:14:B5:47
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust Root Certification Authority - EC1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\277\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\062\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\063\060
\061\006\003\125\004\003\023\052\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\105
\103\061
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\277\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051

```



\040\062\060\061\062\040\105\156\164\162\165\163\164\054\040\111  
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162  
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\063\060  
\061\006\003\125\004\003\023\052\105\156\164\162\165\163\164\040  
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\105  
\103\061

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\015\000\246\213\171\051\000\000\000\000\120\320\221\371

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\371\060\202\002\200\240\003\002\001\002\002\015\000  
\246\213\171\051\000\000\000\000\120\320\221\371\060\012\006\010  
\052\206\110\316\075\004\003\003\060\201\277\061\013\060\011\006  
\003\125\004\006\023\002\125\123\061\026\060\024\006\003\125\004  
\012\023\015\105\156\164\162\165\163\164\054\040\111\156\143\056  
\061\050\060\046\006\003\125\004\013\023\037\123\145\145\040\167  
\167\167\056\145\156\164\162\165\163\164\056\156\145\164\057\154  
\145\147\141\154\055\164\145\162\155\163\061\071\060\067\006\003  
\125\004\013\023\060\050\143\051\040\062\060\061\062\040\105\156  
\164\162\165\163\164\054\040\111\156\143\056\040\055\040\146\157  
\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163\145  
\040\157\156\154\171\061\063\060\061\006\003\125\004\003\023\052  
\105\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162  
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157  
\162\151\164\171\040\055\040\105\103\061\060\036\027\015\061\062  
\061\062\061\070\061\065\062\065\063\066\132\027\015\063\067\061  
\062\061\070\061\065\065\065\063\066\132\060\201\277\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\026\060\024\006\003  
\125\004\012\023\015\105\156\164\162\165\163\164\054\040\111\156  
\143\056\061\050\060\046\006\003\125\004\013\023\037\123\145\145  
\040\167\167\167\056\145\156\164\162\165\163\164\056\156\145\164  
\057\154\145\147\141\154\055\164\145\162\155\163\061\071\060\067  
\006\003\125\004\013\023\060\050\143\051\040\062\060\061\062\040  
\105\156\164\162\165\163\164\054\040\111\156\143\056\040\055\040  
\146\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165  
\163\145\040\157\156\154\171\061\063\060\061\006\003\125\004\003  
\023\052\105\156\164\162\165\163\164\040\122\157\157\164\040\103  
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164  
\150\157\162\151\164\171\040\055\040\105\103\061\060\166\060\020  
\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000\042  
\003\142\000\004\204\023\311\320\272\155\101\173\342\154\320\353  
\125\137\146\002\032\044\364\133\211\151\107\343\270\302\175\361  
\362\002\305\237\240\366\133\325\213\006\031\206\117\123\020\155  
\007\044\047\241\240\370\325\107\031\141\114\175\312\223\047\352  
\164\014\357\157\226\011\376\143\354\160\135\066\255\147\167\256

```
\311\235\174\125\104\072\242\143\121\037\365\343\142\324\251\107
\007\076\314\040\243\102\060\100\060\016\006\003\125\035\017\001
\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001
\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016
\004\026\004\024\267\143\347\032\335\215\351\010\246\125\203\244
\340\152\120\101\145\021\102\111\060\012\006\010\052\206\110\316
\075\004\003\003\003\147\000\060\144\002\060\141\171\330\345\102
\107\337\034\256\123\231\027\266\157\034\175\341\277\021\224\321
\003\210\165\344\215\211\244\212\167\106\336\155\141\357\002\365
\373\265\337\314\376\116\377\376\251\346\247\002\060\133\231\327
\205\067\006\265\173\010\375\353\047\213\112\224\371\341\372\247
\216\046\010\350\174\222\150\155\163\330\157\046\254\041\002\270
\231\267\046\101\133\045\140\256\320\110\032\356\006
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Entrust Root Certification Authority - EC1"

# Issuer: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

# Serial Number:00:a6:8b:79:29:00:00:00:00:50:d0:91:f9

# Subject: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

# Not Valid Before: Tue Dec 18 15:25:36 2012

# Not Valid After : Fri Dec 18 15:55:36 2037

# Fingerprint (SHA-256):

02:ED:0E:B2:8C:14:DA:45:16:5C:56:67:91:70:0D:64:51:D7:FB:56:F0:B2:AB:1D:3B:8E:B0:70:E5:6E:DF:F5

# Fingerprint (SHA1): 20:D8:06:40:DF:9B:25:F5:12:25:3A:11:EA:F7:59:8A:EB:14:B5:47

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Entrust Root Certification Authority - EC1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\040\330\006\100\337\233\045\365\022\045\072\021\352\367\131\212
\353\024\265\107
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\266\176\035\360\130\305\111\154\044\073\075\355\230\030\355\274
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\277\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
```

```
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\062\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\063\060
\061\006\003\125\004\003\023\052\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\105
\103\061
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\015\000\246\213\171\051\000\000\000\000\120\320\221\371
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "CFCA EV ROOT"

#

# Issuer: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN

# Serial Number: 407555286 (0x184accd6)

# Subject: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN

# Not Valid Before: Wed Aug 08 03:07:01 2012

#

Not Valid After : Mon Dec 31 03:07:01 2029

# Fingerprint (SHA-256):

5C:C3:D7:8E:4E:1D:5E:45:54:7A:04:E6:87:3E:64:F9:0C:F9:53:6D:1C:CC:2E:F8:00:F3:55:C4:C5:FD:70:FD

# Fingerprint (SHA1): E2:B8:29:4B:55:84:AB:6B:58:C2:90:46:6C:AC:3F:B8:39:8F:84:83

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "CFCA EV ROOT"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\126\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\060\060\056\006\003\125\004\012\014\047\103\150\151\156\141\040
\106\151\156\141\156\143\151\141\154\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\061\025\060\023\006\003\125\004\003\014\014\103\106\103\101
\040\105\126\040\122\117\117\124
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\126\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\060\060\056\006\003\125\004\012\014\047\103\150\151\156\141\040
```

\106\151\156\141\156\143\151\141\154\040\103\145\162\164\151\146  
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164  
\171\061\025\060\023\006\003\125\004\003\014\014\103\106\103\101  
\040\105\126\040\122\117\117\124

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\004\030\112\314\326

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\215\060\202\003\165\240\003\002\001\002\002\004\030  
\112\314\326\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\126\061\013\060\011\006\003\125\004\006\023\002\103  
\116\061\060\060\056\006\003\125\004\012\014\047\103\150\151\156  
\141\040\106\151\156\141\156\143\151\141\154\040\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162  
\151\164\171\061\025\060\023\006\003\125\004\003\014\014\103\106  
\103\101\040\105\126\040\122\117\117\124\060\036\027\015\061\062  
\060\070\060\070\060\063\060\067\060\061\132\027\015\062\071\061  
\062\063\061\060\063\060\067\060\061\132\060\126\061\013\060\011  
\006\003\125\004\006\023\002\103\116\061\060\060\056\006\003\125  
\004\012\014\047\103\150\151\156\141\040\106\151\156\141\156\143  
\151\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\061\025\060\023\006  
\003\125\004\003\014\014\103\106\103\101\040\105\126\040\122\117  
\117\124\060\202\002\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202  
\002\001\000\327\135\153\315\020\077\037\005\131\325\005\115\067  
\261\016\354\230\053\216\025\035\372\223\113\027\202\041\161\020  
\122\327\121\144\160\026\302\125\151\115\216\025\155\237\277\014  
\033\302\340\243\147\326\014\254\317\042\256\257\167\124\052\113  
\114\212\123\122\172\303\356\056\336\263\161\045\301\351\135\075  
\356\241\057\243\367\052\074\311\043\035\152\253\035\241\247\361  
\363\354\240\325\104\317\025\317\162\057\035\143\227\350\231\371  
\375\223\244\124\200\114\122\324\122\253\056\111\337\220\315\270  
\137\276\077\336\241\312\115\040\324\045\350\204\051\123\267\261  
\210\037\377\372\332\220\237\012\251\055\101\077\261\361\030\051  
\356\026\131\054\064\111\032\250\006\327\250\210\322\003\162\172  
\062\342\352\150\115\156\054\226\145\173\312\131\372\362\342\335  
\356\060\054\373\314\106\254\304\143\353\157\177\066\053\064\163  
\022\224\177\337\314\046\236\361\162\135\120\145\131\217\151\263  
\207\136\062\157\303\030\212\265\225\217\260\172\067\336\132\105  
\073\307\066\341\357\147\321\071\323\227\133\163\142\031\110\055  
\207\034\006\373\164\230\040\111\163\360\005\322\033\261\240\243  
\267\033\160\323\210\151\271\132\326\070\364\142\334\045\213\170  
\277\370\350\176\270\134\311\225\117\137\247\055\271\040\153\317  
\153\335\365\015\364\202\267\364\262\146\056\020\050\366\227\132  
\173\226\026\217\001\031\055\154\156\177\071\130\006\144\203\001

\203\203\303\115\222\335\062\306\207\244\067\351\026\316\252\055  
\150\257\012\201\145\072\160\301\233\255\115\155\124\312\052\055  
\113\205\033\263\200\346\160\105\015\153\136\065\360\177\073\270  
\234\344\004\160\211\022\045\223\332\012\231\042\140\152\143\140  
\116\166\006\230\116\275\203\255\035\130\212\045\205\322\307\145  
\036\055\216\306\337\266\306\341\177\212\004\041\025\051\164\360  
\076\234\220\235\014\056\361\212\076\132\252\014\011\036\307\325  
\074\243\355\227\303\036\064\372\070\371\010\016\343\300\135\053  
\203\321\126\152\311\266\250\124\123\056\170\062\147\075\202\177  
\164\320\373\341\266\005\140\271\160\333\216\013\371\023\130\157  
\161\140\020\122\020\271\301\101\011\357\162\037\147\061\170\377  
\226\005\215\002\003\001\000\001\243\143\060\141\060\037\006\003  
\125\035\043\004\030\060\026\200\024\343\376\055\375\050\320\013  
\265\272\266\242\304\277\006\252\005\214\223\373\057\060\017\006  
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035  
\006\003\125\035\016\004\026\004\024\343\376\055\375\050\320\013  
\265\272\266\242\304\277\006\252\005\214\223\373\057\060\015\006  
\011\052\206\110\206\367\015\001\001\013\005\000\003\202\002\001  
\000\045\306\272\153\353\207\313\336\202\071\226\075\360\104\247  
\153\204\163\003\336\235\053\117\272\040\177\274\170\262\317\227  
\260\033\234\363\327\171\056\365\110\266\322\373\027\210\346\323  
\172\077\355\123\023\320\342\057\152\171\313\000\043\050\346\036  
\067\127\065\211\204\302\166\117\064\066\255\147\303\316\101\006  
\210\305\367\356\330\032\270\326\013\177\120\377\223\252\027\113  
\214\354\355\122\140\262\244\006\352\116\353\364\153\031\375\353  
\365\032\340\045\052\232\334\307\101\066\367\310\164\005\204\071  
\225\071\326\013\073\244\047\372\010\330\134\036\370\004\140\122  
\021\050\050\003\377\357\123\146\000\245\112\064\026\146\174\375  
\011\244\256\236\147\032\157\101\013\153\006\023\233\217\206\161  
\005\264\057\215\211\146\063\051\166\124\232\021\370\047\372\262  
\077\221\340\316\015\033\363\060\032\255\277\042\135\033\323\277  
\045\005\115\341\222\032\177\231\237\074\104\223\312\324\100\111  
\154\200\207\327\004\072\303\062\122\065\016\126\370\245\335\175  
\304\213\015\021\037\123\313\036\262\027\266\150\167\132\340\324  
\313\310\007\256\365\072\056\216\067\267\320\001\113\103\051\167  
\214\071\227\217\202\132\370\121\345\211\240\030\347\150\177\135  
\012\056\373\243\107\016\075\246\043\172\306\001\307\217\310\136  
\277\155\200\126\276\212\044\272\063\352\237\341\062\021\236\361  
\322\117\200\366\033\100\257\070\236\021\120\171\163\022\022\315  
\346\154\235\054\210\162\074\060\201\006\221\042\352\131\255\332  
\031\056\042\302\215\271\214\207\340\146\274\163\043\137\041\144  
\143\200\110\365\240\074\030\075\224\310\110\101\035\100\272\136  
\376\376\126\071\241\310\317\136\236\031\144\106\020\332\027\221  
\267\005\200\254\213\231\222\175\347\242\330\007\013\066\047\347  
\110\171\140\212\303\327\023\134\370\162\100\337\112\313\317\231  
\000\012\000\013\021\225\332\126\105\003\210\012\237\147\320\325  
\171\261\250\215\100\155\015\302\172\100\372\363\137\144\107\222

```
\313\123\271\273\131\316\117\375\320\025\123\001\330\337\353\331
\346\166\357\320\043\273\073\251\171\263\325\002\051\315\211\243
\226\017\112\065\347\116\102\300\165\315\007\317\346\054\353\173
\056
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "CFCA EV ROOT"

# Issuer: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN

# Serial Number: 407555286 (0x184accd6)

# Subject: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN

# Not Valid Before: Wed Aug 08 03:07:01 2012

# Not Valid After : Mon Dec 31 03:07:01 2029

# Fingerprint (SHA-256):

5C:C3:D7:8E:4E:1D:5E:45:54:7A:04:E6:87:3E:64:F9:0C:F9:53:6D:1C:CC:2E:F8:00:F3:55:C4:C5:FD:70:FD

# Fingerprint (SHA1): E2:B8:29:4B:55:84:AB:6B:58:C2:90:46:6C:AC:3F:B8:39:8F:84:83

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "CFCA EV ROOT"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\342\270\051\113\125\204\253\153\130\302\220\106\154\254\077\270

\071\217\204\203

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

\164\341\266\355\046\172\172\104\060\063\224\253\173\047\201\060

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\126\061\013\060\011\006\003\125\004\006\023\002\103\116\061

\060\060\056\006\003\125\004\012\014\047\103\150\151\156\141\040

\106\151\156\141\156\143\151\141\154\040\103\145\162\164\151\146

\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164

\171\061\025\060\023\006\003\125\004\003\014\014\103\106\103\101

\040\105\126\040\122\117\117\124

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\004\030\112\314\326

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

```

#
Certificate "OISTE WISeKey Global Root GB CA"
#
Issuer: CN=OISTE WISeKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH
Serial Number:76:b1:20:52:74:f0:85:87:46:b3:f8:23:1a:f6:c2:c0
#
Subject: CN=OISTE WISeKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH
Not Valid Before: Mon Dec 01 15:00:32 2014
Not Valid After : Thu Dec 01 15:10:31 2039
Fingerprint (SHA-256):
6B:9C:08:E8:6E:B0:F7:67:CF:AD:65:CD:98:B6:21:49:E5:49:4A:67:F5:84:5E:7B:D1:ED:01:9F:27:B8:6B:D6
Fingerprint (SHA1): 0F:F9:40:76:18:D3:D7:6A:4B:98:F0:A8:35:9E:0C:FD:27:AC:CC:ED
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "OISTE WISeKey Global Root GB CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\102\040\103\101
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\102\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\166\261\040\122\164\360\205\207\106\263\370\043\032\366
\302\300
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\265\060\202\002\235\240\003\002\001\002\002\020\166
\261\040\122\164\360\205\207\106\263\370\043\032\366\302\300\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\155
\061\013\060\011\006\003\125\004\006\023\002\103\110\061\020\060
\016\006\003\125\004\012\023\007\127\111\123\145\113\145\171\061

```

\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040  
\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162  
\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111  
\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142  
\141\154\040\122\157\157\164\040\107\102\040\103\101\060\036\027  
\015\061\064\061\062\060\061\061\065\060\060\063\062\132\027\015  
\063\071\061\062\060\061\061\065\061\060\063\061\132\060\155\061  
\013\060\011\006\003\125\004\006\023\002\103\110\061\020\060\016  
\006\003\125\004\012\023\007\127\111\123\145\113\145\171\061\042  
\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040\106  
\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162\163  
\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111\123  
\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142\141  
\154\040\122\157\157\164\040\107\102\040\103\101\060\202\001\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\001\017\000\060\202\001\012\002\202\001\001\000\330\027\267  
\034\112\044\052\326\227\261\312\342\036\373\175\070\357\230\365  
\262\071\230\116\047\270\021\135\173\322\045\224\210\202\025\046  
\152\033\061\273\250\133\041\041\053\330\017\116\237\132\361\261  
\132\344\171\326\062\043\053\341\123\314\231\105\134\173\117\255  
\274\277\207\112\013\113\227\132\250\366\110\354\175\173\015\315  
\041\006\337\236\025\375\101\212\110\267\040\364\241\172\033\127  
\324\135\120\377\272\147\330\043\231\037\310\077\343\336\377\157  
\133\167\261\153\156\270\311\144\367\341\312\101\106\016\051\161  
\320\271\043\374\311\201\137\116\367\157\337\277\204\255\163\144  
\273\267\102\216\151\366\324\166\035\176\235\247\270\127\212\121  
\147\162\327\324\250\270\225\124\100\163\003\366\352\364\353\376  
\050\102\167\077\235\043\033\262\266\075\200\024\007\114\056\117  
\367\325\012\026\015\275\146\103\067\176\043\103\171\303\100\206  
\365\114\051\332\216\232\255\015\245\004\207\210\036\205\343\351  
\123\325\233\310\213\003\143\170\353\340\031\112\156\273\057\153  
\063\144\130\223\255\151\277\217\033\357\202\110\307\002\003\001  
\000\001\243\121\060\117\060\013\006\003\125\035\017\004\004\003  
\002\001\206\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\065  
\017\310\066\143\136\342\243\354\371\073\146\025\316\121\122\343  
\221\232\075\060\020\006\011\053\006\001\004\001\202\067\025\001  
\004\003\002\001\000\060\015\006\011\052\206\110\206\367\015\001  
\001\013\005\000\003\202\001\001\000\100\114\373\207\262\231\201  
\220\176\235\305\260\260\046\315\210\173\053\062\215\156\270\041  
\161\130\227\175\256\067\024\257\076\347\367\232\342\175\366\161  
\230\231\004\252\103\164\170\243\343\111\141\076\163\214\115\224  
\340\371\161\304\266\026\016\123\170\037\326\242\207\057\002\071  
\201\051\074\257\025\230\041\060\376\050\220\000\214\321\341\313  
\372\136\310\375\370\020\106\073\242\170\102\221\027\164\125\012  
\336\120\147\115\146\321\247\377\375\331\300\265\250\243\212\316  
\146\365\017\103\315\247\053\127\173\143\106\152\252\056\122\330  
\364\355\341\155\255\051\220\170\110\272\341\043\252\243\211\354



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\265\253\226\300\264\113\242\035\227\236\172\362\156\100\161\337
\150\361\145\115\316\174\005\337\123\145\251\245\360\261\227\004
\160\025\106\003\230\324\322\277\124\264\240\130\175\122\157\332
\126\046\142\324\330\333\211\061\157\034\360\042\302\323\142\034
\065\315\114\151\025\124\032\220\230\336\353\036\137\312\167\307
\313\216\075\103\151\234\232\130\320\044\073\337\033\100\226\176
\065\255\201\307\116\161\272\210\023
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "OISTE WISEKey Global Root GB CA"

# Issuer: CN=OISTE WISEKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISEKey,C=CH

# Serial Number:76:b1:20:52:74:f0:85:87:46:b3:f8:23:1a:f6:c2:c0

# Subject:

CN=OISTE WISEKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISEKey,C=CH

# Not Valid Before: Mon Dec 01 15:00:32 2014

# Not Valid After : Thu Dec 01 15:10:31 2039

# Fingerprint (SHA-256):

6B:9C:08:E8:6E:B0:F7:67:CF:AD:65:CD:98:B6:21:49:E5:49:4A:67:F5:84:5E:7B:D1:ED:01:9F:27:B8:6B:D6

# Fingerprint (SHA1): 0F:F9:40:76:18:D3:D7:6A:4B:98:F0:A8:35:9E:0C:FD:27:AC:CC:ED

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "OISTE WISEKey Global Root GB CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\017\371\100\166\030\323\327\152\113\230\360\250\065\236\014\375
\047\254\314\355
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\244\353\271\141\050\056\267\057\230\260\065\046\220\231\121\035
END
```

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\102\040\103\101
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\020\166\261\040\122\164\360\205\207\106\263\370\043\032\366
\302\300
```

```

END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "SZAFIR ROOT CA2"
#
Issuer: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL
Serial Number:3e:8a:5d:07:ec:55:d2:32:d5:b7:e3:b6:5f:01:eb:2d:dc:e4:d6:e4
Subject: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL
Not Valid Before: Mon Oct 19 07:43:30 2015
Not Valid After : Fri Oct 19 07:43:30 2035
Fingerprint (SHA-256):
A1:33:9D:33:28:1A:0B:56:E5:57:D3:D3:2B:1C:E7:F9:36:7E:B0:94:BD:5F:A7:2A:7E:50:04:C8:DE:D7:CA:FE
#
Fingerprint (SHA1): E2:52:FA:95:3F:ED:DB:24:60:BD:6E:28:F3:9C:CC:CF:5E:B3:3F:DE
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SZAFIR ROOT CA2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\050\060\046\006\003\125\004\012\014\037\113\162\141\152\157\167
\141\040\111\172\142\141\040\122\157\172\154\151\143\172\145\156
\151\157\167\141\040\123\056\101\056\061\030\060\026\006\003\125
\004\003\014\017\123\132\101\106\111\122\040\122\117\117\124\040
\103\101\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\050\060\046\006\003\125\004\012\014\037\113\162\141\152\157\167
\141\040\111\172\142\141\040\122\157\172\154\151\143\172\145\156
\151\157\167\141\040\123\056\101\056\061\030\060\026\006\003\125
\004\003\014\017\123\132\101\106\111\122\040\122\117\117\124\040
\103\101\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\024\076\212\135\007\354\125\322\062\325\267\343\266\137\001
\353\055\334\344\326\344
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\162\060\202\002\132\240\003\002\001\002\002\024\076

```

\212\135\007\354\125\322\062\325\267\343\266\137\001\353\055\334  
\344\326\344\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\121\061\013\060\011\006\003\125\004\006\023\002\120  
\114\061\050\060\046\006\003\125\004\012\014\037\113\162\141\152  
\157\167\141\040\111\172\142\141\040\122\157\172\154\151\143\172  
\145\156\151\157\167\141\040\123\056\101\056\061\030\060\026\006  
\003\125\004\003\014\017\123\132\101\106\111\122\040\122\117\117  
\124\040\103\101\062\060\036\027\015\061\065\061\060\061\071\060  
\067\064\063\063\060\132\027\015\063\065\061\060\061\071\060\067  
\064\063\063\060\132\060\121\061\013\060\011\006\003\125\004\006  
\023\002\120\114\061\050\060\046\006\003\125\004\012\014\037\113  
\162\141\152\157\167\141\040\111\172\142\141\040\122\157\172\154  
\151\143\172\145\156\151\157\167\141\040\123\056\101\056\061\030  
\060\026\006\003\125\004\003\014\017\123\132\101\106\111\122\040  
\122\117\117\124\040\103\101\062\060\202\001\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000  
\060\202\001\012\002\202\001\001\000\267\274\076\120\250\113\315  
\100\265\316\141\347\226\312\264\241\332\014\042\260\372\265\173  
\166\000\167\214\013\317\175\250\206\314\046\121\344\040\075\205  
\014\326\130\343\347\364\052\030\235\332\321\256\046\356\353\123  
\334\364\220\326\023\112\014\220\074\303\364\332\322\216\015\222  
\072\334\261\261\377\070\336\303\272\055\137\200\271\002\275\112  
\235\033\017\264\303\302\301\147\003\335\334\033\234\075\263\260  
\336\000\036\250\064\107\273\232\353\376\013\024\275\066\204\332  
\015\040\277\372\133\313\251\026\040\255\071\140\356\057\165\266  
\347\227\234\371\076\375\176\115\157\115\057\357\210\015\152\372  
\335\361\075\156\040\245\240\022\264\115\160\271\316\327\162\073  
\211\223\247\200\204\034\047\111\162\111\265\377\073\225\236\301  
\314\310\001\354\350\016\212\012\226\347\263\246\207\345\326\371  
\005\053\015\227\100\160\074\272\254\165\132\234\325\115\235\002  
\012\322\113\233\146\113\106\007\027\145\255\237\154\210\000\334  
\042\211\340\341\144\324\147\274\061\171\141\074\273\312\101\315  
\134\152\000\310\074\070\216\130\257\002\003\001\000\001\243\102  
\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003  
\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\035\006\003\125\035\016\004\026\004\024\056\026  
\251\112\030\265\313\314\365\157\120\363\043\137\370\135\347\254  
\360\310\060\015\006\011\052\206\110\206\367\015\001\001\013\005  
\000\003\202\001\001\000\265\163\370\003\334\131\133\035\166\351  
\243\052\173\220\050\262\115\300\063\117\252\232\261\324\270\344  
\047\377\251\226\231\316\106\340\155\174\114\242\070\244\006\160  
\360\364\101\021\354\077\107\215\077\162\207\371\073\375\244\157  
\053\123\000\340\377\071\271\152\007\016\353\035\034\366\242\162  
\220\313\202\075\021\202\213\322\273\237\052\257\041\346\143\206  
\235\171\031\357\367\273\014\065\220\303\212\355\117\017\365\314  
\022\331\244\076\273\240\374\040\225\137\117\046\057\021\043\203  
\116\165\007\017\277\233\321\264\035\351\020\004\376\312\140\217  
\242\114\270\255\317\341\220\017\315\256\012\307\135\173\267\120

```
\322\324\141\372\325\025\333\327\237\207\121\124\353\245\343\353
\311\205\240\045\040\067\373\216\316\014\064\204\341\074\201\262
\167\116\103\245\210\137\206\147\241\075\346\264\134\141\266\076
\333\376\267\050\305\242\007\256\265\312\312\215\052\022\357\227
\355\302\060\244\311\052\172\373\363\115\043\033\231\063\064\240
\056\365\251\013\077\324\135\341\317\204\237\342\031\302\137\212
\326\040\036\343\163\267
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL

CK\_FALSE

# Trust for "SZAFIR ROOT CA2"

# Issuer: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL

# Serial Number:3e:8a:5d:07:ec:55:d2:32:d5:b7:e3:b6:5f:01:eb:2d:dc:e4:d6:e4

# Subject: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL

# Not Valid Before: Mon Oct 19 07:43:30 2015

# Not Valid After : Fri Oct 19 07:43:30 2035

# Fingerprint (SHA-256):

A1:33:9D:33:28:1A:0B:56:E5:57:D3:D3:2B:1C:E7:F9:36:7E:B0:94:BD:5F:A7:2A:7E:50:04:C8:DE:D7:CA:FE

# Fingerprint (SHA1): E2:52:FA:95:3F:ED:DB:24:60:BD:6E:28:F3:9C:CC:CF:5E:B3:3F:DE

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SZAFIR ROOT CA2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\342\122\372\225\077\355\333\044\140\275\156\050\363\234\314\317
\136\263\077\336
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\021\144\301\211\260\044\261\214\261\007\176\211\236\121\236\231
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\121\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\050\060\046\006\003\125\004\012\014\037\113\162\141\152\157\167
\141\040\111\172\142\141\040\122\157\172\154\151\143\172\145\156
\151\157\167\141\040\123\056\101\056\061\030\060\026\006\003\125
\004\003\014\017\123\132\101\106\111\122\040\122\117\117\124\040
\103\101\062
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\024\076\212\135\007\354\125\322\062\325\267\343\266\137\001
\353\055\334\344\326\344
```

END

```

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Certum Trusted Network CA 2"
#
Issuer: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
Serial Number:21:d6:d0:4a:4f:25:0f:c9:32:37:fc:aa:5e:12:8d:e9
Subject: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
Not Valid Before:
 Thu Oct 06 08:39:56 2011
Not Valid After : Sat Oct 06 08:39:56 2046
Fingerprint (SHA-256):
B6:76:F2:ED:DA:E8:77:5C:D3:6C:B0:F6:3C:D1:D4:60:39:61:F4:9E:62:65:BA:01:3A:2F:03:07:B6:D0:B8:04
Fingerprint (SHA1): D3:DD:48:3E:2B:BF:4C:05:E8:AF:10:F5:FA:76:26:CF:D3:DC:30:92
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Trusted Network CA 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\044\060
\042\006\003\125\004\003\023\033\103\145\162\164\165\155\040\124
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103
\101\040\062
END
CKA_ID
 UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\044\060
\042\006\003\125\004\003\023\033\103\145\162\164\165\155\040\124
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103
\101\040\062

```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\041\326\320\112\117\045\017\311\062\067\374\252\136\022  
\215\351

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\322\060\202\003\272\240\003\002\001\002\002\020\041  
\326\320\112\117\045\017\311\062\067\374\252\136\022\215\351\060  
\015\006\011\052\206\110\206\367\015\001\001\015\005\000\060\201  
\200\061\013\060\011\006\003\125\004\006\023\002\120\114\061\042  
\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164\157  
\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123\056  
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162  
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\061\044\060\042\006  
\003\125\004\003\023\033\103\145\162\164\165\155\040\124\162\165  
\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101\040  
\062\060\042\030\017\062\060\061\061\061\060\060\066\060\070\063  
\071\065\066\132\030\017\062\060\064\066\061\060\060\066\060\070  
\063\071\065\066\132\060\201\200\061\013\060\011\006\003\125\004  
\006\023\002\120\114\061\042\060\040\006\003\125\004\012\023\031  
\125\156\151\172\145\164\157\040\124\145\143\150\156\157\154\157  
\147\151\145\163\040\123\056\101\056\061\047\060\045\006\003\125  
\004\013\023\036\103\145\162\164\165\155\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\061\044\060\042\006\003\125\004\003\023\033\103\145\162  
\164\165\155\040\124\162\165\163\164\145\144\040\116\145\164\167  
\157\162\153\040\103\101\040\062\060\202\002\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000  
\060\202\002\012\002\202\002\001\000\275\371\170\370\346\325\200  
\014\144\235\206\033\226\144\147\077\042\072\036\165\001\175\357  
\373\134\147\214\311\314\134\153\251\221\346\271\102\345\040\113  
\233\332\233\173\271\231\135\331\233\200\113\327\204\100\053\047  
\323\350\272\060\273\076\011\032\247\111\225\357\053\100\044\302  
\227\307\247\356\233\045\357\250\012\000\227\205\132\252\235\334  
\051\311\342\065\007\353\160\115\112\326\301\263\126\270\241\101  
\070\233\321\373\061\177\217\340\137\341\261\077\017\216\026\111  
\140\327\006\215\030\371\252\046\020\253\052\323\320\321\147\215  
\033\106\276\107\060\325\056\162\321\305\143\332\347\143\171\104  
\176\113\143\044\211\206\056\064\077\051\114\122\213\052\247\300  
\342\221\050\211\271\300\133\371\035\331\347\047\255\377\232\002  
\227\301\306\120\222\233\002\054\275\251\271\064\131\012\277\204  
\112\377\337\376\263\237\353\331\236\340\230\043\354\246\153\167  
\026\052\333\314\255\073\034\244\207\334\106\163\136\031\142\150  
\105\127\344\220\202\102\273\102\326\360\141\340\301\243\075\146  
\243\135\364\030\356\210\311\215\027\105\051\231\062\165\002\061  
\356\051\046\310\153\002\346\265\142\105\177\067\025\132\043\150  
\211\324\076\336\116\047\260\360\100\014\274\115\027\313\115\242

\263\036\320\006\132\335\366\223\317\127\165\231\365\372\206\032  
\147\170\263\277\226\376\064\334\275\347\122\126\345\263\345\165  
\173\327\101\221\005\334\135\151\343\225\015\103\271\374\203\226  
\071\225\173\154\200\132\117\023\162\306\327\175\051\172\104\272  
\122\244\052\325\101\106\011\040\376\042\240\266\133\060\215\274  
\211\014\325\327\160\370\207\122\375\332\357\254\121\056\007\263  
\116\376\320\011\332\160\357\230\372\126\346\155\333\265\127\113  
\334\345\054\045\025\310\236\056\170\116\370\332\234\236\206\054  
\312\127\363\032\345\310\222\213\032\202\226\172\303\274\120\022  
\151\330\016\132\106\213\072\353\046\372\043\311\266\260\201\276  
\102\000\244\370\326\376\060\056\307\322\106\366\345\216\165\375  
\362\314\271\320\207\133\314\006\020\140\273\203\065\267\136\147  
\336\107\354\231\110\361\244\241\025\376\255\214\142\216\071\125  
\117\071\026\271\261\143\235\377\267\002\003\001\000\001\243\102  
\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003  
\001\001\377\060\035\006\003\125\035\016\004\026\004\024\266\241  
\124\071\002\303\240\077\216\212\274\372\324\370\034\246\321\072  
\016\375\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\006\060\015\006\011\052\206\110\206\367\015\001\001\015\005  
\000\003\202\002\001\000\161\245\016\316\344\351\277\077\070\325  
\211\132\304\002\141\373\114\305\024\027\055\213\117\123\153\020  
\027\374\145\204\307\020\111\220\336\333\307\046\223\210\046\157  
\160\326\002\136\071\240\367\217\253\226\265\245\023\134\201\024  
\155\016\201\202\021\033\212\116\306\117\245\335\142\036\104\337  
\011\131\364\133\167\013\067\351\213\040\306\370\012\116\056\130  
\034\353\063\320\317\206\140\311\332\373\200\057\236\114\140\204  
\170\075\041\144\326\373\101\037\030\017\347\311\165\161\275\275  
\134\336\064\207\076\101\260\016\366\271\326\077\011\023\226\024  
\057\336\232\035\132\271\126\316\065\072\260\137\160\115\136\343  
\051\361\043\050\162\131\266\253\302\214\146\046\034\167\054\046  
\166\065\213\050\247\151\240\371\073\365\043\335\205\020\164\311  
\220\003\126\221\347\257\272\107\324\022\227\021\042\343\242\111  
\224\154\347\267\224\113\272\055\244\332\063\213\114\246\104\377  
\132\074\306\035\144\330\265\061\344\246\074\172\250\127\013\333  
\355\141\032\313\361\316\163\167\143\244\207\157\114\121\070\326  
\344\137\307\237\266\201\052\344\205\110\171\130\136\073\370\333  
\002\202\147\301\071\333\303\164\113\075\066\036\371\051\223\210  
\150\133\250\104\031\041\360\247\350\201\015\054\350\223\066\264  
\067\262\312\260\033\046\172\232\045\037\232\232\200\236\113\052  
\077\373\243\232\376\163\062\161\302\236\306\162\341\212\150\047  
\361\344\017\264\304\114\245\141\223\370\227\020\007\052\060\045  
\251\271\310\161\270\357\150\314\055\176\365\340\176\017\202\250  
\157\266\272\154\203\103\167\315\212\222\027\241\236\133\170\026  
\075\105\342\063\162\335\341\146\312\231\323\311\305\046\375\015  
\150\004\106\256\266\331\233\214\276\031\276\261\306\362\031\343  
\134\002\312\054\330\157\112\007\331\311\065\332\100\165\362\304  
\247\031\157\236\102\020\230\165\346\225\213\140\274\355\305\022  
\327\212\316\325\230\134\126\226\003\305\356\167\006\065\377\317

```

\344\356\077\023\141\356\333\332\055\205\360\315\256\235\262\030
\011\105\303\222\241\162\027\374\107\266\240\013\054\361\304\336
\103\150\010\152\137\073\360\166\143\373\314\006\054\246\306\342
\016\265\271\276\044\217
END
CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

#
Trust for "Certum Trusted Network CA 2"
Issuer: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
Serial Number:21:d6:d0:4a:4f:25:0f:c9:32:37:fc:aa:5e:12:8d:e9
Subject: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
Not Valid Before: Thu Oct 06 08:39:56 2011
Not Valid After : Sat Oct 06 08:39:56 2046
Fingerprint (SHA-256):
B6:76:F2:ED:DA:E8:77:5C:D3:6C:B0:F6:3C:D1:D4:60:39:61:F4:9E:62:65:BA:01:3A:2F:03:07:B6:D0:B8:04
Fingerprint (SHA1): D3:DD:48:3E:2B:BF:4C:05:E8:AF:10:F5:FA:76:26:CF:D3:DC:30:92
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Trusted Network CA 2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\323\335\110\076\053\277\114\005\350\257\020\365\372\166\046\317
\323\334\060\222
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\155\106\236\331\045\155\010\043\133\136\164\175\036\047\333\362
END
CKA_ISSUER
MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\044\060
\042\006\003\125\004\003\023\033\103\145\162\164\165\155\040\124
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103
\101\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\041\326\320\112\117\045\017\311\062\067\374\252\136\022

```



```

\215\351
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Hellenic Academic and Research Institutions RootCA 2015"
#
Issuer: CN=Hellenic
Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research Institutions Cert.
Authority,L=Athens,C=GR
Serial Number: 0 (0x0)
Subject: CN=Hellenic Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research
Institutions Cert. Authority,L=Athens,C=GR
Not Valid Before: Tue Jul 07 10:11:21 2015
Not Valid After : Sat Jun 30 10:11:21 2040
Fingerprint (SHA-256):
A0:40:92:9A:02:CE:53:B4:AC:F4:F2:FF:C6:98:1C:E4:49:6F:75:5E:6D:45:FE:0B:2A:69:2B:CD:52:52:3F:36
Fingerprint (SHA1): 01:0C:06:95:A6:98:19:14:FF:BF:5F:C6:B0:B6:95:EA:29:E9:12:A6
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Hellenic Academic and Research Institutions RootCA 2015"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\246\061\013\060\011\006\003\125\004\006\023\002\107\122
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165
\164\150\157\162\151\164\171\061\100\060\076\006\003\125\004\003
\023\067\110\145\154\154\145\156\151\143\040\101\143\141\144\145
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\122\157
\157\164\103\101\040\062\060\061\065
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\246\061\013\060\011\006\003\125\004\006\023\002\107\122
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151

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\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165  
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\023\067\110\145\154\154\145\156\151\143\040\101\143\141\144\145  
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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\000

END

CKA\_VALUE MULTILINE\_OCTAL

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\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144  
\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164  
\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165\164  
\150\157\162\151\164\171\061\100\060\076\006\003\125\004\003\023  
\067\110\145\154\154\145\156\151\143\040\101\143\141\144\145\155  
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\111\156\163\164\151\164\165\164\151\157\156\163\040\122\157\157  
\164\103\101\040\062\060\061\065\060\036\027\015\061\065\060\067  
\060\067\061\060\061\061\062\061\132\027\015\064\060\060\066\063  
\060\061\060\061\061\062\061\132\060\201\246\061\013\060\011\006  
\003\125\004\006\023\002\107\122\061\017\060\015\006\003\125\004  
\007\023\006\101\164\150\145\156\163\061\104\060\102\006\003\125  
\004\012\023\073\110\145\154\154\145\156\151\143\040\101\143\141  
\144\145\155\151\143\040\141\156\144\040\122\145\163\145\141\162  
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\260\221\072\171\074\146\132\357\155\071\001\111\032\264\267\317  
\177\115\043\123\267\220\000\343\023\052\050\246\061\361\221\000  
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\271\260\137\231\341\362\022\203\200\115\006\076\337\254\257\347  
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\002\200\044\050\012\002\025\225\136\166\052\015\231\072\024\133  
\366\313\313\123\274\023\115\001\210\067\224\045\033\102\274\042  
\330\216\243\226\136\072\331\062\333\076\350\360\020\145\355\164

\341\057\247\174\257\047\064\273\051\175\233\266\317\011\310\345  
\323\012\374\210\145\145\164\012\334\163\034\134\315\100\261\034  
\324\266\204\214\114\120\317\150\216\250\131\256\302\047\116\202  
\242\065\335\024\364\037\377\262\167\325\207\057\252\156\175\044  
\047\347\306\313\046\346\345\376\147\007\143\330\105\015\335\072  
\131\145\071\130\172\222\231\162\075\234\204\136\210\041\270\325  
\364\054\374\331\160\122\117\170\270\275\074\053\213\225\230\365  
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\031\067\327\021\010\267\146\276\323\112\316\203\127\000\072\303  
\201\370\027\313\222\066\135\321\243\330\165\033\341\213\047\352  
\172\110\101\375\105\031\006\255\047\231\116\301\160\107\335\265  
\237\201\123\022\345\261\214\110\135\061\103\027\343\214\306\172  
\143\226\113\051\060\116\204\116\142\031\136\074\316\227\220\245  
\177\001\353\235\340\370\213\211\335\045\230\075\222\266\176\357  
\331\361\121\121\175\055\046\310\151\131\141\340\254\152\270\052  
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\055\362\015\150\121\252\343\245\167\306\244\220\016\241\067\213  
\061\043\107\301\011\010\353\156\367\170\233\327\202\374\204\040  
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\007\017\352\153\334\037\056\006\162\354\206\210\022\344\055\333  
\137\005\057\344\360\003\323\046\063\347\200\302\315\102\241\027  
\064\013\002\003\001\000\001\243\102\060\100\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003  
\125\035\016\004\026\004\024\161\025\147\310\310\311\275\165\135  
\162\320\070\030\152\235\363\161\044\124\013\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\165  
\273\155\124\113\252\020\130\106\064\362\142\327\026\066\135\010  
\136\325\154\310\207\275\264\056\106\362\061\370\174\352\102\265  
\223\026\125\334\241\014\022\240\332\141\176\017\130\130\163\144  
\162\307\350\105\216\334\251\362\046\077\306\171\214\261\123\010  
\063\201\260\126\023\276\346\121\134\330\233\012\117\113\234\126  
\123\002\351\117\366\015\140\352\115\102\125\350\174\033\041\041  
\323\033\072\314\167\362\270\220\361\150\307\371\132\376\372\055  
\364\277\311\365\105\033\316\070\020\052\067\212\171\243\264\343  
\011\154\205\206\223\377\211\226\047\170\201\217\147\343\106\164  
\124\216\331\015\151\342\112\364\115\164\003\377\262\167\355\225  
\147\227\344\261\305\253\277\152\043\350\324\224\342\104\050\142  
\304\113\342\360\330\342\051\153\032\160\176\044\141\223\173\117  
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\217\301\254\032\305\147\363\157\064\322\372\163\143\214\357\026  
\260\250\244\106\052\370\353\022\354\162\264\357\370\053\176\214  
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\137\330\263\214\131\064\131\244\253\117\154\273\037\030\333\165  
\253\330\313\222\315\224\070\141\016\007\006\037\113\106\020\361  
\025\276\215\205\134\073\112\053\201\171\017\264\151\237\111\120

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\157\072\004\274\315\170\211\013\216\017\057\243\252\117\242\033
\022\075\026\010\100\017\361\106\114\327\252\173\010\301\012\365
\155\047\336\002\217\312\303\265\053\312\351\353\310\041\123\070
\245\314\073\330\167\067\060\242\117\331\157\321\362\100\255\101
\172\027\305\326\112\065\211\267\101\325\174\206\177\125\115\203
\112\245\163\040\300\072\257\220\361\232\044\216\331\216\161\312
\173\270\206\332\262\217\231\076\035\023\015\022\021\356\324\253
\360\351\025\166\002\344\340\337\252\040\036\133\141\205\144\100
\251\220\227\015\255\123\322\132\035\207\152\000\227\145\142\264
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END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Hellenic Academic and Research Institutions RootCA 2015"

# Issuer: CN=Hellenic Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research  
Institutions Cert. Authority,L=Athens,C=GR

# Serial Number: 0 (0x0)

# Subject: CN=Hellenic Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research  
Institutions Cert. Authority,L=Athens,C=GR

# Not Valid Before: Tue Jul 07 10:11:21 2015

# Not Valid After : Sat Jun 30 10:11:21 2040

# Fingerprint (SHA-256):

A0:40:92:9A:02:CE:53:B4:AC:F4:F2:FF:C6:98:1C:E4:49:6F:75:5E:6D:45:FE:0B:2A:69:2B:CD:52:52:3F:36

# Fingerprint (SHA1): 01:0C:06:95:A6:98:19:14:FF:BF:5F:C6:B0:B6:95:EA:29:E9:12:A6

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Hellenic Academic and Research Institutions RootCA 2015"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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\001\014\006\225\246\230\031\024\377\277\137\306\260\266\225\352
\051\351\022\246
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END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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\312\377\342\333\003\331\313\113\351\017\255\204\375\173\030\316
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END

CKA\_ISSUER MULTILINE\_OCTAL

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\060\201\246\061\013\060\011\006\003\125\004\006\023\002\107\122
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156
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\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165
\164\150\157\162\151\164\171\061\100\060\076\006\003\125\004\003
\023\067\110\145\154\154\145\156\151\143\040\101\143\141\144\145
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\122\157
\157\164\103\101\040\062\060\061\065
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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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\002\001\000
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END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Hellenic Academic and Research Institutions ECC RootCA 2015"

#

#

Issuer: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and Research Institutions Cert. Authority,L=Athens,C=GR

# Serial Number: 0 (0x0)

# Subject: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and Research Institutions Cert. Authority,L=Athens,C=GR

# Not Valid Before: Tue Jul 07 10:37:12 2015

# Not Valid After : Sat Jun 30 10:37:12 2040

# Fingerprint (SHA-256):

44:B5:45:AA:8A:25:E6:5A:73:CA:15:DC:27:FC:36:D2:4C:1C:B9:95:3A:06:65:39:B1:15:82:DC:48:7B:48:33

# Fingerprint (SHA1): 9F:F1:71:8D:92:D5:9A:F3:7D:74:97:B4:BC:6F:84:68:0B:BA:B6:66

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Hellenic Academic and Research Institutions ECC RootCA 2015"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154
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END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154  
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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\000

END

CKA\_VALUE MULTILINE\_OCTAL

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\063\060\061\060\063\067\061\062\132\060\201\252\061\013\060\011  
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\040\103\145\162\164\056\040\101\165\164\150\157\162\151\164\171  
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\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003
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\013\202\231\044\001\016\234\273\344\016\375\277\373\227\040\223
\231\052\060\012\006\010\052\206\110\316\075\004\003\002\003\147
\000\060\144\002\060\147\316\026\142\070\242\254\142\105\247\251
\225\044\300\032\047\234\062\073\300\300\325\272\251\347\370\004
\103\123\205\356\122\041\336\235\365\045\203\076\236\130\113\057
\327\147\023\016\041\002\060\005\341\165\001\336\150\355\052\037
\115\114\011\010\015\354\113\255\144\027\050\347\165\316\105\145
\162\041\027\313\042\101\016\214\023\230\070\232\124\155\233\312
\342\174\352\002\130\042\221
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Hellenic Academic and Research Institutions ECC RootCA 2015"

# Issuer: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and Research Institutions Cert. Authority,L=Athens,C=GR

# Serial Number: 0 (0x0)

# Subject: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and Research Institutions Cert. Authority,L=Athens,C=GR

# Not Valid Before: Tue Jul 07 10:37:12 2015

# Not Valid After : Sat Jun 30 10:37:12 2040

# Fingerprint (SHA-256):

44:B5:45:AA:8A:25:E6:5A:73:CA:15:DC:27:FC:36:D2:4C:1C:B9:95:3A:06:65:39:B1:15:82:DC:48:7B:48:33

#

Fingerprint (SHA1): 9F:F1:71:8D:92:D5:9A:F3:7D:74:97:B4:BC:6F:84:68:0B:BA:B6:66

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Hellenic Academic and Research Institutions ECC RootCA 2015"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\237\361\161\215\222\325\232\363\175\164\227\264\274\157\204\150
\013\272\266\146
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\201\345\264\027\353\302\365\341\113\015\101\173\111\222\376\357
```

END

```

CKA_ISSUER MULTILINE_OCTAL
\060\201\252\061\013\060\011\006\003\125\004\006\023\002\107\122
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165
\164\150\157\162\151\164\171\061\104\060\102\006\003\125\004\003
\023\073\110\145\154\154\145\156\151\143\040\101\143\141\144\145
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\105\103
\103\040\122\157\157\164\103\101\040\062\060\061\065
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "ISRG Root X1"
#
Issuer: CN=ISRG Root X1,O=Internet Security Research Group,C=US
Serial Number:00:82:10:cf:b0:d2:40:e3:59:44:63:e0:bb:63:82:8b:00
Subject: CN=ISRG Root X1,O=Internet Security Research Group,C=US
Not Valid Before: Thu Jun 04 11:04:38 2015
Not Valid After : Mon Jun 04 11:04:38 2035
Fingerprint (SHA-256):
96:BC:EC:06:26:49:76:F3:74:60:77:9A:CF:28:C5:A7:CF:E8:A3:C0:AA:E1:1A:8F:FC:EE:05:C0:BD:DF:08:C6
#
Fingerprint (SHA1): CA:BD:2A:79:A1:07:6A:31:F2:1D:25:36:35:CB:03:9D:43:29:A5:E8
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ISRG Root X1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\061
END

```



CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156  
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145  
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003  
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130  
\061

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\021\000\202\020\317\260\322\100\343\131\104\143\340\273\143  
\202\213\000

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\153\060\202\003\123\240\003\002\001\002\002\021\000  
\202\020\317\260\322\100\343\131\104\143\340\273\143\202\213\000  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061\051  
\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156\145  
\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145\141  
\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003\125  
\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130\061  
\060\036\027\015\061\065\060\066\060\064\061\061\060\064\063\070  
\132\027\015\063\065\060\066\060\064\061\061\060\064\063\070\132  
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156  
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145  
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003  
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130  
\061\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002  
\001\000\255\350\044\163\364\024\067\363\233\236\053\127\050\034  
\207\276\334\267\337\070\220\214\156\074\346\127\240\170\367\165  
\302\242\376\365\152\156\366\000\117\050\333\336\150\206\154\104  
\223\266\261\143\375\024\022\153\277\037\322\352\061\233\041\176  
\321\063\074\272\110\365\335\171\337\263\270\377\022\361\041\232  
\113\301\212\206\161\151\112\146\146\154\217\176\074\160\277\255  
\051\042\006\363\344\300\346\200\256\342\113\217\267\231\176\224  
\003\237\323\107\227\174\231\110\043\123\350\070\256\117\012\157  
\203\056\321\111\127\214\200\164\266\332\057\320\070\215\173\003  
\160\041\033\165\362\060\074\372\217\256\335\332\143\253\353\026  
\117\302\216\021\113\176\317\013\350\377\265\167\056\364\262\173  
\112\340\114\022\045\014\160\215\003\051\240\341\123\044\354\023  
\331\356\031\277\020\263\112\214\077\211\243\141\121\336\254\207  
\007\224\364\143\161\354\056\342\157\133\230\201\341\211\134\064  
\171\154\166\357\073\220\142\171\346\333\244\232\057\046\305\320  
\020\341\016\336\331\020\216\026\373\267\367\250\367\307\345\002

\007\230\217\066\010\225\347\342\067\226\015\066\165\236\373\016  
\162\261\035\233\274\003\371\111\005\330\201\335\005\264\052\326  
\101\351\254\001\166\225\012\017\330\337\325\275\022\037\065\057  
\050\027\154\322\230\301\250\011\144\167\156\107\067\272\316\254  
\131\136\150\235\177\162\326\211\305\006\101\051\076\131\076\335  
\046\365\044\311\021\247\132\243\114\100\037\106\241\231\265\247  
\072\121\156\206\073\236\175\162\247\022\005\170\131\355\076\121  
\170\025\013\003\217\215\320\057\005\262\076\173\112\034\113\163  
\005\022\374\306\352\340\120\023\174\103\223\164\263\312\164\347  
\216\037\001\010\320\060\324\133\161\066\264\007\272\301\060\060  
\134\110\267\202\073\230\246\175\140\212\242\243\051\202\314\272  
\275\203\004\033\242\203\003\101\241\326\005\361\033\302\266\360  
\250\174\206\073\106\250\110\052\210\334\166\232\166\277\037\152  
\245\075\031\217\353\070\363\144\336\310\053\015\012\050\377\367  
\333\342\025\102\324\042\320\047\135\341\171\376\030\347\160\210  
\255\116\346\331\213\072\306\335\047\121\156\377\274\144\365\063  
\103\117\002\003\001\000\001\243\102\060\100\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003  
\125\035\016\004\026\004\024\171\264\131\346\173\266\345\344\001  
\163\200\010\210\310\032\130\366\351\233\156\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\125  
\037\130\251\274\262\250\120\320\014\261\330\032\151\040\047\051  
\010\254\141\165\134\212\156\370\202\345\151\057\325\366\126\113  
\271\270\163\020\131\323\041\227\176\347\114\161\373\262\322\140  
\255\071\250\013\352\027\041\126\205\361\120\016\131\353\316\340  
\131\351\272\311\025\357\206\235\217\204\200\366\344\351\221\220  
\334\027\233\142\033\105\360\146\225\322\174\157\302\352\073\357  
\037\317\313\326\256\047\361\251\260\310\256\375\175\176\232\372  
\042\004\353\377\331\177\352\221\053\042\261\027\016\217\362\212  
\064\133\130\330\374\001\311\124\271\270\046\314\212\210\063\211  
\114\055\204\074\202\337\356\226\127\005\272\054\273\367\304\267  
\307\116\073\202\276\061\310\042\163\163\222\321\302\200\244\071  
\071\020\063\043\202\114\074\237\206\262\125\230\035\276\051\206  
\214\042\233\236\342\153\073\127\072\202\160\115\334\011\307\211  
\313\012\007\115\154\350\135\216\311\357\316\253\307\273\265\053  
\116\105\326\112\320\046\314\345\162\312\010\152\245\225\343\025  
\241\367\244\355\311\054\137\245\373\377\254\050\002\056\276\327  
\173\273\343\161\173\220\026\323\007\136\106\123\174\067\007\102  
\214\323\304\226\234\325\231\265\052\340\225\032\200\110\256\114  
\071\007\316\314\107\244\122\225\053\272\270\373\255\322\063\123  
\175\345\035\115\155\325\241\261\307\102\157\346\100\047\065\134  
\243\050\267\007\215\347\215\063\220\347\043\237\373\120\234\171  
\154\106\325\264\025\263\226\156\176\233\014\226\072\270\122\055  
\077\326\133\341\373\010\302\204\376\044\250\243\211\332\254\152  
\341\030\052\261\250\103\141\133\323\037\334\073\215\166\362\055  
\350\215\165\337\027\063\154\075\123\373\173\313\101\137\377\334  
\242\320\141\070\341\226\270\254\135\213\067\327\165\325\063\300

```
\231\021\256\235\101\301\162\165\204\276\002\101\102\137\147\044
\110\224\321\233\047\276\007\077\271\270\117\201\164\121\341\172
\267\355\235\043\342\276\340\325\050\004\023\074\061\003\236\335
\172\154\217\306\007\030\306\177\336\107\216\077\050\236\004\006
\317\245\124\064\167\275\354\211\233\351\027\103\337\133\333\137
\376\216\036\127\242\315\100\235\176\142\042\332\336\030\047
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

# Trust for "ISRG Root X1"

# Issuer: CN=ISRG Root X1,O=Internet Security Research Group,C=US

# Serial Number:00:82:10:cf:b0:d2:40:e3:59:44:63:e0:bb:63:82:8b:00

# Subject: CN=ISRG Root X1,O=Internet Security Research Group,C=US

# Not Valid Before: Thu Jun 04 11:04:38 2015

# Not Valid After : Mon Jun 04 11:04:38 2035

# Fingerprint (SHA-256):

96:BC:EC:06:26:49:76:F3:74:60:77:9A:CF:28:C5:A7:CF:E8:A3:C0:AA:E1:1A:8F:FC:EE:05:C0:BD:DF:08:C6

# Fingerprint (SHA1): CA:BD:2A:79:A1:07:6A:31:F2:1D:25:36:35:CB:03:9D:43:29:A5:E8

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "ISRG Root X1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\312\275\052\171\241\007\152\061\362\035\045\066\065\313\003\235
\103\051\245\350
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\014\322\371\340\332\027\163\351\355\206\115\245\343\160\347\116
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\061
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\021\000\202\020\317\260\322\100\343\131\104\143\340\273\143
\202\213\000
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "AC RAIZ FNMT-RCM"

#

# Issuer: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES

# Serial Number:5d:93:8d:30:67:36:c8:06:1d:1a:c7:54:84:69:07

# Subject: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES

# Not Valid Before: Wed Oct 29 15:59:56 2008

# Not Valid After : Tue Jan 01 00:00:00 2030

# Fingerprint (SHA-256):

EB:C5:57:0C:29:01:8C:4D:67:B1:AA:12:7B:AF:12:F7:03:B4:61:1E:BC:17:B7:DA:B5:57:38:94:17:9B:93:FA

#

Fingerprint (SHA1): EC:50:35:07:B2:15:C4:95:62:19:E2:A8:9A:5B:42:99:2C:4C:2C:20

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "AC RAIZ FNMT-RCM"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\073\061\013\060\011\006\003\125\004\006\023\002\105\123\061

\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122

\103\115\061\031\060\027\006\003\125\004\013\014\020\101\103\040

\122\101\111\132\040\106\116\115\124\055\122\103\115

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\073\061\013\060\011\006\003\125\004\006\023\002\105\123\061

\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122

\103\115\061\031\060\027\006\003\125\004\013\014\020\101\103\040

\122\101\111\132\040\106\116\115\124\055\122\103\115

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\017\135\223\215\060\147\066\310\006\035\032\307\124\204\151

\007

END

CKA\_VALUE

MULTILINE\_OCTAL

\060\202\005\203\060\202\003\153\240\003\002\001\002\002\017\135

\223\215\060\147\066\310\006\035\032\307\124\204\151\007\060\015

\006\011\052\206\110\206\367\015\001\001\013\005\000\060\073\061

\013\060\011\006\003\125\004\006\023\002\105\123\061\021\060\017

\006\003\125\004\012\014\010\106\116\115\124\055\122\103\115\061

\031\060\027\006\003\125\004\013\014\020\101\103\040\122\101\111

\132\040\106\116\115\124\055\122\103\115\060\036\027\015\060\070

\061\060\062\071\061\065\065\071\065\066\132\027\015\063\060\060  
\061\060\061\060\060\060\060\060\060\060\132\060\073\061\013\060\011  
\006\003\125\004\006\023\002\105\123\061\021\060\017\006\003\125  
\004\012\014\010\106\116\115\124\055\122\103\115\061\031\060\027  
\006\003\125\004\013\014\020\101\103\040\122\101\111\132\040\106  
\116\115\124\055\122\103\115\060\202\002\042\060\015\006\011\052  
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060  
\202\002\012\002\202\002\001\000\272\161\200\172\114\206\156\177  
\310\023\155\300\306\175\034\000\227\217\054\014\043\273\020\232  
\100\251\032\267\207\210\370\233\126\152\373\346\173\216\213\222  
\216\247\045\135\131\021\333\066\056\267\121\027\037\251\010\037  
\004\027\044\130\252\067\112\030\337\345\071\324\127\375\327\301  
\054\221\001\221\342\042\324\003\300\130\374\167\107\354\217\076  
\164\103\272\254\064\215\115\070\166\147\216\260\310\157\060\063  
\130\161\134\264\365\153\156\324\001\120\270\023\176\154\112\243  
\111\321\040\031\356\274\300\051\030\145\247\336\376\357\335\012  
\220\041\347\032\147\222\102\020\230\137\117\060\274\076\034\105  
\264\020\327\150\100\024\300\100\372\347\167\027\172\346\013\217  
\145\133\074\331\232\122\333\265\275\236\106\317\075\353\221\005  
\002\300\226\262\166\114\115\020\226\073\222\372\234\177\017\231  
\337\276\043\065\105\036\002\134\376\265\250\233\231\045\332\136  
\363\042\303\071\365\344\052\056\323\306\037\304\154\252\305\034  
\152\001\005\112\057\322\305\301\250\064\046\135\146\245\322\002  
\041\371\030\267\006\365\116\231\157\250\253\114\121\350\317\120  
\030\305\167\310\071\011\054\111\222\062\231\250\273\027\027\171  
\260\132\305\346\243\304\131\145\107\065\203\136\251\350\065\013  
\231\273\344\315\040\306\233\112\006\071\265\150\374\042\272\356  
\125\214\053\116\352\363\261\343\374\266\231\232\325\102\372\161  
\115\010\317\207\036\152\161\175\371\323\264\351\245\161\201\173  
\302\116\107\226\245\366\166\205\243\050\217\351\200\156\201\123  
\245\155\137\270\110\371\302\371\066\246\056\111\377\270\226\302  
\214\007\263\233\210\130\374\353\033\034\336\055\160\342\227\222  
\060\241\211\343\274\125\250\047\326\113\355\220\255\213\372\143  
\045\131\055\250\065\335\312\227\063\274\345\315\307\235\321\354  
\357\136\016\112\220\006\046\143\255\271\331\065\055\007\272\166  
\145\054\254\127\217\175\364\007\224\327\201\002\226\135\243\007  
\111\325\172\320\127\371\033\347\123\106\165\252\260\171\102\313  
\150\161\010\351\140\275\071\151\316\364\257\303\126\100\307\255  
\122\242\011\344\157\206\107\212\037\353\050\047\135\203\040\257  
\004\311\154\126\232\213\106\365\002\003\001\000\001\243\201\203  
\060\201\200\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024\367  
\175\305\375\304\350\232\033\167\144\247\365\035\240\314\277\207  
\140\232\155\060\076\006\003\125\035\040\004\067\060\065\060\063  
\006\004\125\035\040\000\060\053\060\051\006\010\053\006\001\005  
\005\007\002\001\026\035\150\164\164\160\072\057\057\167\167\167  
\056\143\145\162\164\056\146\156\155\164\056\145\163\057\144\160

\143\163\057\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\002\001\000\007\220\112\337\363\043\116\360\303  
\234\121\145\233\234\042\242\212\014\205\363\163\051\153\115\376  
\001\342\251\014\143\001\277\004\147\245\235\230\137\375\001\023  
\372\354\232\142\351\206\376\266\142\322\156\114\224\373\300\165  
\105\174\145\014\370\262\067\317\254\017\317\215\157\371\031\367  
\217\354\036\362\160\236\360\312\270\357\267\377\166\067\166\133  
\366\156\210\363\257\142\062\042\223\015\072\152\216\024\146\014  
\055\123\164\127\145\036\325\262\335\043\201\073\245\146\043\047  
\147\011\217\341\167\252\103\315\145\121\010\355\121\130\376\346  
\071\371\313\107\204\244\025\361\166\273\244\356\244\073\304\137  
\357\262\063\226\021\030\267\311\145\276\030\341\243\244\334\372  
\030\371\323\274\023\233\071\172\064\272\323\101\373\372\062\212  
\052\267\053\206\013\151\203\070\276\315\212\056\013\160\255\215  
\046\222\356\036\365\001\053\012\331\326\227\233\156\340\250\031  
\034\072\041\213\014\036\100\255\003\347\335\146\176\365\271\040  
\015\003\350\226\371\202\105\324\071\340\240\000\135\327\230\346  
\175\236\147\163\303\232\052\367\253\213\241\072\024\357\064\274  
\122\016\211\230\232\004\100\204\035\176\105\151\223\127\316\353  
\316\370\120\174\117\034\156\004\103\233\371\326\073\043\030\351  
\352\216\321\115\106\215\361\073\344\152\312\272\373\043\267\233  
\372\231\001\051\132\130\132\055\343\371\324\155\016\046\255\301  
\156\064\274\062\370\014\005\372\145\243\333\073\067\203\042\351  
\326\334\162\063\375\135\362\040\275\166\074\043\332\050\367\371  
\033\353\131\144\325\334\137\162\176\040\374\315\211\265\220\147  
\115\142\172\077\116\255\035\303\071\376\172\364\050\026\337\101  
\366\110\200\005\327\017\121\171\254\020\253\324\354\003\146\346  
\152\260\272\061\222\102\100\152\276\072\323\162\341\152\067\125  
\274\254\035\225\267\151\141\362\103\221\164\346\240\323\012\044  
\106\241\010\257\326\332\105\031\226\324\123\035\133\204\171\360  
\300\367\107\357\213\217\305\006\256\235\114\142\235\377\106\004  
\370\323\311\266\020\045\100\165\376\026\252\311\112\140\206\057  
\272\357\060\167\344\124\342\270\204\231\130\200\252\023\213\121  
\072\117\110\366\213\266\263

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "AC RAIZ FNMT-RCM"

# Issuer: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES

#

Serial Number:5d:93:8d:30:67:36:c8:06:1d:1a:c7:54:84:69:07

# Subject: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES

# Not Valid Before: Wed Oct 29 15:59:56 2008

# Not Valid After : Tue Jan 01 00:00:00 2030

# Fingerprint (SHA-256):

```

EB:C5:57:0C:29:01:8C:4D:67:B1:AA:12:7B:AF:12:F7:03:B4:61:1E:BC:17:B7:DA:B5:57:38:94:17:9B:93:FA
Fingerprint (SHA1): EC:50:35:07:B2:15:C4:95:62:19:E2:A8:9A:5B:42:99:2C:4C:2C:20
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AC RAIZ FNMT-RCM"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\354\120\065\007\262\025\304\225\142\031\342\250\232\133\102\231
\054\114\054\040
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\342\011\004\264\323\275\321\240\024\375\032\322\107\304\127\035
END
CKA_ISSUER MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\031\060\027\006\003\125\004\013\014\020\101\103\040
\122\101\111\132\040\106\116\115\124\055\122\103\115
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\017\135\223\215\060\147\066\310\006\035\032\307\124\204\151
\007
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Amazon Root CA 1"
#
Issuer: CN=Amazon Root CA 1,O=Amazon,C=US
Serial Number:06:6c:9f:cf:99:bf:8c:0a:39:e2:f0:78:8a:43:e6:96:36:5b:ca
Subject: CN=Amazon Root CA 1,O=Amazon,C=US
Not Valid Before: Tue May 26 00:00:00 2015
Not Valid After : Sun Jan 17 00:00:00 2038
Fingerprint (SHA-256):
8E:CD:E6:88:4F:3D:87:B1:12:5B:A3:1A:C3:FC:B1:3D:70:16:DE:7F:57:CC:90:4F:E1:CB:97:C6:AE:98:19:6E
Fingerprint (SHA1): 8D:A7:F9:65:EC:5E:FC:37:91:0F:1C:6E:59:FD:C1:CC:6A:6E:DE:16
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE
CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

```

CKA\_SUBJECT MULTILINE\_OCTAL

\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156  
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157  
\156\040\122\157\157\164\040\103\101\040\061

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156  
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157  
\156\040\122\157\157\164\040\103\101\040\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\023\006\154\237\317\231\277\214\012\071\342\360\170\212\103  
\346\226\066\133\312

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\101\060\202\002\051\240\003\002\001\002\002\023\006  
\154\237\317\231\277\214\012\071\342\360\170\212\103\346\226\066  
\133\312\060\015\006\011\052\206\110\206\367\015\001\001\013\005  
\000\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157  
\156\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172  
\157\156\040\122\157\157\164\040\103\101\040\061\060\036\027\015  
\061\065\060\065\062\066\060\060\060\060\060\060\132\027\015\063  
\070\060\061\061\067\060\060\060\060\060\060\132\060\071\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\017\060\015\006  
\003\125\004\012\023\006\101\155\141\172\157\156\061\031\060\027  
\006\003\125\004\003\023\020\101\155\141\172\157\156\040\122\157  
\157\164\040\103\101\040\061\060\202\001\042\060\015\006\011\052  
\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060  
\202\001\012\002\202\001\001\000\262\170\200\161\312\170\325\343  
\161\257\107\200\120\164\175\156\330\327\210\166\364\231\150\367  
\130\041\140\371\164\204\001\057\254\002\055\206\323\240\103\172  
\116\262\244\320\066\272\001\276\215\333\110\310\007\027\066\114  
\364\356\210\043\307\076\353\067\365\265\031\370\111\150\260\336  
\327\271\166\070\035\141\236\244\376\202\066\245\345\112\126\344  
\105\341\371\375\264\026\372\164\332\234\233\065\071\057\372\260  
\040\120\006\154\172\320\200\262\246\371\257\354\107\031\217\120  
\070\007\334\242\207\071\130\370\272\325\251\371\110\147\060\226  
\356\224\170\136\157\211\243\121\300\060\206\146\241\105\146\272  
\124\353\243\303\221\371\110\334\377\321\350\060\055\175\055\164  
\160\065\327\210\044\367\236\304\131\156\273\163\207\027\362\062  
\106\050\270\103\372\267\035\252\312\264\362\237\044\016\055\113  
\367\161\134\136\151\377\352\225\002\313\070\212\256\120\070\157  
\333\373\055\142\033\305\307\036\124\341\167\340\147\310\017\234  
\207\043\326\077\100\040\177\040\200\304\200\114\076\073\044\046



```
\216\004\256\154\232\310\252\015\002\003\001\000\001\243\102\060
\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\206\060\035\006\003\125\035\016\004\026\004\024\204\030\314
\205\064\354\274\014\224\224\056\010\131\234\307\262\020\116\012
\010\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000
\003\202\001\001\000\230\362\067\132\101\220\241\032\305\166\121
\050\040\066\043\016\256\346\050\273\252\370\224\256\110\244\060
\177\033\374\044\215\113\264\310\241\227\366\266\361\172\160\310
\123\223\314\010\050\343\230\045\317\043\244\371\336\041\323\174
\205\011\255\116\232\165\072\302\013\152\211\170\166\104\107\030
\145\154\215\101\216\073\177\232\313\364\265\247\120\327\005\054
\067\350\003\113\255\351\141\240\002\156\365\362\360\305\262\355
\133\267\334\372\224\134\167\236\023\245\177\122\255\225\362\370
\223\073\336\213\134\133\312\132\122\133\140\257\024\367\113\357
\243\373\237\100\225\155\061\124\374\102\323\307\106\037\043\255
\331\017\110\160\232\331\165\170\161\321\162\103\064\165\156\127
\131\302\002\134\046\140\051\317\043\031\026\216\210\103\245\324
\344\313\010\373\043\021\103\350\103\051\162\142\241\251\135\136
\010\324\220\256\270\330\316\024\302\320\125\362\206\366\304\223
\103\167\146\141\300\271\350\101\327\227\170\140\003\156\112\162
\256\245\321\175\272\020\236\206\154\033\212\271\131\063\370\353
\304\220\276\361\271
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Amazon Root CA 1"

# Issuer: CN=Amazon Root CA 1,O=Amazon,C=US

# Serial Number:06:6c:9f:cf:99:bf:8c:0a:39:e2:f0:78:8a:43:e6:96:36:5b:ca

# Subject: CN=Amazon Root CA 1,O=Amazon,C=US

# Not Valid Before: Tue May 26 00:00:00 2015

# Not Valid After : Sun Jan 17 00:00:00 2038

# Fingerprint (SHA-256):

8E:CD:E6:88:4F:3D:87:B1:12:5B:A3:1A:C3:FC:B1:3D:70:16:DE:7F:57:CC:90:4F:E1:CB:97:C6:AE:98:19:6E

# Fingerprint (SHA1): 8D:A7:F9:65:EC:5E:FC:37:91:0F:1C:6E:59:FD:C1:CC:6A:6E:DE:16

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Amazon

Root CA 1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\215\247\371\145\354\136\374\067\221\017\034\156\131\375\301\314
\152\156\336\026
```

END

```

CKA_CERT_MD5_HASH MULTILINE_OCTAL
\103\306\277\256\354\376\255\057\030\306\210\150\060\374\310\346
END
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\023\006\154\237\317\231\277\214\012\071\342\360\170\212\103
\346\226\066\133\312
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Amazon Root CA 2"
#
Issuer: CN=Amazon Root CA 2,O=Amazon,C=US
Serial Number:06:6c:9f:d2:96:35:86:9f:0a:0f:e5:86:78:f8:5b:26:bb:8a:37
#
Subject: CN=Amazon Root CA 2,O=Amazon,C=US
Not Valid Before: Tue May 26 00:00:00 2015
Not Valid After : Sat May 26 00:00:00 2040
Fingerprint (SHA-256):
1B:A5:B2:AA:8C:65:40:1A:82:96:01:18:F8:0B:EC:4F:62:30:4D:83:CE:C4:71:3A:19:C3:9C:01:1E:A4:6D:B4
Fingerprint (SHA1): 5A:8C:EF:45:D7:A6:98:59:76:7A:8C:8B:44:96:B5:78:CF:47:4B:1A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\062

```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\023\006\154\237\322\226\065\206\237\012\017\345\206\170\370  
\133\046\273\212\067

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\101\060\202\003\051\240\003\002\001\002\002\023\006  
\154\237\322\226\065\206\237\012\017\345\206\170\370\133\046\273  
\212\067\060\015\006\011\052\206\110\206\367\015\001\001\014\005  
\000\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157  
\156\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172  
\157\156\040\122\157\157\164\040\103\101\040\062\060\036\027\015  
\061\065\060\065\062\066\060\060\060\060\060\060\132\027\015\064  
\060\060\065\062\066\060\060\060\060\060\132\060\071\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\017\060\015\006  
\003\125\004\012\023\006\101\155\141\172\157\156\061\031\060\027  
\006\003\125\004\003\023\020\101\155\141\172\157\156\040\122\157  
\157\164\040\103\101\040\062\060\202\002\042\060\015\006\011\052  
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060  
\202\002\012\002\202\002\001\000\255\226\237\055\234\112\114\112  
\201\171\121\231\354\212\313\153\140\121\023\274\115\155\006\374  
\260\010\215\335\031\020\152\307\046\014\065\330\300\157\040\204  
\351\224\261\233\205\003\303\133\333\112\350\310\370\220\166\331  
\133\117\343\114\350\006\066\115\314\232\254\075\014\220\053\222  
\324\006\031\140\254\067\104\171\205\201\202\255\132\067\340\015  
\314\235\246\114\122\166\352\103\235\267\004\321\120\366\125\340  
\325\322\246\111\205\351\067\351\312\176\256\134\225\115\110\232  
\077\256\040\132\155\210\225\331\064\270\122\032\103\220\260\277  
\154\005\271\266\170\267\352\320\344\072\074\022\123\142\377\112  
\362\173\276\065\005\251\022\064\343\363\144\164\142\054\075\000  
\111\132\050\376\062\104\273\207\335\145\047\002\161\073\332\112  
\367\037\332\315\367\041\125\220\117\017\354\256\202\341\237\153  
\331\105\323\273\360\137\207\355\074\054\071\206\332\077\336\354  
\162\125\353\171\243\255\333\335\174\260\272\034\316\374\336\117  
\065\166\317\017\370\170\037\152\066\121\106\047\141\133\351\236  
\317\360\242\125\175\174\045\212\157\057\264\305\317\204\056\053  
\375\015\121\020\154\373\137\033\274\033\176\305\256\073\230\001  
\061\222\377\013\127\364\232\262\271\127\351\253\357\015\166\321  
\360\356\364\316\206\247\340\156\351\264\151\241\337\151\366\063  
\306\151\056\227\023\236\245\207\260\127\020\201\067\311\123\263  
\273\177\366\222\321\234\320\030\364\222\156\332\203\117\246\143  
\231\114\245\373\136\357\041\144\172\040\137\154\144\205\025\313  
\067\351\142\014\013\052\026\334\001\056\062\332\076\113\365\236  
\072\366\027\100\224\357\236\221\010\206\372\276\143\250\132\063  
\354\313\164\103\225\371\154\151\122\066\307\051\157\374\125\003  
\134\037\373\237\275\107\353\347\111\107\225\013\116\211\042\011

\111\340\365\141\036\361\277\056\212\162\156\200\131\377\127\072  
\371\165\062\243\116\137\354\355\050\142\331\115\163\362\314\201  
\027\140\355\315\353\334\333\247\312\305\176\002\275\362\124\010  
\124\375\264\055\011\054\027\124\112\230\321\124\341\121\147\010  
\322\355\156\176\157\077\322\055\201\131\051\146\313\220\071\225  
\021\036\164\047\376\335\353\257\002\003\001\000\001\243\102\060  
\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\206\060\035\006\003\125\035\016\004\026\004\024\260\014\360  
\114\060\364\005\130\002\110\375\063\345\122\257\113\204\343\146  
\122\060\015\006\011\052\206\110\206\367\015\001\001\014\005\000  
\003\202\002\001\000\252\250\200\217\016\170\243\340\242\324\315  
\346\365\230\172\073\352\000\003\260\227\016\223\274\132\250\366  
\054\214\162\207\251\261\374\177\163\375\143\161\170\245\207\131  
\317\060\341\015\020\262\023\132\155\202\365\152\346\200\237\240  
\005\013\150\344\107\153\307\152\337\266\375\167\062\162\345\030  
\372\011\364\240\223\054\135\322\214\165\205\166\145\220\014\003  
\171\267\061\043\143\255\170\203\011\206\150\204\312\377\371\317  
\046\232\222\171\347\315\113\305\347\141\247\027\313\363\251\022  
\223\223\153\247\350\057\123\222\304\140\130\260\314\002\121\030  
\133\205\215\142\131\143\266\255\264\336\232\373\046\367\000\047  
\300\135\125\067\164\231\311\120\177\343\131\056\104\343\054\045  
\356\354\114\062\167\264\237\032\351\113\135\040\305\332\375\034  
\207\026\306\103\350\324\273\046\232\105\160\136\251\013\067\123  
\342\106\173\047\375\340\106\362\211\267\314\102\266\313\050\046  
\156\331\245\311\072\310\101\023\140\367\120\214\025\256\262\155  
\032\025\032\127\170\346\222\052\331\145\220\202\077\154\002\257  
\256\022\072\047\226\066\004\327\035\242\200\143\251\233\361\345  
\272\264\174\024\260\116\311\261\037\164\137\070\366\121\352\233  
\372\054\242\021\324\251\055\047\032\105\261\257\262\116\161\015  
\300\130\106\326\151\006\313\123\313\263\376\153\101\315\101\176  
\175\114\017\174\162\171\172\131\315\136\112\016\254\233\251\230  
\163\171\174\264\364\314\271\270\007\014\262\164\134\270\307\157  
\210\241\220\247\364\252\371\277\147\072\364\032\025\142\036\267  
\237\276\075\261\051\257\147\241\022\362\130\020\031\123\003\060  
\033\270\032\211\366\234\275\227\003\216\243\011\363\035\213\041  
\361\264\337\344\034\321\237\145\002\006\352\134\326\023\263\204  
\357\242\245\134\214\167\051\247\150\300\153\256\100\322\250\264  
\352\315\360\215\113\070\234\031\232\033\050\124\270\211\220\357  
\312\165\201\076\036\362\144\044\307\030\257\116\377\107\236\007  
\366\065\145\244\323\012\126\377\365\027\144\154\357\250\042\045  
\111\223\266\337\000\027\332\130\176\135\356\305\033\260\321\321  
\137\041\020\307\371\363\272\002\012\047\007\305\361\326\307\323  
\340\373\011\140\154

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Amazon Root CA 2"

# Issuer: CN=Amazon Root CA 2,O=Amazon,C=US

# Serial Number:06:6c:9f:d2:96:35:86:9f:0a:0f:e5:86:78:f8:5b:26:bb:8a:37

#

Subject: CN=Amazon Root CA 2,O=Amazon,C=US

# Not Valid Before: Tue May 26 00:00:00 2015

# Not Valid After : Sat May 26 00:00:00 2040

# Fingerprint (SHA-256):

1B:A5:B2:AA:8C:65:40:1A:82:96:01:18:F8:0B:EC:4F:62:30:4D:83:CE:C4:71:3A:19:C3:9C:01:1E:A4:6D:B4

# Fingerprint (SHA1): 5A:8C:EF:45:D7:A6:98:59:76:7A:8C:8B:44:96:B5:78:CF:47:4B:1A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Amazon Root CA 2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\132\214\357\105\327\246\230\131\166\172\214\213\104\226\265\170

\317\107\113\032

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\310\345\215\316\250\102\342\172\300\052\134\174\236\046\277\146

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156

\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157

\156\040\122\157\157\164\040\103\101\040\062

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\023\006\154\237\322\226\065\206\237\012\017\345\206\170\370

\133\046\273\212\067

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Amazon Root CA 3"

#

# Issuer: CN=Amazon Root CA 3,O=Amazon,C=US

# Serial Number:06:6c:9f:d5:74:97:36:66:3f:3b:0b:9a:d9:e8:9e:76:03:f2:4a

# Subject: CN=Amazon Root CA 3,O=Amazon,C=US

# Not Valid Before: Tue May 26 00:00:00 2015

# Not Valid After : Sat May 26 00:00:00 2040

```
Fingerprint (SHA-256):
18:CE:6C:FE:7B:F1:4E:60:B2:E3:47:B8:DF:E8:68:CB:31:D0:2E:BB:3A:DA:27:15:69:F5:03:43:B4:6D:B3:A4
Fingerprint (SHA1): 0D:44:DD:8C:3C:8C:1A:1A:58:75:64:81:E9:0F:2E:2A:FF:B3:D2:6E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL
CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\023\006\154\237\325\164\227\066\146\077\073\013\232\331\350
\236\166\003\362\112
END
CKA_VALUE MULTILINE_OCTAL
\060\202\001\266\060\202\001\133\240\003\002\001\002\002\023\006
\154\237\325\164\227\066\146\077\073\013\232\331\350\236\166\003
\362\112\060\012\006\010\052\206\110\316\075\004\003\002\060\071
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\017\060
\015\006\003\125\004\012\023\006\101\155\141\172\157\156\061\031
\060\027\006\003\125\004\003\023\020\101\155\141\172\157\156\040
\122\157\157\164\040\103\101\040\063\060\036\027\015\061\065\060
\065\062\066\060\060\060\060\060\132\027\015\064\060\060\065
\062\066\060\060\060\060\060\060\132\060\071\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\017\060\015\006\003\125\004
\012\023\006\101\155\141\172\157\156\061\031\060\027\006\003\125
\004\003\023\020\101\155\141\172\157\156\040\122\157\157\164\040
\103\101\040\063\060\131\060\023\006\007\052\206\110\316\075\002
\001\006\010\052\206\110\316\075\003\001\007\003\102\000\004\051
\227\247\306\101\177\300\015\233\350\001\033\126\306\362\122\245
\272\055\262\022\350\322\056\327\372\311\305\330\252\155\037\163
\201\073\073\230\153\071\174\063\245\305\116\206\216\200\027\150
\142\105\127\175\104\130\035\263\067\345\147\010\353\146\336\243
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004
```

```
\003\002\001\206\060\035\006\003\125\035\016\004\026\004\024\253
\266\333\327\006\236\067\254\060\206\007\221\160\307\234\304\031
\261\170\300\060\012\006\010\052\206\110\316\075\004\003\002\003
\111\000\060\106\002\041\000\340\205\222\243\027\267\215\371\053
\006\245\223\254\032\230\150\141\162\372\341\241\320\373\034\170
\140\246\103\231\305\270\304\002\041\000\234\002\357\361\224\234
\263\226\371\353\306\052\370\266\054\376\072\220\024\026\327\214
\143\044\110\034\337\060\175\325\150\073
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Amazon Root CA 3"

# Issuer: CN=Amazon Root CA 3,O=Amazon,C=US

# Serial Number:06:6c:9f:d5:74:97:36:66:3f:3b:0b:9a:d9:e8:9e:76:03:f2:4a

# Subject: CN=Amazon Root CA 3,O=Amazon,C=US

# Not Valid Before: Tue May 26 00:00:00 2015

# Not Valid After

: Sat May 26 00:00:00 2040

# Fingerprint (SHA-256):

18:CE:6C:FE:7B:F1:4E:60:B2:E3:47:B8:DF:E8:68:CB:31:D0:2E:BB:3A:DA:27:15:69:F5:03:43:B4:6D:B3:A4

# Fingerprint (SHA1): 0D:44:DD:8C:3C:8C:1A:1A:58:75:64:81:E9:0F:2E:2A:FF:B3:D2:6E

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Amazon Root CA 3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\015\104\335\214\074\214\032\032\130\165\144\201\351\017\056\052
\377\263\322\156
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\240\324\357\013\367\265\330\111\225\052\354\365\304\374\201\207
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\063
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\023\006\154\237\325\164\227\066\146\077\073\013\232\331\350
\236\166\003\362\112
```

END

CKA\_TRUST\_SERVER\_AUTH

```

CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Amazon Root CA 4"
#
Issuer: CN=Amazon Root CA 4,O=Amazon,C=US
Serial Number:06:6c:9f:d7:c1:bb:10:4c:29:43:e5:71:7b:7b:2c:c8:1a:c1:0e
Subject: CN=Amazon Root CA 4,O=Amazon,C=US
Not Valid Before: Tue May 26 00:00:00 2015
Not Valid After : Sat May 26 00:00:00 2040
Fingerprint (SHA-256):
E3:5D:28:41:9E:D0:20:25:CF:A6:90:38:CD:62:39:62:45:8D:A5:C6:95:FB:DE:A3:C2:2B:0B:FB:25:89:70:92
Fingerprint (SHA1): F6:10:84:07:D6:F8:BB:67:98:0C:C2:E2:44:C2:EB:AE:1C:EF:63:BE
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 4"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\064
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\064
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\023\006\154\237\327\301\273\020\114\051\103\345\161\173\173
\054\310\032\301\016
END
CKA_VALUE MULTILINE_OCTAL
\060\202\001\362\060\202\001\170\240\003\002\001\002\002\023\006
\154\237\327\301\273\020\114\051\103\345\161\173\173\054\310\032
\301\016\060\012\006\010\052\206\110\316\075\004\003\003\060\071
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\017\060
\015\006\003\125\004\012\023\006\101\155\141\172\157\156\061\031
\060\027\006\003\125\004\003\023\020\101\155\141\172\157\156\040
\122\157\157\164\040\103\101\040\064\060\036\027\015\061\065\060

```



\065\062\066\060\060\060\060\060\060\060\060\132\027\015\064\060\060\065  
\062\066\060\060\060\060\060\060\060\132\060\071\061\013\060\011\006  
\003\125\004\006\023\002\125\123\061\017\060\015\006\003\125\004  
\012\023\006\101\155\141\172\157\156\061\031\060\027\006\003\125  
\004\003\023\020\101\155\141\172\157\156\040\122\157\157\164\040  
\103\101\040\064\060\166\060\020\006\007\052\206\110\316\075\002  
\001\006\005\053\201\004\000\042\003\142\000\004\322\253\212\067  
\117\243\123\015\376\301\212\173\113\250\173\106\113\143\260\142  
\366\055\033\333\010\161\041\322\000\350\143\275\232\047\373\360  
\071\156\135\352\075\245\311\201\252\243\133\040\230\105\135\026  
\333\375\350\020\155\343\234\340\343\275\137\204\142\363\160\144  
\063\240\313\044\057\160\272\210\241\052\240\165\370\201\256\142  
\006\304\201\333\071\156\051\260\036\372\056\134\243\102\060\100  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\206\060\035\006\003\125\035\016\004\026\004\024\323\354\307\072  
\145\156\314\341\332\166\232\126\373\234\363\206\155\127\345\201  
\060\012\006\010\052\206\110\316\075\004\003\003\003\150\000\060  
\145\002\060\072\213\041\361\275\176\021\255\320\357\130\226\057  
\326\353\235\176\220\215\053\317\146\125\303\054\343\050\251\160  
\012\107\016\360\067\131\022\377\055\231\224\050\116\052\117\065  
\115\063\132\002\061\000\352\165\000\116\073\304\072\224\022\221  
\311\130\106\235\041\023\162\247\210\234\212\344\114\112\333\226  
\324\254\213\153\153\111\022\123\063\255\327\344\276\044\374\265  
\012\166\324\245\274\020

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Amazon Root CA 4"

# Issuer: CN=Amazon Root CA 4,O=Amazon,C=US

# Serial Number:06:6c:9f:d7:c1:bb:10:4c:29:43:e5:71:7b:7b:2c:c8:1a:c1:0e

# Subject:

CN=Amazon Root CA 4,O=Amazon,C=US

# Not Valid Before: Tue May 26 00:00:00 2015

# Not Valid After : Sat May 26 00:00:00 2040

# Fingerprint (SHA-256):

E3:5D:28:41:9E:D0:20:25:CF:A6:90:38:CD:62:39:62:45:8D:A5:C6:95:FB:DE:A3:C2:2B:0B:FB:25:89:70:92

# Fingerprint (SHA1): F6:10:84:07:D6:F8:BB:67:98:0C:C2:E2:44:C2:EB:AE:1C:EF:63:BE

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Amazon Root CA 4"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\366\020\204\007\326\370\273\147\230\014\302\342\104\302\353\256

```

\034\357\143\276
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\211\274\047\325\353\027\215\006\152\151\325\375\211\107\264\315
END
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\064
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\023\006\154\237\327\301\273\020\114\051\103\345\161\173\173
\054\310\032\301\016
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Symantec Class 1 Public Primary Certification Authority - G6"
#
Issuer: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
Serial Number:24:32:75:f2:1d:2f:d2:09:33:f7:b4:6a:ca:d0:f3:98
Subject: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
Not Valid Before: Tue Oct 18 00:00:00 2011
Not Valid After : Tue Dec 01 23:59:59 2037
Fingerprint (SHA-256):
9D:19:0B:2E:31:45:66:68:5B:E8:A8:89:E2:7A:A8:C7:D7:AE:1D:8A:AD:DB:A3:C1:EC:F9:D2:48:63:CD:34:B9
Fingerprint (SHA1): 51:7F:61:1E:29:91:6B:53:82:FB:72:E7:44:D9:8D:C3:CC:53:6D:64
CKA_CLASS
CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Symantec Class 1 Public Primary Certification Authority - G6"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156

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\164\145\143\040\103\154\141\163\163\040\061\040\120\165\142\154  
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\055\040\107\066

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156  
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061  
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164  
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153  
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156  
\164\145\143\040\103\154\141\163\163\040\061\040\120\165\142\154  
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\055\040\107\066

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\044\062\165\362\035\057\322\011\063\367\264\152\312\320  
\363\230

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\366\060\202\002\336\240\003\002\001\002\002\020\044  
\062\165\362\035\057\322\011\063\367\264\152\312\320\363\230\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\201  
\224\061\013\060\011\006\003\125\004\006\023\002\125\123\061\035  
\060\033\006\003\125\004\012\023\024\123\171\155\141\156\164\145  
\143\040\103\157\162\160\157\162\141\164\151\157\156\061\037\060  
\035\006\003\125\004\013\023\026\123\171\155\141\156\164\145\143  
\040\124\162\165\163\164\040\116\145\164\167\157\162\153\061\105  
\060\103\006\003\125\004\003\023\074\123\171\155\141\156\164\145  
\143\040\103\154\141\163\163\040\061\040\120\165\142\154\151\143  
\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\040\055\040\107\066\060\036\027\015\061\061\061\060\061\070\060  
\060\060\060\060\060\132\027\015\063\067\061\062\060\061\062\063  
\065\071\065\071\132\060\201\224\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\035\060\033\006\003\125\004\012\023\024  
\123\171\155\141\156\164\145\143\040\103\157\162\160\157\162\141  
\164\151\157\156\061\037\060\035\006\003\125\004\013\023\026\123  
\171\155\141\156\164\145\143\040\124\162\165\163\164\040\116\145  
\164\167\157\162\153\061\105\060\103\006\003\125\004\003\023\074  
\123\171\155\141\156\164\145\143\040\103\154\141\163\163\040\061  
\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171\040  
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165  
\164\150\157\162\151\164\171\040\055\040\107\066\060\202\001\042

\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\001\017\000\060\202\001\012\002\202\001\001\000\307\071\327  
\111\144\251\231\202\042\114\352\105\331\007\026\343\173\364\203  
\350\231\163\372\153\261\066\340\232\167\240\100\302\201\215\001  
\307\314\214\275\217\175\367\171\343\172\114\003\115\331\373\375  
\207\070\050\054\335\232\213\124\010\333\147\373\033\214\376\050  
\222\057\276\267\262\110\247\201\241\330\136\210\303\314\071\100  
\101\132\321\334\345\332\020\237\057\332\001\115\375\056\106\174  
\371\056\047\012\151\067\356\221\243\033\152\314\104\277\033\307  
\303\324\021\262\120\140\227\011\275\056\042\365\101\204\146\237  
\315\100\246\251\000\200\301\037\225\222\237\336\363\110\357\333  
\035\167\141\374\177\337\356\226\244\162\320\266\076\377\170\047  
\257\313\222\025\151\010\333\143\020\342\346\227\254\156\334\254  
\366\242\316\036\107\231\271\211\267\022\346\241\324\315\131\021  
\147\303\157\205\330\102\116\050\276\131\125\131\004\225\253\217  
\067\200\277\015\360\374\037\072\144\061\130\201\170\327\342\065  
\366\040\077\051\270\217\026\156\076\110\334\265\114\007\341\362  
\032\352\176\012\171\326\250\275\353\135\206\053\115\002\003\001  
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\063\101\350\310\071\022\025\223\110\362\226\062\056\132  
\365\332\224\137\123\140\060\015\006\011\052\206\110\206\367\015  
\001\001\013\005\000\003\202\001\001\000\025\343\163\127\261\027  
\266\137\111\151\104\246\366\136\172\147\254\322\336\165\111\253  
\376\045\125\307\072\311\104\025\020\156\277\061\153\313\331\007  
\223\177\034\205\143\000\343\062\022\340\314\313\373\071\154\217  
\342\123\342\074\100\063\331\244\214\107\346\255\130\373\211\257  
\343\336\206\051\126\064\054\105\270\022\372\104\211\156\055\024  
\045\050\044\001\145\326\352\122\254\005\156\126\022\011\075\320  
\164\364\327\275\006\312\250\072\215\126\102\372\215\162\076\164  
\361\003\162\337\207\033\136\016\172\125\226\054\070\267\230\205  
\315\115\063\104\311\224\217\132\061\060\067\113\243\072\022\263  
\347\066\321\041\150\113\055\070\346\123\256\034\045\126\010\126  
\003\147\204\235\306\303\316\044\142\307\114\066\317\260\006\104  
\267\365\137\002\335\331\124\351\057\220\116\172\310\116\203\100  
\014\232\227\074\067\277\277\354\366\360\264\205\167\050\301\013  
\310\147\202\020\027\070\242\267\006\352\233\277\072\370\351\043  
\007\277\164\340\230\070\025\125\170\356\162\000\134\031\243\364  
\322\063\340\377\275\321\124\071\051\017

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# For Email Distrust After: Wed Aug

31 00:00:00 2022

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER MULTILINE\_OCTAL

\062\062\060\070\063\061\060\060\060\060\060\060\132

END

# Trust for "Symantec Class 1 Public Primary Certification Authority - G6"

# Issuer: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust Network,O=Symantec Corporation,C=US

# Serial Number:24:32:75:f2:1d:2f:d2:09:33:f7:b4:6a:ca:d0:f3:98

# Subject: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust Network,O=Symantec Corporation,C=US

# Not Valid Before: Tue Oct 18 00:00:00 2011

# Not Valid After : Tue Dec 01 23:59:59 2037

# Fingerprint (SHA-256):

9D:19:0B:2E:31:45:66:68:5B:E8:A8:89:E2:7A:A8:C7:D7:AE:1D:8A:AD:DB:A3:C1:EC:F9:D2:48:63:CD:34:B9

# Fingerprint (SHA1): 51:7F:61:1E:29:91:6B:53:82:FB:72:E7:44:D9:8D:C3:CC:53:6D:64

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Symantec Class 1 Public Primary Certification Authority - G6"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\121\177\141\036\051\221\153\123\202\373\162\347\104\331\215\303  
\314\123\155\144

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\057\250\264\332\366\144\113\036\202\371\106\075\124\032\174\260

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156  
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061  
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164  
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153  
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156  
\164\145\143\040\103\154\141\163\163\040\061\040\120\165\142\154  
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\055\040\107\066

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\044\062\165\362\035\057\322\011\063\367\264\152\312\320  
\363\230

END

CKA\_TRUST\_SERVER\_AUTH

CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

```

#
Certificate "Symantec Class 2 Public Primary Certification Authority - G6"
#
Issuer: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
Serial Number:64:82:9e:fc:37:1e:74:5d:fc:97:ff:97:c8:b1:ff:41
Subject: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
Not Valid Before: Tue Oct 18 00:00:00 2011
Not Valid After : Tue Dec 01 23:59:59 2037
Fingerprint (SHA-256):
CB:62:7D:18:B5:8A:D5:6D:DE:33:1A:30:45:6B:C6:5C:60:1A:4E:9B:18:DE:DC:EA:08:E7:DA:AA:07:81:5F:F0
Fingerprint (SHA1): 40:B3:31:A0:E9:BF:E8:55:BC:39:93:CA:70:4F:4E:C2:51:D4:1D:8F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL
CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Symantec Class 2 Public Primary Certification Authority - G6"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\062\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\062\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\144\202\236\374\067\036\164\135\374\227\377\227\310\261

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\377\101

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\366\060\202\002\336\240\003\002\001\002\002\020\144  
\202\236\374\067\036\164\135\374\227\377\227\310\261\377\101\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\201  
\224\061\013\060\011\006\003\125\004\006\023\002\125\123\061\035  
\060\033\006\003\125\004\012\023\024\123\171\155\141\156\164\145  
\143\040\103\157\162\160\157\162\141\164\151\157\156\061\037\060  
\035\006\003\125\004\013\023\026\123\171\155\141\156\164\145\143  
\040\124\162\165\163\164\040\116\145\164\167\157\162\153\061\105  
\060\103\006\003\125\004\003\023\074\123\171\155\141\156\164\145  
\143\040\103\154\141\163\163\040\062\040\120\165\142\154\151\143  
\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
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\060\060\060\060\060\132\027\015\063\067\061\062\060\061\062\063  
\065\071\065\071\132\060\201\224\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\035\060\033\006\003\125\004\012\023\024  
\123\171\155\141\156\164\145\143\040\103\157\162\160\157\162\141  
\164\151\157\156\061\037\060\035\006\003\125\004\013\023\026\123  
\171\155\141\156\164\145\143\040\124\162\165\163\164\040\116\145  
\164\167\157\162\153\061\105\060\103\006\003\125\004\003\023\074  
\123\171\155\141\156\164\145\143\040\103\154\141\163\163\040\062  
\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171\040  
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165  
\164\150\157\162\151\164\171\040\055\040\107\066\060\202\001\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\001\017\000\060\202\001\012\002\202\001\001\000\315\314\351  
\005\310\143\205\313\077\100\143\027\275\030\372\065\346\004\147  
\127\145\230\051\244\117\311\134\217\017\064\322\370\332\250\023  
\142\252\270\036\120\147\170\260\026\114\240\071\251\025\172\256  
\355\322\242\300\360\220\067\051\030\046\134\350\015\074\266\154  
\111\077\301\340\334\331\113\266\024\031\013\246\323\226\341\326  
\011\343\031\046\034\371\037\145\113\371\032\103\034\000\203\326  
\320\252\111\242\324\333\346\142\070\272\120\024\103\155\371\061  
\370\126\026\331\070\002\221\317\353\154\335\273\071\116\231\341  
\060\147\105\361\324\360\215\303\337\376\362\070\007\041\175\000  
\136\126\104\263\344\140\275\221\053\234\253\133\004\162\017\262  
\050\331\162\253\005\040\102\045\251\133\003\152\040\020\314\061  
\360\053\332\065\054\320\373\232\227\116\360\202\113\053\330\137  
\066\243\013\055\257\143\015\035\045\177\241\156\134\142\241\215  
\050\076\241\374\034\040\370\001\057\272\125\232\021\260\031\322  
\310\120\171\153\016\152\005\327\252\004\066\262\243\362\341\137  
\167\247\167\234\345\036\334\351\337\152\301\145\135\002\003\001  
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026

\004\024\207\214\040\225\310\230\112\321\326\200\006\112\220\064  
\104\337\034\115\277\260\060\015\006\011\052\206\110\206\367\015  
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\267\041\245\266\357\157\043\132\137\333\201\305\102\245\170\301  
\151\375\364\074\327\371\134\153\160\162\032\374\132\227\115\000  
\200\210\210\202\212\303\161\015\216\305\211\233\054\355\215\013  
\322\162\124\365\175\324\134\103\127\351\363\256\245\002\021\366  
\166\053\201\127\335\175\332\164\060\375\124\107\366\340\026\156  
\246\264\012\110\346\347\165\007\017\051\031\071\316\171\364\266  
\154\305\137\231\325\037\113\372\337\155\054\074\015\124\200\160  
\360\210\013\200\317\306\150\242\270\035\160\331\166\214\374\356  
\245\311\317\255\035\317\231\045\127\132\142\105\313\026\153\275  
\111\315\245\243\214\151\171\045\256\270\114\154\213\100\146\113  
\026\077\317\002\032\335\341\154\153\007\141\152\166\025\051\231  
\177\033\335\210\200\301\277\265\217\163\305\246\226\043\204\246  
\050\206\044\063\152\001\056\127\163\045\266\136\277\217\346\035  
\141\250\100\051\147\035\207\233\035\177\233\237\231\315\061\326  
\124\276\142\273\071\254\150\022\110\221\040\245\313\261\335\376  
\157\374\132\344\202\125\131\257\061\251

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# For Email Distrust After: Wed Aug 31 00:00:00 2022

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER MULTILINE\_OCTAL

\062\062\060\070\063\061\060\060\060\060\060\060\132

END

#

Trust for "Symantec Class 2 Public Primary Certification Authority - G6"

# Issuer: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust  
Network,O=Symantec Corporation,C=US

# Serial Number:64:82:9e:fc:37:1e:74:5d:fc:97:ff:97:c8:b1:ff:41

# Subject: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust  
Network,O=Symantec Corporation,C=US

# Not Valid Before: Tue Oct 18 00:00:00 2011

# Not Valid After : Tue Dec 01 23:59:59 2037

# Fingerprint (SHA-256):

CB:62:7D:18:B5:8A:D5:6D:DE:33:1A:30:45:6B:C6:5C:60:1A:4E:9B:18:DE:DC:EA:08:E7:DA:AA:07:81:5F:F0

# Fingerprint (SHA1): 40:B3:31:A0:E9:BF:E8:55:BC:39:93:CA:70:4F:4E:C2:51:D4:1D:8F

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Symantec Class 2 Public Primary Certification Authority - G6"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\100\263\061\240\351\277\350\125\274\071\223\312\160\117\116\302

\121\324\035\217



```

END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\175\013\203\345\373\174\255\007\117\040\251\265\337\143\355\171
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\062\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\144\202\236\374\067\036\164\135\374\227\377\227\310\261
\377\101
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING
CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "D-TRUST Root CA 3 2013"
#
Issuer: CN=D-TRUST Root CA 3 2013,O=D-Trust GmbH,C=DE
Serial Number: 1039788 (0xfddac)
Subject: CN=D-TRUST Root CA 3 2013,O=D-Trust GmbH,C=DE
Not Valid Before: Fri Sep 20 08:25:51 2013
Not Valid After : Wed Sep 20 08:25:51 2028
Fingerprint (SHA-256):
A1:A8:6D:04:12:1E:B8:7F:02:7C:66:F5:33:03:C2:8E:57:39:F9:43:FC:84:B3:8A:D6:AF:00:90:35:DD:94:57
Fingerprint (SHA1): 6C:7C:CC:E7:D4:AE:51:5F:99:08:CD:3F:F6:E8:C3:78:DF:6F:EF:97
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root CA 3 2013"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003\014

```

```
\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103\101
\040\063\040\062\060\061\063
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003\014
\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103\101
\040\063\040\062\060\061\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\017\335\254
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\016\060\202\002\366\240\003\002\001\002\002\003\017
\335\254\060\015\006\011\052\206\110\206\367\015\001\001\013\005
\000\060\105\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165
\163\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003
\014\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103
\101\040\063\040\062\060\061\063\060\036\027\015\061\063\060\071
\062\060\060\070\062\065\065\061\132\027\015\062\070\060\071\062
\060\060\070\062\065\065\061\132\060\105\061\013\060\011\006\003
\125\004\006\023\002\104\105\061\025\060\023\006\003\125\004\012
\014\014\104\055\124\162\165\163\164\040\107\155\142\110\061\037
\060\035\006\003\125\004\003\014\026\104\055\124\122\125\123\124
\040\122\157\157\164\040\103\101\040\063\040\062\060\061\063\060
\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001
\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000
\304\173\102\222\202\037\354\355\124\230\216\022\300\312\011\337
\223\156\072\223\134\033\344\020\167\236\116\151\210\154\366\341
\151\362\366\233\242\141\261\275\007\040\164\230\145\361\214\046
\010\315\250\065\312\200\066\321\143\155\350\104\172\202\303\154
\136\336\273\350\066\322\304\150\066\214\237\062\275\204\042\340
\334\302\356\020\106\071\155\257\223\071\256\207\346\303\274\011
\311\054\153\147\133\331\233\166\165\114\013\340\273\305\327\274
\076\171\362\137\276\321\220\127\371\256\366\146\137\061\277\323
\155\217\247\272\112\363\043\145\273\267\357\243\045\327\012\352
\130\266\357\210\372\372\171\262\122\130\325\360\254\214\241\121
\164\051\225\252\121\073\220\062\003\237\034\162\164\220\336\075
\355\141\322\345\343\375\144\107\345\271\267\112\251\367\037\256
\226\206\004\254\057\343\244\201\167\267\132\026\377\330\017\077
\366\267\170\314\244\257\372\133\074\022\133\250\122\211\162\357
\210\363\325\104\201\206\225\043\237\173\335\274\331\064\357\174
\224\074\252\300\101\302\343\235\120\032\300\344\031\042\374\263
\002\003\001\000\001\243\202\001\005\060\202\001\001\060\017\006
```

\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\035  
\006\003\125\035\016\004\026\004\024\077\220\310\175\307\025\157  
\363\044\217\251\303\057\113\242\017\041\262\057\347\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\201\276  
\006\003\125\035\037\004\201\266\060\201\263\060\164\240\162\240  
\160\206\156\154\144\141\160\072\057\057\144\151\162\145\143\164  
\157\162\171\056\144\055\164\162\165\163\164\056\156\145\164\057  
\103\116\075\104\055\124\122\125\123\124\045\062\060\122\157\157  
\164\045\062\060\103\101\045\062\060\063\045\062\060\062\060\061  
\063\054\117\075\104\055\124\162\165\163\164\045\062\060\107\155  
\142\110\054\103\075\104\105\077\143\145\162\164\151\146\151\143  
\141\164\145\162\145\166\157\143\141\164\151\157\156\154\151\163  
\164\060\073\240\071\240\067\206\065\150\164\164\160\072\057\057  
\143\162\154\056\144\055\164\162\165\163\164\056\156\145\164\057  
\143\162\154\057\144\055\164\162\165\163\164\137\162\157\157\164  
\137\143\141\137\063\137\062\060\061\063\056\143\162\154\060\015  
\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001  
\001\000\016\131\016\130\344\164\110\043\104\317\064\041\265\234  
\024\032\255\232\113\267\263\210\155\134\251\027\160\360\052\237  
\215\173\371\173\205\372\307\071\350\020\010\260\065\053\137\317  
\002\322\323\234\310\013\036\356\005\124\256\067\223\004\011\175  
\154\217\302\164\274\370\034\224\276\061\001\100\055\363\044\040  
\267\204\125\054\134\310\365\164\112\020\031\213\243\307\355\065  
\326\011\110\323\016\300\272\071\250\260\106\002\260\333\306\210  
\131\302\276\374\173\261\053\317\176\142\207\125\226\314\001\157  
\233\147\041\225\065\213\370\020\374\161\033\267\113\067\151\246  
\073\326\354\213\356\301\260\363\045\311\217\222\175\241\352\303  
\312\104\277\046\245\164\222\234\343\164\353\235\164\331\313\115  
\207\330\374\264\151\154\213\240\103\007\140\170\227\351\331\223  
\174\302\106\274\233\067\122\243\355\212\074\023\251\173\123\113  
\111\232\021\005\054\013\156\126\254\037\056\202\154\340\151\147  
\265\016\155\055\331\344\300\025\361\077\372\030\162\341\025\155  
\047\133\055\060\050\053\237\110\232\144\053\231\357\362\165\111  
\137\134

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "D-TRUST Root CA 3 2013"

# Issuer: CN=D-TRUST Root

CA 3 2013,O=D-Trust GmbH,C=DE

# Serial Number: 1039788 (0xfddac)

# Subject: CN=D-TRUST Root CA 3 2013,O=D-Trust GmbH,C=DE

# Not Valid Before: Fri Sep 20 08:25:51 2013

# Not Valid After : Wed Sep 20 08:25:51 2028

# Fingerprint (SHA-256):

```

A1:A8:6D:04:12:1E:B8:7F:02:7C:66:F5:33:03:C2:8E:57:39:F9:43:FC:84:B3:8A:D6:AF:00:90:35:DD:94:57
Fingerprint (SHA1): 6C:7C:CC:E7:D4:AE:51:5F:99:08:CD:3F:F6:E8:C3:78:DF:6F:EF:97
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root CA 3 2013"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\154\174\314\347\324\256\121\137\231\010\315\077\366\350\303\170
\337\157\357\227
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\267\042\146\230\176\326\003\340\301\161\346\165\315\126\105\277
END
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003\014
\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103\101
\040\063\040\062\060\061\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\003\017\335\254
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"
#
Issuer: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu
SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR
Serial Number: 1 (0x1)
Subject: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu
SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR
Not Valid Before: Mon Nov 25 08:25:55 2013
Not Valid After : Sun Oct 25 08:25:55 2043
Fingerprint (SHA-256):
46:ED:C3:68:90:46:D5:3A:45:3F:B3:10:4A:B8:0D:CA:EC:65:8B:26:60:EA:16:29:DD:7E:86:79:90:64:87:16
#
Fingerprint (SHA1): 31:43:64:9B:EC:CE:27:EC:ED:3A:3F:0B:8F:0D:E4:E8:91:DD:EE:CA
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE

```

CKA\_LABEL UTF8 "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\201\322\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\030\060\026\006\003\125\004\007\023\017\107\145\142\172\145
\040\055\040\113\157\143\141\145\154\151\061\102\060\100\006\003
\125\004\012\023\071\124\165\162\153\151\171\145\040\102\151\154
\151\155\163\145\154\040\166\145\040\124\145\153\156\157\154\157
\152\151\153\040\101\162\141\163\164\151\162\155\141\040\113\165
\162\165\155\165\040\055\040\124\125\102\111\124\101\113\061\055
\060\053\006\003\125\004\013\023\044\113\141\155\165\040\123\145
\162\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153
\145\172\151\040\055\040\113\141\155\165\040\123\115\061\066\060
\064\006\003\125\004\003\023\055\124\125\102\111\124\101\113\040
\113\141\155\165\040\123\115\040\123\123\114\040\113\157\153\040
\123\145\162\164\151\146\151\153\141\163\151\040\055\040\123\165
\162\165\155\040\061
```

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\322\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\030\060\026\006\003\125\004\007\023\017\107\145\142\172\145
\040\055\040\113\157\143\141\145\154\151\061\102\060\100\006\003
\125\004\012\023\071\124\165\162\153\151\171\145\040\102\151\154
\151\155\163\145\154\040\166\145\040\124\145\153\156\157\154\157
\152\151\153\040\101\162\141\163\164\151\162\155\141\040\113\165
\162\165\155\165\040\055\040\124\125\102\111\124\101\113\061\055
\060\053\006\003\125\004\013\023\044\113\141\155\165\040\123\145
\162\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153
\145\172\151\040\055\040\113\141\155\165\040\123\115\061\066\060
\064\006\003\125\004\003\023\055\124\125\102\111\124\101\113\040
\113\141\155\165\040\123\115\040\123\123\114\040\113\157\153\040
\123\145\162\164\151\146\151\153\141\163\151\040\055\040\123\165
\162\165\155\040\061
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\001\001
```

END

CKA\_VALUE MULTILINE\_OCTAL

```
\060\202\004\143\060\202\003\113\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\322\061\013\060\011\006\003\125\004\006\023\002\124\122\061
\030\060\026\006\003\125\004\007\023\017\107\145\142\172\145\040
\055\040\113\157\143\141\145\154\151\061\102\060\100\006\003\125
\004\012\023\071\124\165\162\153\151\171\145\040\102\151\154\151
\155\163\145\154\040\166\145\040\124\145\153\156\157\154\157\152
```

\151\153\040\101\162\141\163\164\151\162\155\141\040\113\165\162  
\165\155\165\040\055\040\124\125\102\111\124\101\113\061\055\060  
\053\006\003\125\004\013\023\044\113\141\155\165\040\123\145\162  
\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153\145  
\172\151\040\055\040\113\141\155\165\040\123\115\061\066\060\064  
\006\003\125\004\003\023\055\124\125\102\111\124\101\113\040\113  
\141\155\165\040\123\115\040\123\123\114\040\113\157\153\040\123  
\145\162\164\151\146\151\153\141\163\151\040\055\040\123\165\162  
\165\155\040\061\060\036\027\015\061\063\061\061\062\065\060\070  
\062\065\065\065\132\027\015\064\063\061\060\062\065\060\070\062  
\065\065\065\132\060\201\322\061\013\060\011\006\003\125\004\006  
\023\002\124\122\061\030\060\026\006\003\125\004\007\023\017\107  
\145\142\172\145\040\055\040\113\157\143\141\145\154\151\061\102  
\060\100\006\003\125\004\012\023\071\124\165\162\153\151\171\145  
\040\102\151\154\151\155\163\145\154\040\166\145\040\124\145\153  
\156\157\154\157\152\151\153\040\101\162\141\163\164\151\162\155  
\141\040\113\165\162\165\155\165\040\055\040\124\125\102\111\124  
\101\113\061\055\060\053\006\003\125\004\013\023\044\113\141\155  
\165\040\123\145\162\164\151\146\151\153\141\163\171\157\156\040  
\115\145\162\153\145\172\151\040\055\040\113\141\155\165\040\123  
\115\061\066\060\064\006\003\125\004\003\023\055\124\125\102\111  
\124\101\113\040\113\141\155\165\040\123\115\040\123\123\114\040  
\113\157\153\040\123\145\162\164\151\146\151\153\141\163\151\040  
\055\040\123\165\162\165\155\040\061\060\202\001\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017  
\000\060\202\001\012\002\202\001\001\000\257\165\060\063\252\273  
\153\323\231\054\022\067\204\331\215\173\227\200\323\156\347\377  
\233\120\225\076\220\225\126\102\327\031\174\046\204\215\222\372  
\001\035\072\017\342\144\070\267\214\274\350\210\371\213\044\253  
\056\243\365\067\344\100\216\030\045\171\203\165\037\073\377\154  
\250\305\306\126\370\264\355\212\104\243\253\154\114\374\035\320  
\334\357\150\275\317\344\252\316\360\125\367\242\064\324\203\153  
\067\174\034\302\376\265\003\354\127\316\274\264\265\305\355\000  
\017\123\067\052\115\364\117\014\203\373\206\317\313\376\214\116  
\275\207\371\247\213\041\127\234\172\337\003\147\211\054\235\227  
\141\247\020\270\125\220\177\016\055\047\070\164\337\347\375\332  
\116\022\343\115\025\042\002\310\340\340\374\017\255\212\327\311  
\124\120\314\073\017\312\026\200\204\320\121\126\303\216\126\177  
\211\042\063\057\346\205\012\275\245\250\033\066\336\323\334\054  
\155\073\307\023\275\131\043\054\346\345\244\367\330\013\355\352  
\220\100\104\250\225\273\223\325\320\200\064\266\106\170\016\037  
\000\223\106\341\356\351\371\354\117\027\002\003\001\000\001\243  
\102\060\100\060\035\006\003\125\035\016\004\026\004\024\145\077  
\307\212\206\306\074\335\074\124\134\065\370\072\355\122\014\107  
\127\310\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003  
\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\001\001\000\052\077\341\361\062\216\256\341\230

```
\134\113\136\317\153\036\152\011\322\042\251\022\307\136\127\175
\163\126\144\200\204\172\223\344\011\271\020\315\237\052\047\341
\000\167\276\110\310\065\250\201\237\344\270\054\311\177\016\260
\322\113\067\135\352\271\325\013\136\064\275\364\163\051\303\355
\046\025\234\176\010\123\212\130\215\320\113\050\337\301\263\337
\040\363\371\343\343\072\337\314\234\224\330\116\117\303\153\027
\267\367\162\350\255\146\063\265\045\123\253\340\370\114\251\235
\375\362\015\272\256\271\331\252\306\153\371\223\273\256\253\270
\227\074\003\032\272\103\306\226\271\105\162\070\263\247\241\226
\075\221\173\176\300\041\123\114\207\355\362\013\124\225\121\223
\325\042\245\015\212\361\223\016\076\124\016\260\330\311\116\334
\362\061\062\126\352\144\371\352\265\235\026\146\102\162\363\177
\323\261\061\103\374\244\216\027\361\155\043\253\224\146\370\255
\373\017\010\156\046\055\177\027\007\011\262\214\373\120\300\237
\226\215\317\266\375\000\235\132\024\232\277\002\104\365\301\302
\237\042\136\242\017\241\343
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL

CK\_FALSE

# Trust for "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"

# Issuer: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR

# Serial Number: 1 (0x1)

# Subject: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR

# Not Valid Before: Mon Nov 25 08:25:55 2013

# Not Valid After : Sun Oct 25 08:25:55 2043

# Fingerprint (SHA-256):

46:ED:C3:68:90:46:D5:3A:45:3F:B3:10:4A:B8:0D:CA:EC:65:8B:26:60:EA:16:29:DD:7E:86:79:90:64:87:16

# Fingerprint (SHA1): 31:43:64:9B:EC:CE:27:EC:ED:3A:3F:0B:8F:0D:E4:E8:91:DD:EE:CA

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\061\103\144\233\354\316\047\354\355\072\077\013\217\015\344\350
\221\335\356\312
```

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

```
\334\000\201\334\151\057\076\057\260\073\366\075\132\221\216\111
```

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\322\061\013\060\011\006\003\125\004\006\023\002\124\122  
\061\030\060\026\006\003\125\004\007\023\017\107\145\142\172\145  
\040\055\040\113\157\143\141\145\154\151\061\102\060\100\006\003  
\125\004\012\023\071\124\165\162\153\151\171\145\040\102\151\154  
\151\155\163\145\154\040\166\145\040\124\145\153\156\157\154\157  
\152\151\153\040\101\162\141\163\164\151\162\155\141\040\113\165  
\162\165\155\165\040\055\040\124\125\102\111\124\101\113\061\055  
\060\053\006\003\125\004\013\023\044\113\141\155\165\040\123\145  
\162\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153  
\145\172\151\040\055\040\113\141\155\165\040\123\115\061\066\060  
\064\006\003\125\004\003\023\055\124\125\102\111\124\101\113\040  
\113\141\155\165\040\123\115\040\123\123\114\040\113\157\153\040  
\123\145\162\164\151\146\151\153\141\163\151\040\055\040\123\165  
\162\165\155\040\061

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\001

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "GDCA TrustAUTH R5 ROOT"

#

# Issuer: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY  
CO.,LTD.",C=CN

# Serial Number:7d:09:97:fe:f0:47:ea:7a

# Subject: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY  
CO.,LTD.",C=CN

# Not Valid Before: Wed Nov 26 05:13:15 2014

# Not Valid After : Mon Dec 31 15:59:59 2040

# Fingerprint (SHA-256):

BF:FF:8F:D0:44:33:48:7D:6A:8A:A6:0C:1A:29:76:7A:9F:C2:BB:B0:5E:42:0F:71:3A:13:B9:92:89:1D:38:93

# Fingerprint (SHA1): 0F:36:38:5B:81:1A:25:C3:9B:31:4E:83:CA:E9:34:66:70:CC:74:B4

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE

CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GDCA TrustAUTH R5 ROOT"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\142\061\013\060\011\006\003\125\004\006\023\002\103\116\061

\062\060\060\006\003\125\004\012\014\051\107\125\101\116\107\040

\104\117\116\107\040\103\105\122\124\111\106\111\103\101\124\105



```
\040\101\125\124\110\117\122\111\124\131\040\103\117\056\054\114
\124\104\056\061\037\060\035\006\003\125\004\003\014\026\107\104
\103\101\040\124\162\165\163\164\101\125\124\110\040\122\065\040
\122\117\117\124
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\142\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\062\060\060\006\003\125\004\012\014\051\107\125\101\116\107\040
\104\117\116\107\040\103\105\122\124\111\106\111\103\101\124\105
\040\101\125\124\110\117\122\111\124\131\040\103\117\056\054\114
\124\104\056\061\037\060\035\006\003\125\004\003\014\026\107\104
\103\101\040\124\162\165\163\164\101\125\124\110\040\122\065\040
\122\117\117\124
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\010\175\011\227\376\360\107\352\172
```

END

CKA\_VALUE MULTILINE\_OCTAL

```
\060\202\005\210\060\202\003\160\240\003\002\001\002\002\010\175
\011\227\376\360\107\352\172\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\142\061\013\060\011\006\003\125\004
\006\023\002\103\116\061\062\060\060\006\003\125\004\012\014\051
\107\125\101\116\107\040\104\117\116\107\040\103\105\122\124\111
\106\111\103\101\124\105\040\101\125\124\110\117\122\111\124\131
\040\103\117\056\054\114\124\104\056\061\037\060\035\006\003\125
\004\003\014\026\107\104\103\101\040\124\162\165\163\164\101\125
\124\110\040\122\065\040\122\117\117\124\060\036\027\015\061\064
\061\061\062\066\060\065\061\063\061\065\132\027\015\064\060\061
\062\063\061\061\065\065\071\065\071\132\060\142\061\013\060\011
\006\003\125\004\006\023\002\103\116\061\062\060\060\006\003\125
\004\012\014\051\107\125\101\116\107\040\104\117\116\107\040\103
\105\122\124\111\106\111\103\101\124\105\040\101\125\124\110\117
\122\111\124\131\040\103\117\056\054\114\124\104\056\061\037\060
\035\006\003\125\004\003\014\026\107\104\103\101\040\124\162\165
\163\164\101\125\124\110\040\122\065\040\122\117\117\124\060\202
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\331
\243\026\360\310\164\164\167\233\357\063\015\073\006\176\125\374
\265\140\217\166\206\022\102\175\126\146\076\210\202\355\162\143
\016\236\213\335\064\054\002\121\121\303\031\375\131\124\204\311
\361\153\263\114\260\351\350\106\135\070\306\242\247\056\021\127
\272\202\025\242\234\217\155\260\231\112\012\362\353\211\160\143
\116\171\304\267\133\275\242\135\261\362\101\002\053\255\251\072
\243\354\171\012\354\137\072\343\375\357\200\074\255\064\233\032
\253\210\046\173\126\242\202\206\037\353\065\211\203\177\137\256
\051\116\075\266\156\354\256\301\360\047\233\256\343\364\354\357
```

\256\177\367\206\075\162\172\353\245\373\131\116\247\353\225\214  
\042\071\171\341\055\010\217\314\274\221\270\101\367\024\301\043  
\251\303\255\232\105\104\263\262\327\054\315\306\051\342\120\020  
\256\134\313\202\216\027\030\066\175\227\346\210\232\260\115\064  
\011\364\054\271\132\146\052\260\027\233\236\036\166\235\112\146  
\061\101\337\077\373\305\006\357\033\266\176\032\106\066\367\144  
\143\073\343\071\030\043\347\147\165\024\325\165\127\222\067\275  
\276\152\033\046\120\362\066\046\006\220\305\160\001\144\155\166  
\146\341\221\333\156\007\300\141\200\056\262\056\057\214\160\247  
\321\073\074\263\221\344\156\266\304\073\160\362\154\222\227\011  
\315\107\175\030\300\363\273\236\017\326\213\256\007\266\132\017  
\316\013\014\107\247\345\076\270\275\175\307\233\065\240\141\227  
\072\101\165\027\314\053\226\167\052\222\041\036\331\225\166\040  
\147\150\317\015\275\337\326\037\011\152\232\342\314\163\161\244  
\057\175\022\200\267\123\060\106\136\113\124\231\017\147\311\245  
\310\362\040\301\202\354\235\021\337\302\002\373\032\073\321\355  
\040\232\357\145\144\222\020\015\052\342\336\160\361\030\147\202  
\214\141\336\270\274\321\057\234\373\017\320\053\355\033\166\271  
\344\071\125\370\370\241\035\270\252\200\000\114\202\347\262\177  
\011\270\274\060\240\057\015\365\122\236\216\367\222\263\012\000  
\035\000\124\227\006\340\261\007\331\307\017\134\145\175\074\155  
\131\127\344\355\245\215\351\100\123\237\025\113\240\161\366\032  
\041\343\332\160\006\041\130\024\207\205\167\171\252\202\171\002  
\003\001\000\001\243\102\060\100\060\035\006\003\125\035\016\004  
\026\004\024\342\311\100\237\115\316\350\232\241\174\317\016\077  
\145\305\051\210\152\031\121\060\017\006\003\125\035\023\001\001  
\377\004\005\060\003\001\001\377\060\016\006\003\125\035\017\001  
\001\377\004\004\003\002\001\206\060\015\006\011\052\206\110\206  
\367\015\001\001\013\005\000\003\202\002\001\000\321\111\127\340  
\247\314\150\130\272\001\017\053\031\315\215\260\141\105\254\021  
\355\143\120\151\370\037\177\276\026\217\375\235\353\013\252\062  
\107\166\322\147\044\355\275\174\063\062\227\052\307\005\206\146  
\015\027\175\024\025\033\324\353\375\037\232\366\136\227\151\267  
\032\045\244\012\263\221\077\137\066\254\213\354\127\250\076\347  
\201\212\030\127\071\205\164\032\102\307\351\133\023\137\217\371  
\010\351\222\164\215\365\107\322\253\073\326\373\170\146\116\066  
\175\371\351\222\351\004\336\375\111\143\374\155\373\024\161\223  
\147\057\107\112\267\271\377\036\052\163\160\106\060\277\132\362  
\057\171\245\341\215\014\331\371\262\143\067\214\067\145\205\160  
\152\134\133\011\162\271\255\143\074\261\335\370\374\062\277\067  
\206\344\273\216\230\047\176\272\037\026\341\160\021\362\003\337  
\045\142\062\047\046\030\062\204\237\377\000\072\023\272\232\115  
\364\117\270\024\160\042\261\312\053\220\316\051\301\160\364\057  
\235\177\362\220\036\326\132\337\267\106\374\346\206\372\313\340  
\040\166\172\272\246\313\365\174\336\142\245\261\213\356\336\202  
\146\212\116\072\060\037\077\200\313\255\047\272\014\136\327\320  
\261\126\312\167\161\262\265\165\241\120\251\100\103\027\302\050  
\331\317\122\213\133\310\143\324\102\076\240\063\172\106\056\367

```
\012\040\106\124\176\152\117\061\361\201\176\102\164\070\145\163
\047\356\306\174\270\216\327\245\072\327\230\241\234\214\020\125
\323\333\113\354\100\220\362\315\156\127\322\142\016\174\127\223
\261\247\155\315\235\203\273\052\347\345\266\073\161\130\255\375
\321\105\274\132\221\356\123\025\157\323\105\011\165\156\272\220
\135\036\004\317\067\337\036\250\146\261\214\346\040\152\357\374
\110\116\164\230\102\257\051\157\056\152\307\373\175\321\146\061
\042\314\206\000\176\146\203\014\102\364\275\064\222\303\032\352
\117\312\176\162\115\013\160\214\246\110\273\246\241\024\366\373
\130\104\231\024\256\252\013\223\151\240\051\045\112\245\313\053
\335\212\146\007\026\170\025\127\161\033\354\365\107\204\363\236
\061\067\172\325\177\044\255\344\274\375\375\314\156\203\350\014
\250\267\101\154\007\335\275\074\206\227\057\322
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

# Trust for "GDCA TrustAUTH R5 ROOT"

# Issuer: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY  
CO.,LTD.",C=CN

# Serial Number:7d:09:97:fe:f0:47:ea:7a

# Subject: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY  
CO.,LTD.",C=CN

# Not Valid Before: Wed Nov 26 05:13:15 2014

# Not Valid After : Mon Dec 31 15:59:59 2040

# Fingerprint (SHA-256):

BF:FF:8F:D0:44:33:48:7D:6A:8A:A6:0C:1A:29:76:7A:9F:C2:BB:B0:5E:42:0F:71:3A:13:B9:92:89:1D:38:93

# Fingerprint (SHA1): 0F:36:38:5B:81:1A:25:C3:9B:31:4E:83:CA:E9:34:66:70:CC:74:B4

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GDCA TrustAUTH R5 ROOT"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\017\066\070\133\201\032\045\303\233\061\116\203\312\351\064\146
\160\314\164\264
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\143\314\331\075\064\065\134\157\123\243\342\010\160\110\037\264
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\142\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\062\060\060\006\003\125\004\012\014\051\107\125\101\116\107\040
\104\117\116\107\040\103\105\122\124\111\106\111\103\101\124\105
\040\101\125\124\110\117\122\111\124\131\040\103\117\056\054\114
```

```

\124\104\056\061\037\060\035\006\003\125\004\003\014\026\107\104
\103\101\040\124\162\165\163\164\101\125\124\110\040\122\065\040
\122\117\117\124
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\010\175\011\227\376\360\107\352\172
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "TrustCor RootCert CA-1"
#
Issuer: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de
R.L.,L=Panama City,ST=Panama,C=PA
Serial Number:00:da:9b:ec:71:f3:03:b0:19
Subject: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor
Systems S. de R.L.,L=Panama City,ST=Panama,C=PA
Not Valid Before: Thu Feb 04 12:32:16 2016
Not Valid After : Mon Dec 31 17:23:16 2029
Fingerprint (SHA-256):
D4:0E:9C:86:CD:8F:E4:68:C1:77:69:59:F4:9E:A7:74:FA:54:86:84:B6:C4:06:F3:90:92:61:F4:DC:E2:57:5C
Fingerprint (SHA1): FF:BD:CD:E7:82:C8:43:5E:3C:6F:26:86:5C:CA:A8:3A:45:5B:C3:0A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TrustCor RootCert CA-1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
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CK\_BBOOL CK\_TRUE

# For Server Distrust After: Wed Nov 30 00:00:00 2022

CKA\_NSS\_SERVER\_DISTRICT\_AFTER MULTILINE\_OCTAL

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# For Email Distrust After: Wed Nov 30 00:00:00 2022

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER MULTILINE\_OCTAL

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Trust for "TrustCor RootCert CA-1"
Issuer: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de
R.L.,L=Panama City,ST=Panama,C=PA
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Serial Number:00:da:9b:ec:71:f3:03:b0:19
Subject: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de
R.L.,L=Panama City,ST=Panama,C=PA
Not Valid Before: Thu Feb 04 12:32:16 2016
Not Valid After : Mon Dec 31 17:23:16 2029
Fingerprint (SHA-256):
D4:0E:9C:86:CD:8F:E4:68:C1:77:69:59:F4:9E:A7:74:FA:54:86:84:B6:C4:06:F3:90:92:61:F4:DC:E2:57:5C
Fingerprint (SHA1): FF:BD:CD:E7:82:C8:43:5E:3C:6F:26:86:5C:CA:A8:3A:45:5B:C3:0A
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TrustCor RootCert CA-1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
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\105\133\303\012
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CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
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Certificate "TrustCor RootCert CA-2"
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Issuer: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor
Systems S. de R.L.,L=Panama City,ST=Panama,C=PA
Serial Number:25:a1:df:ca:33:cb:59:02
Subject: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de
R.L.,L=Panama City,ST=Panama,C=PA
Not Valid Before: Thu Feb 04 12:32:23 2016
Not Valid After : Sun Dec 31 17:26:39 2034
Fingerprint (SHA-256):
07:53:E9:40:37:8C:1B:D5:E3:83:6E:39:5D:AE:A5:CB:83:9E:50:46:F1:BD:0E:AE:19:51:CF:10:FE:C7:C9:65
Fingerprint (SHA1): B8:BE:6D:CB:56:F1:55:B9:63:D4:12:CA:4E:06:34:C7:94:B2:1C:C0
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TrustCor RootCert CA-2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
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\013\004\033\077\120\055\177\263\307\172\032\026\200\140\370\212  
\037\351\033\052\306\371\272\001\032\151\277\322\130\307\124\127  
\010\217\341\071\140\167\113\254\131\204\032\210\361\335\313\117  
\170\327\347\341\063\055\374\356\101\372\040\260\276\313\367\070  
\224\300\341\320\205\017\273\355\054\163\253\355\376\222\166\032  
\144\177\133\015\063\011\007\063\173\006\077\021\244\134\160\074  
\205\300\317\343\220\250\203\167\372\333\346\305\214\150\147\020  
\147\245\122\055\360\304\231\217\177\277\321\153\342\265\107\326  
\331\320\205\231\115\224\233\017\113\215\356\000\132\107\035\021  
\003\254\101\030\257\207\267\157\014\072\217\312\317\334\003\301  
\242\011\310\345\375\200\136\310\140\102\001\033\032\123\132\273  
\067\246\267\274\272\204\351\036\154\032\324\144\332\324\103\376  
\223\213\113\362\054\171\026\020\324\223\013\210\217\241\330\206  
\024\106\221\107\233\050\044\357\127\122\116\134\102\234\252\367  
\111\354\047\350\100\036\263\246\211\042\162\234\365\015\063\264  
\130\243\060\073\335\324\152\124\223\276\032\115\363\223\224\367

```
\374\204\013\077\204\040\134\064\003\104\305\332\255\274\012\301
\002\317\036\345\224\331\363\216\133\330\114\360\235\354\141\027
\273\024\062\124\014\002\051\223\036\222\206\366\177\357\347\222
\005\016\131\335\231\010\056\056\372\234\000\122\323\305\146\051
\344\247\227\104\244\016\050\201\023\065\305\366\157\144\346\101
\304\325\057\314\064\105\045\317\101\000\226\075\112\056\302\226
\230\117\116\112\234\227\267\333\037\222\062\310\377\017\121\156
\326\354\011
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

# For Server Distrust After: Wed Nov 30 00:00:00 2022

CKA\_NSS\_SERVER\_DISTRUSt\_AFTER MULTILINE\_OCTAL

\062\062\061\061\063\060\060\060\060\060\060\132

END

# For Email Distrust After: Wed Nov 30 00:00:00 2022

CKA\_NSS\_EMAIL\_DISTRUSt\_AFTER

MULTILINE\_OCTAL

\062\062\061\061\063\060\060\060\060\060\060\132

END

# Trust for "TrustCor RootCert CA-2"

# Issuer: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de  
R.L.,L=Panama City,ST=Panama,C=PA

# Serial Number:25:a1:df:ca:33:cb:59:02

# Subject: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de  
R.L.,L=Panama City,ST=Panama,C=PA

# Not Valid Before: Thu Feb 04 12:32:23 2016

# Not Valid After : Sun Dec 31 17:26:39 2034

# Fingerprint (SHA-256):

07:53:E9:40:37:8C:1B:D5:E3:83:6E:39:5D:AE:A5:CB:83:9E:50:46:F1:BD:0E:AE:19:51:CF:10:FE:C7:C9:65

# Fingerprint (SHA1): B8:BE:6D:CB:56:F1:55:B9:63:D4:12:CA:4E:06:34:C7:94:B2:1C:C0

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TrustCor RootCert CA-2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\270\276\155\313\126\361\125\271\143\324\022\312\116\006\064\307  
\224\262\034\300

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

\242\341\370\030\013\272\105\325\307\101\052\273\067\122\105\144

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101

```
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145
\162\164\040\103\101\055\062
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\010\045\241\337\312\063\313\131\002
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST

CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "TrustCor ECA-1"

#

# Issuer: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama City,ST=Panama,C=PA

# Serial Number:00:84:82:2c:5f:1c:62:d0:40

# Subject: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama City,ST=Panama,C=PA

# Not Valid Before: Thu Feb 04 12:32:33 2016

# Not Valid After : Mon Dec 31 17:28:07 2029

# Fingerprint (SHA-256):

5A:88:5D:B1:9C:01:D9:12:C5:75:93:88:93:8C:AF:BB:DF:03:1A:B2:D4:8E:91:EE:15:58:9B:42:97:1D:03:9C

# Fingerprint (SHA1): 58:D1:DF:95:95:67:6B:63:C0:F0:5B:1C:17:4D:8B:84:0B:C8:78:BD

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TrustCor ECA-1"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\201\234\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
```

```
\150\157\162\151\164\171\061\027\060\025\006\003\125\004\003\014
\016\124\162\165\163\164\103\157\162\040\105\103\101\055\061
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\234\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\027\060\025\006\003\125\004\003\014
\016\124\162\165\163\164\103\157\162\040\105\103\101\055\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\011\000\204\202\054\137\034\142\320\100
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\040\060\202\003\010\240\003\002\001\002\002\011\000
\204\202\054\137\034\142\320\100\060\015\006\011\052\206\110\206
\367\015\001\001\013\005\000\060\201\234\061\013\060\011\006\003
\125\004\006\023\002\120\101\061\017\060\015\006\003\125\004\010
\014\006\120\141\156\141\155\141\061\024\060\022\006\003\125\004
\007\014\013\120\141\156\141\155\141\040\103\151\164\171\061\044
\060\042\006\003\125\004\012\014\033\124\162\165\163\164\103\157
\162\040\123\171\163\164\145\155\163\040\123\056\040\144\145\040
\122\056\114\056\061\047\060\045\006\003\125\004\013\014\036\124
\162\165\163\164\103\157\162\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\061\027\060
\025\006\003\125\004\003\014\016\124\162\165\163\164\103\157\162
\040\105\103\101\055\061\060\036\027\015\061\066\060\062\060\064
\061\062\063\062\063\063\132\027\015\062\071\061\062\063\061\061
\067\062\070\060\067\132\060\201\234\061\013\060\011\006\003\125
\004\006\023\002\120\101\061\017\060\015\006\003\125\004\010\014
\006\120\141\156\141\155\141\061\024\060\022\006\003\125\004\007
\014\013\120\141\156\141\155\141\040\103\151\164\171\061\044\060
\042\006\003\125\004\012\014\033\124\162\165\163\164\103\157\162
\040\123\171\163\164\145\155\163\040\123\056\040\144\145\040\122
\056\114\056\061\047\060\045\006\003\125\004\013\014\036\124\162
\165\163\164\103\157\162\040\103\145\162\164\151\146\151\143\141
\164\145\040\101\165\164\150\157\162\151\164\171\061\027\060\025
\006\003\125\004\003\014\016\124\162\165\163\164\103\157\162\040
\105\103\101\055\061\060\202\001\042\060\015\006\011\052\206\110
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001
```

\012\002\202\001\001\000\317\217\340\021\265\237\250\166\166\333  
\337\017\124\357\163\143\051\202\255\107\306\243\153\355\376\137  
\063\370\103\121\351\032\063\221\061\027\240\164\304\324\247\001  
\346\262\222\076\152\235\355\016\371\164\230\100\323\077\003\200  
\006\202\100\350\261\342\247\121\247\035\203\046\153\253\336\372  
\027\221\053\330\306\254\036\261\236\031\001\325\227\246\352\015  
\267\304\125\037\047\174\322\010\325\166\037\051\025\207\100\071  
\335\070\105\021\165\320\232\247\064\340\277\315\310\122\035\271  
\107\176\015\270\273\306\014\366\163\127\026\132\176\103\221\037  
\125\072\306\155\104\004\252\234\251\234\247\114\211\027\203\256  
\243\004\136\122\200\213\036\022\045\021\031\327\014\175\175\061  
\104\101\352\333\257\260\034\357\201\320\054\305\232\041\233\075  
\355\102\073\120\046\362\354\316\161\141\006\142\041\124\116\177  
\301\235\076\177\040\214\200\313\052\330\227\142\310\203\063\221  
\175\260\242\132\017\127\350\073\314\362\045\262\324\174\057\354  
\115\306\241\072\025\172\347\266\135\065\365\366\110\112\066\105  
\146\324\272\230\130\301\002\003\001\000\001\243\143\060\141\060  
\035\006\003\125\035\016\004\026\004\024\104\236\110\365\314\155  
\110\324\240\113\177\376\131\044\057\203\227\231\232\206\060\037  
\006\003\125\035\043\004\030\060\026\200\024\104\236\110\365\314  
\155\110\324\240\113\177\376\131\044\057\203\227\231\232\206\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003  
\202\001\001\000\005\076\065\134\025\160\233\311\307\163\141\157  
\162\053\324\302\217\362\103\135\002\316\304\224\271\224\021\203  
\147\135\342\147\154\165\166\277\273\014\252\066\306\255\107\223  
\143\334\036\176\326\336\056\376\351\031\062\070\003\177\024\366  
\000\163\054\131\261\041\006\341\373\254\030\225\014\243\377\231  
\226\367\053\047\233\325\044\314\035\335\301\072\340\230\104\260  
\304\344\076\167\261\163\251\144\054\366\034\001\174\077\135\105  
\205\300\205\347\045\217\225\334\027\363\074\237\032\156\260\312  
\343\035\052\351\114\143\372\044\141\142\326\332\176\266\034\154  
\365\002\035\324\052\335\125\220\353\052\021\107\074\056\136\164  
\262\202\042\245\175\123\037\105\354\047\221\175\347\042\026\350  
\300\150\066\330\306\361\117\200\104\062\371\341\321\321\035\252  
\336\250\253\234\004\257\255\040\016\144\230\115\245\153\300\110  
\130\226\151\115\334\007\214\121\223\242\337\237\017\075\213\140  
\264\202\215\252\010\116\142\105\340\371\013\322\340\340\074\133  
\336\134\161\047\045\302\346\003\201\213\020\123\343\307\125\242  
\264\237\327\346

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

# For Server Distrust After: Wed Nov 30 00:00:00 2022

CKA\_NSS\_SERVER\_DISTRUSTRUST\_AFTER\_MULTILINE\_OCTAL

\062\062\061\061\063\060\060\060\060\060\060\060\132

END

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For Email Distrust After: Wed Nov 30 00:00:00
2022
CKA_NSS_EMAIL_DISTRUST_AFTER MULTILINE_OCTAL
\062\062\061\061\063\060\060\060\060\060\060\132
END

Trust for "TrustCor ECA-1"
Issuer: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama
City,ST=Panama,C=PA
Serial Number:00:84:82:2c:5f:1c:62:d0:40
Subject: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama
City,ST=Panama,C=PA
Not Valid Before: Thu Feb 04 12:32:33 2016
Not Valid After : Mon Dec 31 17:28:07 2029
Fingerprint (SHA-256):
5A:88:5D:B1:9C:01:D9:12:C5:75:93:88:93:8C:AF:BB:DF:03:1A:B2:D4:8E:91:EE:15:58:9B:42:97:1D:03:9C
Fingerprint (SHA1): 58:D1:DF:95:95:67:6B:63:C0:F0:5B:1C:17:4D:8B:84:0B:C8:78:BD
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TrustCor ECA-1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\130\321\337\225\225\147\153\143\300\360\133\034\027\115\213\204
\013\310\170\275
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\047\222\043\035\012\365\100\174\351\346\153\235\330\365\347\154
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\234\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\027\060\025\006\003\125\004\003\014
\016\124\162\165\163\164\103\157\162\040\105\103\101\055\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\204\202\054\137\034\142\320\100
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING

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```

CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "SSL.com Root Certification Authority RSA"
#
Issuer: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US
Serial Number:7b:2c:9b:d3:16:80:32:99
Subject: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US
Not Valid Before: Fri Feb 12 17:39:39 2016
Not Valid After : Tue Feb 12 17:39:39 2041
Fingerprint (SHA-256):
85:66:6A:56:2E:E0:BE:5C:E9:25:C1:D8:89:0A:6F:76:A8:7E:C1:6D:4D:7D:5F:29:EA:74:19:CF:20:12:3B:69
Fingerprint (SHA1): B7:AB:33:08:D1:EA:44:77:BA:14:80:12:5A:6F:BD:A9:36:49:0C:BB
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com Root Certification Authority RSA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\122\123\101
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\122\123\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\010\173\054\233\323\026\200\062\231
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\335\060\202\003\305\240\003\002\001\002\002\010\173

```



\054\233\323\026\200\062\231\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\060\174\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\016\060\014\006\003\125\004\010\014\005  
\124\145\170\141\163\061\020\060\016\006\003\125\004\007\014\007  
\110\157\165\163\164\157\156\061\030\060\026\006\003\125\004\012  
\014\017\123\123\114\040\103\157\162\160\157\162\141\164\151\157  
\156\061\061\060\057\006\003\125\004\003\014\050\123\123\114\056  
\143\157\155\040\122\157\157\164\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\040\122\123\101\060\036\027\015\061\066\060\062\061\062\061\067  
\063\071\063\071\132\027\015\064\061\060\062\061\062\061\067\063  
\071\063\071\132\060\174\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145  
\170\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157  
\165\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017  
\123\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061  
\061\060\057\006\003\125\004\003\014\050\123\123\114\056\143\157  
\155\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122  
\123\101\060\202\002\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202  
\002\001\000\371\017\335\243\053\175\313\320\052\376\354\147\205  
\246\347\056\033\272\167\341\343\365\257\244\354\372\112\135\221  
\304\127\107\153\030\167\153\166\362\375\223\344\075\017\302\026  
\236\013\146\303\126\224\236\027\203\205\316\126\357\362\026\375  
\000\142\365\042\011\124\350\145\027\116\101\271\340\117\106\227  
\252\033\310\270\156\142\136\151\261\137\333\052\002\176\374\154  
\312\363\101\330\355\320\350\374\077\141\110\355\260\003\024\035  
\020\016\113\031\340\273\116\354\206\145\377\066\363\136\147\002  
\013\235\206\125\141\375\172\070\355\376\342\031\000\267\157\241  
\120\142\165\164\074\240\372\310\045\222\264\156\172\042\307\370  
\036\241\343\262\335\221\061\253\053\035\004\377\245\112\004\067  
\351\205\244\063\053\375\342\326\125\064\174\031\244\112\150\307  
\262\250\323\267\312\241\223\210\353\301\227\274\214\371\035\331  
\042\204\044\164\307\004\075\152\251\051\223\314\353\270\133\341  
\376\137\045\252\064\130\310\301\043\124\235\033\230\021\303\070  
\234\176\075\206\154\245\017\100\206\174\002\364\134\002\117\050  
\313\256\161\237\017\072\310\063\376\021\045\065\352\374\272\305  
\140\075\331\174\030\325\262\251\323\165\170\003\162\042\312\072  
\303\037\357\054\345\056\251\372\236\054\266\121\106\375\257\003  
\326\352\140\150\352\205\026\066\153\205\351\036\300\263\335\304  
\044\334\200\052\201\101\155\224\076\310\340\311\201\101\000\236  
\136\277\177\305\010\230\242\030\054\102\100\263\371\157\070\047  
\113\116\200\364\075\201\107\340\210\174\352\034\316\265\165\134  
\121\056\034\053\177\032\162\050\347\000\265\321\164\306\327\344  
\237\255\007\223\266\123\065\065\374\067\344\303\366\135\026\276  
\041\163\336\222\012\370\240\143\152\274\226\222\152\076\370\274  
\145\125\233\336\365\015\211\046\004\374\045\032\246\045\151\313

\302\155\312\174\342\131\137\227\254\353\357\056\310\274\327\033  
\131\074\053\314\362\031\310\223\153\047\143\031\317\374\351\046  
\370\312\161\233\177\223\376\064\147\204\116\231\353\374\263\170  
\011\063\160\272\146\246\166\355\033\163\353\032\245\015\304\042  
\023\040\224\126\012\116\054\154\116\261\375\317\234\011\272\242  
\063\355\207\002\003\001\000\001\243\143\060\141\060\035\006\003  
\125\035\016\004\026\004\024\335\004\011\007\242\365\172\175\122  
\123\022\222\225\356\070\200\045\015\246\131\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003  
\125\035\043\004\030\060\026\200\024\335\004\011\007\242\365\172  
\175\122\123\022\222\225\356\070\200\045\015\246\131\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\206\060\015\006  
\011\052\206\110\206\367\015\001\001\013\005\000\003\202\002\001  
\000\040\030\021\224\051\373\046\235\034\036\036\160\141\361\225  
\162\223\161\044\255\150\223\130\216\062\257\033\263\160\003\374  
\045\053\164\205\220\075\170\152\364\271\213\245\227\073\265\030  
\221\273\036\247\371\100\133\221\371\125\231\257\036\021\320\134  
\035\247\146\343\261\224\007\014\062\071\246\352\033\260\171\330  
\035\234\160\104\343\212\335\304\371\225\037\212\070\103\077\001  
\205\245\107\247\075\106\262\274\345\042\150\367\173\234\330\054  
\076\012\041\310\055\063\254\277\305\201\231\061\164\301\165\161  
\305\276\261\360\043\105\364\235\153\374\031\143\235\243\274\004  
\306\030\013\045\273\123\211\017\263\200\120\336\105\356\104\177  
\253\224\170\144\230\323\366\050\335\207\330\160\145\164\373\016  
\271\023\353\247\017\141\251\062\226\314\336\273\355\143\114\030  
\273\251\100\367\240\124\156\040\210\161\165\030\352\172\264\064  
\162\340\043\047\167\134\266\220\352\206\045\100\253\357\063\017  
\313\237\202\276\242\040\373\366\265\055\032\346\302\205\261\164  
\017\373\310\145\002\244\122\001\107\335\111\042\301\277\330\353  
\153\254\176\336\354\143\063\025\267\043\010\217\306\017\215\101  
\132\335\216\305\271\217\345\105\077\170\333\272\322\033\100\261  
\376\161\115\077\340\201\242\272\136\264\354\025\340\223\335\010  
\037\176\341\125\231\013\041\336\223\236\012\373\346\243\111\275  
\066\060\376\347\167\262\240\165\227\265\055\201\210\027\145\040  
\367\332\220\000\237\311\122\314\062\312\065\174\365\075\017\330  
\053\327\365\046\154\311\006\064\226\026\352\160\131\032\062\171  
\171\013\266\210\177\017\122\110\075\277\154\330\242\104\056\321  
\116\267\162\130\323\211\023\225\376\104\253\370\327\213\033\156  
\234\274\054\240\133\325\152\000\257\137\067\341\325\372\020\013  
\230\234\206\347\046\217\316\360\354\156\212\127\013\200\343\116  
\262\300\240\143\141\220\272\125\150\067\164\152\266\222\333\237  
\241\206\042\266\145\047\016\354\266\237\102\140\344\147\302\265  
\332\101\013\304\323\213\141\033\274\372\037\221\053\327\104\007  
\136\272\051\254\331\305\351\357\123\110\132\353\200\361\050\130  
\041\315\260\006\125\373\047\077\123\220\160\251\004\036\127\047  
\271

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

```

CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "SSL.com Root Certification Authority RSA"
Issuer: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US
Serial Number:7b:2c:9b:d3:16:80:32:99
Subject: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US
Not Valid Before: Fri Feb 12 17:39:39 2016
Not Valid After : Tue Feb 12 17:39:39 2041
Fingerprint (SHA-256):
85:66:6A:56:2E:E0:BE:5C:E9:25:C1:D8:89:0A:6F:76:A8:7E:C1:6D:4D:7D:5F:29:EA:74:19:CF:20:12:3B:69
Fingerprint (SHA1): B7:AB:33:08:D1:EA:44:77:BA:14:80:12:5A:6F:BD:A9:36:49:0C:BB
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN
CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com Root Certification Authority RSA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\267\253\063\010\321\352\104\167\272\024\200\022\132\157\275\251
\066\111\014\273
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\206\151\022\300\160\361\354\254\254\302\325\274\245\133\241\051
END
CKA_ISSUER MULTILINE_OCTAL
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\122\123\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\173\054\233\323\026\200\062\231
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "SSL.com Root Certification Authority ECC"
#

```

```
Issuer: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US
Serial Number:75:e6:df:cb:c1:68:5b:a8
Subject: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US
Not Valid Before: Fri Feb 12 18:14:03 2016
Not Valid After : Tue Feb 12 18:14:03 2041
Fingerprint (SHA-256):
34:17:BB:06:CC:60:07:DA:1B:96:1C:92:0B:8A:B4:CE:3F:AD:82:0E:4A:A3:0B:9A:CB:C4:A7:4E:BD:CE:BC:65
Fingerprint (SHA1): C3:19:7C:39:24:E6:54:AF:1B:C4:AB:20:95:7A:E2:C3:0E:13:02:6A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com Root Certification Authority ECC"
CKA_CERTIFICATE_TYPE
CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\105\103\103
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\105\103\103
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\010\165\346\337\313\301\150\133\250
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\215\060\202\002\024\240\003\002\001\002\002\010\165
\346\337\313\301\150\133\250\060\012\006\010\052\206\110\316\075
\004\003\002\060\174\061\013\060\011\006\003\125\004\006\023\002
\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145\170
\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157\165
\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017\123
\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061\061
```

\060\057\006\003\125\004\003\014\050\123\123\114\056\143\157\155  
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164  
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103  
\103\060\036\027\015\061\066\060\062\061\062\061\070\061\064\060  
\063\132\027\015\064\061\060\062\061\062\061\070\061\064\060\063  
\132\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163  
\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164  
\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114  
\040\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057  
\006\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122  
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\040\105\103\103\060  
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201  
\004\000\042\003\142\000\004\105\156\251\120\304\246\043\066\236  
\137\050\215\027\313\226\042\144\077\334\172\216\035\314\010\263  
\242\161\044\272\216\111\271\004\033\107\226\130\253\055\225\310  
\355\236\010\065\310\047\353\211\214\123\130\353\142\212\376\360  
\133\017\153\061\122\143\101\073\211\315\354\354\266\215\031\323  
\064\007\334\273\306\006\177\302\105\225\354\313\177\250\043\340  
\011\351\201\372\363\107\323\243\143\060\141\060\035\006\003\125  
\035\016\004\026\004\024\202\321\205\163\060\347\065\004\323\216  
\002\222\373\345\244\321\304\041\350\315\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125  
\035\043\004\030\060\026\200\024\202\321\205\163\060\347\065\004  
\323\216\002\222\373\345\244\321\304\041\350\315\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\206\060\012\006\010  
\052\206\110\316\075\004\003\002\003\147\000\060\144\002\060\157  
\347\353\131\021\244\140\317\141\260\226\173\355\005\371\057\023  
\221\334\355\345\374\120\153\021\106\106\263\034\041\000\142\273  
\276\303\347\350\315\007\231\371\015\013\135\162\076\304\252\002  
\060\037\274\272\013\342\060\044\373\174\155\200\125\012\231\076  
\200\015\063\345\146\243\263\243\273\245\325\213\217\011\054\246  
\135\176\342\360\007\010\150\155\322\174\151\156\137\337\345\152  
\145

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SSL.com Root Certification Authority ECC"

# Issuer: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Serial Number:75:e6:df:cb:c1:68:5b:a8

# Subject: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Not Valid Before: Fri Feb 12 18:14:03 2016

# Not Valid After : Tue Feb 12 18:14:03 2041

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Fingerprint (SHA-256):
34:17:BB:06:CC:60:07:DA:1B:96:1C:92:0B:8A:B4:CE:3F:AD:82:0E:4A:A3:0B:9A:CB:C4:A7:4E:BD:CE:BC:65
Fingerprint (SHA1): C3:19:7C:39:24:E6:54:AF:1B:C4:AB:20:95:7A:E2:C3:0E:13:02:6A
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com Root Certification Authority ECC"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\303\031\174\071\044\346\124\257\033\304\253\040\225\172\342\303
\016\023\002\152
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\056\332\344\071\177\234\217\067\321\160\237\046\027\121\072\216
END
CKA_ISSUER
MULTILINE_OCTAL
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\105\103\103
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\165\346\337\313\301\150\133\250
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "SSL.com EV Root Certification Authority RSA R2"
#
Issuer: CN=SSL.com EV Root
Certification Authority RSA R2,O=SSL Corporation,L=Houston,ST=Texas,C=US
Serial Number:56:b6:29:cd:34:bc:78:f6
Subject: CN=SSL.com EV Root Certification Authority RSA R2,O=SSL
Corporation,L=Houston,ST=Texas,C=US
Not Valid Before: Wed May 31 18:14:37 2017
Not Valid After : Fri May 30 18:14:37 2042
Fingerprint (SHA-256):
2E:7B:F1:6C:C2:24:85:A7:BB:E2:AA:86:96:75:07:61:B0:AE:39:BE:3B:2F:E9:D0:CC:6D:4E:F7:34:91:42:5C
Fingerprint (SHA1): 74:3A:F0:52:9B:D0:32:A0:F4:4A:83:CD:D4:BA:A9:7B:7C:2E:C4:9A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

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```
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com EV Root Certification Authority RSA R2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163
\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164
\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114
\040\103\157\162\160\157\162\141\164\151\157\156\061\067\060\065
\006\003\125\004\003\014\056\123\123\114\056\143\157\155\040\105
\126\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122
\123\101\040\122\062
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163
\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164
\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114
\040\103\157\162\160\157\162\141\164\151\157\156\061\067\060\065
\006\003\125\004\003\014\056\123\123\114\056\143\157\155\040\105
\126\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122
\123\101\040\122\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\126\266\051\315\064\274\170\366
END
CKA_VALUE
MULTILINE_OCTAL
\060\202\005\353\060\202\003\323\240\003\002\001\002\002\010\126
\266\051\315\064\274\170\366\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\201\202\061\013\060\011\006\003\125
\004\006\023\002\125\123\061\016\060\014\006\003\125\004\010\014
\005\124\145\170\141\163\061\020\060\016\006\003\125\004\007\014
\007\110\157\165\163\164\157\156\061\030\060\026\006\003\125\004
\012\014\017\123\123\114\040\103\157\162\160\157\162\141\164\151
\157\156\061\067\060\065\006\003\125\004\003\014\056\123\123\114
\056\143\157\155\040\105\126\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171\040\122\123\101\040\122\062\060\036\027\015\061
\067\060\065\063\061\061\070\061\064\063\067\132\027\015\064\062
\060\065\063\060\061\070\061\064\063\067\132\060\201\202\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\016\060\014\006
```

\003\125\004\010\014\005\124\145\170\141\163\061\020\060\016\006  
\003\125\004\007\014\007\110\157\165\163\164\157\156\061\030\060  
\026\006\003\125\004\012\014\017\123\123\114\040\103\157\162\160  
\157\162\141\164\151\157\156\061\067\060\065\006\003\125\004\003  
\014\056\123\123\114\056\143\157\155\040\105\126\040\122\157\157  
\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040  
\101\165\164\150\157\162\151\164\171\040\122\123\101\040\122\062  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\217\066\145\100\341\326\115\300\327\264\351\106\332\153\352  
\063\107\315\114\371\175\175\276\275\055\075\360\333\170\341\206  
\245\331\272\011\127\150\355\127\076\240\320\010\101\203\347\050  
\101\044\037\343\162\025\320\001\032\373\136\160\043\262\313\237  
\071\343\317\305\116\306\222\155\046\306\173\273\263\332\047\235  
\012\206\351\201\067\005\376\360\161\161\354\303\034\351\143\242  
\027\024\235\357\033\147\323\205\125\002\002\326\111\311\314\132  
\341\261\367\157\062\237\311\324\073\210\101\250\234\275\313\253  
\333\155\173\011\037\242\114\162\220\332\053\010\374\317\074\124  
\316\147\017\250\317\135\226\031\013\304\343\162\353\255\321\175  
\035\047\357\222\353\020\277\133\353\073\257\317\200\335\301\322  
\226\004\133\172\176\244\251\074\070\166\244\142\216\240\071\136  
\352\167\317\135\000\131\217\146\054\076\007\242\243\005\046\021  
\151\227\352\205\267\017\226\013\113\310\100\341\120\272\056\212  
\313\367\017\232\042\347\177\232\067\023\315\362\115\023\153\041  
\321\300\314\042\362\241\106\366\104\151\234\312\141\065\007\000  
\157\326\141\010\021\352\272\270\366\351\263\140\345\115\271\354  
\237\024\146\311\127\130\333\315\207\151\370\212\206\022\003\107  
\277\146\023\166\254\167\175\064\044\205\203\315\327\252\234\220  
\032\237\041\054\177\170\267\144\270\330\350\246\364\170\263\125  
\313\204\322\062\304\170\256\243\217\141\335\316\010\123\255\354  
\210\374\025\344\232\015\346\237\032\167\316\114\217\270\024\025  
\075\142\234\206\070\006\000\146\022\344\131\166\132\123\300\002  
\230\242\020\053\150\104\173\216\171\316\063\112\166\252\133\201  
\026\033\265\212\330\320\000\173\136\142\264\011\326\206\143\016  
\246\005\225\111\272\050\213\210\223\262\064\034\330\244\125\156  
\267\034\320\336\231\125\073\043\364\042\340\371\051\146\046\354  
\040\120\167\333\112\013\217\276\345\002\140\160\101\136\324\256  
\120\071\042\024\046\313\262\073\163\164\125\107\007\171\201\071  
\250\060\023\104\345\004\212\256\226\023\045\102\017\271\123\304  
\233\374\315\344\034\336\074\372\253\326\006\112\037\147\246\230  
\060\034\335\054\333\334\030\225\127\146\306\377\134\213\126\365  
\167\002\003\001\000\001\243\143\060\141\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125  
\035\043\004\030\060\026\200\024\371\140\273\324\343\325\064\366  
\270\365\006\200\045\247\163\333\106\151\250\236\060\035\006\003  
\125\035\016\004\026\004\024\371\140\273\324\343\325\064\366\270  
\365\006\200\045\247\163\333\106\151\250\236\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\206\060\015\006\011\052



\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\126  
\263\216\313\012\235\111\216\277\244\304\221\273\146\027\005\121  
\230\165\373\345\120\054\172\236\361\024\372\253\323\212\076\377  
\221\051\217\143\213\330\264\251\124\001\015\276\223\206\057\371  
\112\155\307\136\365\127\371\312\125\034\022\276\107\017\066\305  
\337\152\267\333\165\302\107\045\177\271\361\143\370\150\055\125  
\004\321\362\215\260\244\317\274\074\136\037\170\347\245\240\040  
\160\260\004\305\267\367\162\247\336\042\015\275\063\045\106\214  
\144\222\046\343\076\056\143\226\332\233\214\075\370\030\011\327  
\003\314\175\206\202\340\312\004\007\121\120\327\377\222\325\014  
\357\332\206\237\231\327\353\267\257\150\342\071\046\224\272\150  
\267\277\203\323\352\172\147\075\142\147\256\045\345\162\350\342  
\344\354\256\022\366\113\053\074\237\351\260\100\363\070\124\263  
\375\267\150\310\332\306\217\121\074\262\373\221\334\034\347\233  
\235\341\267\015\162\217\342\244\304\251\170\371\353\024\254\306  
\103\005\302\145\071\050\030\002\303\202\262\235\005\276\145\355  
\226\137\145\164\074\373\011\065\056\173\234\023\375\033\017\135  
\307\155\201\072\126\017\314\073\341\257\002\057\042\254\106\312  
\106\074\240\034\114\326\104\264\136\056\134\025\146\011\341\046  
\051\376\306\122\141\272\261\163\377\303\014\234\345\154\152\224  
\077\024\312\100\026\225\204\363\131\251\254\137\114\141\223\155  
\321\073\314\242\225\014\042\246\147\147\104\056\271\331\322\212  
\101\263\146\013\132\373\175\043\245\362\032\260\377\336\233\203  
\224\056\321\077\337\222\267\221\257\005\073\145\307\240\154\261  
\315\142\022\303\220\033\343\045\316\064\274\157\167\166\261\020  
\303\367\005\032\300\326\257\164\142\110\027\167\222\151\220\141  
\034\336\225\200\164\124\217\030\034\303\363\003\320\277\244\103  
\165\206\123\030\172\012\056\011\034\066\237\221\375\202\212\042  
\113\321\016\120\045\335\313\003\014\027\311\203\000\010\116\065  
\115\212\213\355\360\002\224\146\054\104\177\313\225\047\226\027  
\255\011\060\254\266\161\027\156\213\027\366\034\011\324\055\073  
\230\245\161\323\124\023\331\140\363\365\113\146\117\372\361\356  
\040\022\215\264\254\127\261\105\143\241\254\166\251\302\373

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SSL.com EV Root Certification Authority RSA R2"

# Issuer: CN=SSL.com EV Root Certification Authority RSA R2,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Serial Number:56:b6:29:cd:34:bc:78:f6

# Subject: CN=SSL.com EV Root Certification Authority RSA R2,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Not Valid Before: Wed May 31 18:14:37 2017

# Not Valid After : Fri May 30 18:14:37 2042

# Fingerprint (SHA-256):

2E:7B:F1:6C:C2:24:85:A7:BB:E2:AA:86:96:75:07:61:B0:AE:39:BE:3B:2F:E9:D0:CC:6D:4E:F7:34:91:42:5C

```

Fingerprint (SHA1): 74:3A:F0:52:9B:D0:32:A0:F4:4A:83:CD:D4:BA:A9:7B:7C:2E:C4:9A
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE
CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com EV Root Certification Authority RSA R2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\164\072\360\122\233\320\062\240\364\112\203\315\324\272\251\173
\174\056\304\232
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\341\036\061\130\032\256\124\123\002\366\027\152\021\173\115\225
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163
\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164
\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114
\040\103\157\162\160\157\162\141\164\151\157\156\061\067\060\065
\006\003\125\004\003\014\056\123\123\114\056\143\157\155\040\105
\126\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122
\123\101\040\122\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\126\266\051\315\064\274\170\366
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "SSL.com EV Root Certification Authority ECC"
#
Issuer: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US
Serial Number:2c:29:9c:5b:16:ed:05:95
Subject: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US
Not Valid Before: Fri Feb 12 18:15:23 2016
Not Valid After : Tue Feb 12 18:15:23 2041
Fingerprint (SHA-256):
22:A2:C1:F7:BD:ED:70:4C:C1:E7:01:B5:F4:08:C3:10:88:0F:E9:56:B5:DE:2A:4A:44:F9:9C:87:3A:25:A7:C8
Fingerprint (SHA1): 4C:DD:51:A3:D1:F5:20:32:14:B0:C6:C5:32:23:03:91:C7:46:42:6D
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE

```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com EV Root Certification
 Authority ECC"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\064\060\062\006
\003\125\004\003\014\053\123\123\114\056\143\157\155\040\105\126
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103
\103
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\064\060\062\006
\003\125\004\003\014\053\123\123\114\056\143\157\155\040\105\126
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103
\103
END
CKA_SERIAL_NUMBER
 MULTILINE_OCTAL
\002\010\054\051\234\133\026\355\005\225
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\224\060\202\002\032\240\003\002\001\002\002\010\054
\051\234\133\026\355\005\225\060\012\006\010\052\206\110\316\075
\004\003\002\060\177\061\013\060\011\006\003\125\004\006\023\002
\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145\170
\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157\165
\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017\123
\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061\064
\060\062\006\003\125\004\003\014\053\123\123\114\056\143\157\155
\040\105\126\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\105\103\103\060\036\027\015\061\066\060\062\061\062\061\070
\061\065\062\063\132\027\015\064\061\060\062\061\062\061\070\061
\065\062\063\132\060\177\061\013\060\011\006\003\125\004\006\023
\002\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145
\170\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157
\165\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017
```

\123\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061  
\064\060\062\006\003\125\004\003\014\053\123\123\114\056\143\157  
\155\040\105\126\040\122\157\157\164\040\103\145\162\164\151\146  
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164  
\171\040\105\103\103\060\166\060\020\006\007\052\206\110\316\075  
\002\001\006\005\053\201\004\000\042\003\142\000\004\252\022\107  
\220\230\033\373\357\303\100\007\203\040\116\361\060\202\242\006  
\321\362\222\206\141\362\366\041\150\312\000\304\307\352\103\000  
\124\206\334\375\037\337\000\270\101\142\134\334\160\026\062\336  
\037\231\324\314\305\007\310\010\037\141\026\007\121\075\175\134  
\007\123\343\065\070\214\337\315\237\331\056\015\112\266\031\056  
\132\160\132\006\355\276\360\241\260\312\320\011\051\243\143\060  
\141\060\035\006\003\125\035\016\004\026\004\024\133\312\136\345  
\336\322\201\252\315\250\055\144\121\266\331\162\233\227\346\117  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\037\006\003\125\035\043\004\030\060\026\200\024\133\312  
\136\345\336\322\201\252\315\250\055\144\121\266\331\162\233\227  
\346\117\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\206\060\012\006\010\052\206\110\316\075\004\003\002\003\150  
\000\060\145\002\061\000\212\346\100\211\067\353\351\325\023\331  
\312\324\153\044\363\260\075\207\106\130\032\354\261\337\157\373  
\126\272\160\153\307\070\314\350\261\214\117\017\367\361\147\166  
\016\203\320\036\121\217\002\060\075\366\043\050\046\114\306\140  
\207\223\046\233\262\065\036\272\326\367\074\321\034\316\372\045  
\074\246\032\201\025\133\363\022\017\154\356\145\212\311\207\250  
\371\007\340\142\232\214\134\112

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SSL.com EV Root Certification Authority ECC"

# Issuer: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Serial Number:2c:29:9c:5b:16:ed:05:95

# Subject: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Not Valid Before: Fri Feb 12 18:15:23 2016

# Not Valid After : Tue Feb 12 18:15:23 2041

# Fingerprint (SHA-256):

22:A2:C1:F7:BD:ED:70:4C:C1:E7:01:B5:F4:08:C3:10:88:0F:E9:56:B5:DE:2A:4A:44:F9:9C:87:3A:25:A7:C8

# Fingerprint (SHA1): 4C:DD:51:A3:D1:F5:20:32:14:B0:C6:C5:32:23:03:91:C7:46:42:6D

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SSL.com EV Root Certification Authority ECC"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\114\335\121\243\321\365\040\062\024\260\306\305\062\043\003\221

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\307\106\102\155
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\131\123\042\145\203\102\001\124\300\316\102\271\132\174\362\220
END
CKA_ISSUER MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\064\060\062\006
\003\125\004\003\014\053\123\123\114\056\143\157\155\040\105\126
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103
\103
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\054\051\234\133\026\355\005\225
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
#
Certificate "GlobalSign Root CA - R6"
#
Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6
Serial Number:45:e6:bb:03:83:33:c3:85:65:48:e6:ff:45:51
Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6
Not Valid Before: Wed Dec 10 00:00:00 2014
Not Valid After : Sun Dec 10 00:00:00 2034
Fingerprint (SHA-256):
2C:AB:EA:FE:37:D0:6C:A2:2A:BA:73:91:C0:03:3D:25:98:29:52:C4:53:64:73:49:76:3A:3A:B5:AD:6C:CF:69
Fingerprint (SHA1): 80:94:64:0E:B5:A7:A1:CA:11:9C:1F:DD:D5:9F:81:02:63:A7:FB:D1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root CA - R6"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\066\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125

```

```
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\066\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\016\105\346\273\003\203\063\303\205\145\110\346\377\105\121
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\203\060\202\003\153\240\003\002\001\002\002\016\105
\346\273\003\203\063\303\205\145\110\346\377\105\121\060\015\006
\011\052\206\110\206\367\015\001\001\014\005\000\060\114\061\040
\060\036\006\003\125\004\013\023\027\107\154\157\142\141\154\123
\151\147\156\040\122\157\157\164\040\103\101\040\055\040\122\066
\061\023\060\021\006\003\125\004\012\023\012\107\154\157\142\141
\154\123\151\147\156\061\023\060\021\006\003\125\004\003\023\012
\107\154\157\142\141\154\123\151\147\156\060\036\027\015\061\064
\061\062\061\060\060\060\060\060\060\060\132\027\015\063\064\061
\062\061\060\060\060\060\060\060\060\132\060\114\061\040\060\036
\006\003\125\004\013\023\027\107\154\157\142\141\154\123\151\147
\156\040\122\157\157\164\040\103\101\040\055\040\122\066\061\023
\060\021\006\003\125\004\012\023\012\107\154\157\142\141\154\123
\151\147\156\061\023\060\021\006\003\125\004\003\023\012\107\154
\157\142\141\154\123\151\147\156\060\202\002\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000
\060\202\002\012\002\202\002\001\000\225\007\350\163\312\146\371
\354\024\312\173\074\367\015\010\361\264\105\013\054\202\264\110
\306\353\133\074\256\203\270\101\222\063\024\244\157\177\351\052
\314\306\260\210\153\305\266\211\321\306\262\377\024\316\121\024
\041\354\112\335\033\132\306\326\207\356\115\072\025\006\355\144
\146\013\222\200\312\104\336\163\224\116\363\247\211\177\117\170
\143\010\310\022\120\155\102\146\057\115\271\171\050\115\122\032
\212\032\200\267\031\201\016\176\304\212\274\144\114\041\034\103
\150\327\075\074\212\305\262\146\325\220\232\267\061\006\305\276
\342\155\062\006\246\036\371\271\353\252\243\270\277\276\202\143
\120\320\360\030\211\337\344\017\171\365\352\242\037\052\322\160
\056\173\347\274\223\273\155\123\342\110\174\214\020\007\070\377
\146\262\167\141\176\340\352\214\074\252\264\244\366\363\225\112
\022\007\155\375\214\262\211\317\320\240\141\167\310\130\164\260
\324\043\072\367\135\072\312\242\333\235\011\336\135\104\055\220
\361\201\315\127\222\372\176\274\120\004\143\064\337\153\223\030
\276\153\066\262\071\344\254\044\066\267\360\357\266\034\023\127
```

\223\266\336\262\370\342\205\267\163\242\270\065\252\105\362\340  
\235\066\241\157\124\212\361\162\126\156\056\210\305\121\102\104  
\025\224\356\243\305\070\226\233\116\116\132\013\107\363\006\066  
\111\167\060\274\161\067\345\246\354\041\010\165\374\346\141\026  
\077\167\325\331\221\227\204\012\154\324\002\115\164\300\024\355  
\375\071\373\203\362\136\024\241\004\260\013\351\376\356\217\341  
\156\013\262\010\263\141\146\011\152\261\006\072\145\226\131\300  
\360\065\375\311\332\050\215\032\021\207\160\201\012\250\232\165  
\035\236\072\206\005\000\236\333\200\326\045\371\334\005\236\047  
\131\114\166\071\133\352\371\245\241\330\203\017\321\377\337\060  
\021\371\205\317\063\110\365\312\155\144\024\054\172\130\117\323  
\113\010\111\305\225\144\032\143\016\171\075\365\263\214\312\130  
\255\234\102\105\171\156\016\207\031\134\124\261\145\266\277\214  
\233\334\023\351\015\157\270\056\334\147\156\311\213\021\265\204  
\024\212\000\031\160\203\171\221\227\221\324\032\047\277\067\036  
\062\007\330\024\143\074\050\114\257\002\003\001\000\001\243\143  
\060\141\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003  
\001\001\377\060\035\006\003\125\035\016\004\026\004\024\256\154  
\005\243\223\023\342\242\347\342\327\034\326\307\360\177\310\147  
\123\240\060\037\006\003\125\035\043\004\030\060\026\200\024\256  
\154\005\243\223\023\342\242\347\342\327\034\326\307\360\177\310  
\147\123\240\060\015\006\011\052\206\110\206\367\015\001\001\014  
\005\000\003\202\002\001\000\203\045\355\350\321\375\225\122\315  
\236\300\004\240\221\151\346\134\320\204\336\334\255\242\117\350  
\107\170\326\145\230\251\133\250\074\207\174\002\212\321\156\267  
\026\163\346\137\300\124\230\325\164\276\301\315\342\021\221\255  
\043\030\075\335\341\162\104\226\264\225\136\300\173\216\231\170  
\026\103\023\126\127\263\242\263\073\265\167\334\100\162\254\243  
\353\233\065\076\261\010\041\241\347\304\103\067\171\062\276\265  
\347\234\054\114\274\103\051\231\216\060\323\254\041\340\343\035  
\372\330\007\063\166\124\000\042\052\271\115\040\056\160\150\332  
\345\123\374\203\134\323\235\362\377\104\014\104\146\362\322\343  
\275\106\000\032\155\002\272\045\135\215\241\061\121\335\124\106  
\034\115\333\231\226\357\032\034\004\134\246\025\357\170\340\171  
\376\135\333\076\252\114\125\375\232\025\251\157\341\246\373\337  
\160\060\351\303\356\102\106\355\302\223\005\211\372\175\143\173  
\077\320\161\201\174\000\350\230\256\016\170\064\303\045\373\257  
\012\237\040\153\335\073\023\217\022\214\342\101\032\110\172\163  
\240\167\151\307\266\134\177\202\310\036\376\130\033\050\053\250  
\154\255\136\155\300\005\322\173\267\353\200\376\045\067\376\002  
\233\150\254\102\135\303\356\365\314\334\360\120\165\322\066\151  
\234\346\173\004\337\156\006\151\266\336\012\011\110\131\207\353  
\173\024\140\172\144\252\151\103\357\221\307\114\354\030\335\154  
\357\123\055\214\231\341\136\362\162\076\317\124\310\275\147\354  
\244\017\114\105\377\323\271\060\043\007\114\217\020\277\206\226  
\331\231\132\264\231\127\034\244\314\273\025\211\123\272\054\005  
\017\344\304\236\031\261\030\064\325\114\235\272\355\367\037\257

```
\044\225\004\170\250\003\273\356\201\345\332\137\174\213\112\241
\220\164\045\247\263\076\113\310\054\126\275\307\310\357\070\342
\134\222\360\171\367\234\204\272\164\055\141\001\040\176\176\321
\362\117\007\131\137\213\055\103\122\353\106\014\224\341\365\146
\107\171\167\325\124\133\037\255\044\067\313\105\132\116\240\104
\110\310\330\260\231\305\025\204\011\366\326\111\111\300\145\270
\346\032\161\156\240\250\361\202\350\105\076\154\326\002\327\012
\147\203\005\132\311\244\020
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign Root CA - R6"

# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6

# Serial Number:45:e6:bb:03:83:33:c3:85:65:48:e6:ff:45:51

# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6

# Not Valid Before: Wed Dec 10 00:00:00 2014

# Not Valid After : Sun Dec 10 00:00:00 2034

# Fingerprint (SHA-256):

2C:AB:EA:FE:37:D0:6C:A2:2A:BA:73:91:C0:03:3D:25:98:29:52:C4:53:64:73:49:76:3A:3A:B5:AD:6C:CF:69

# Fingerprint (SHA1): 80:94:64:0E:B5:A7:A1:CA:11:9C:1F:DD:D5:9F:81:02:63:A7:FB:D1

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GlobalSign Root CA - R6"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\200\224\144\016\265\247\241\312\021\234\037\335\325\237\201\002
\143\247\373\321
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\117\335\007\344\324\042\144\071\036\014\067\102\352\321\306\256
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\066\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\016\105\346\273\003\203\063\303\205\145\110\346\377\105\121
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR



```

CKA_TRUST_CODE_SIGNING CK_TRUST
CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "OISTE WISeKey Global Root GC CA"
#
Issuer: CN=OISTE WISeKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH
Serial Number:21:2a:56:0c:ae:da:0c:ab:40:45:bf:2b:a2:2d:3a:ea
Subject: CN=OISTE WISeKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH
Not Valid Before: Tue May 09 09:48:34 2017
Not Valid After : Fri May 09 09:58:33 2042
Fingerprint (SHA-256):
85:60:F9:1C:36:24:DA:BA:95:70:B5:FE:A0:DB:E3:6F:F1:1A:83:23:BE:94:86:85:4F:B3:F3:4A:55:71:19:8D
Fingerprint (SHA1): E0:11:84:5E:34:DE:BE:88:81:B9:9C:F6:16:26:D1:96:1F:C3:B9:31
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "OISTE WISeKey Global Root GC CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\103\040\103\101
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\103\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\041\052\126\014\256\332\014\253\100\105\277\053\242\055
\072\352
END
CKA_VALUE
MULTILINE_OCTAL
\060\202\002\151\060\202\001\357\240\003\002\001\002\002\020\041

```

\052\126\014\256\332\014\253\100\105\277\053\242\055\072\352\060  
\012\006\010\052\206\110\316\075\004\003\003\060\155\061\013\060  
\011\006\003\125\004\006\023\002\103\110\061\020\060\016\006\003  
\125\004\012\023\007\127\111\123\145\113\145\171\061\042\060\040  
\006\003\125\004\013\023\031\117\111\123\124\105\040\106\157\165  
\156\144\141\164\151\157\156\040\105\156\144\157\162\163\145\144  
\061\050\060\046\006\003\125\004\003\023\037\117\111\123\124\105  
\040\127\111\123\145\113\145\171\040\107\154\157\142\141\154\040  
\122\157\157\164\040\107\103\040\103\101\060\036\027\015\061\067  
\060\065\060\071\060\071\064\070\063\064\132\027\015\064\062\060  
\065\060\071\060\071\065\070\063\063\132\060\155\061\013\060\011  
\006\003\125\004\006\023\002\103\110\061\020\060\016\006\003\125  
\004\012\023\007\127\111\123\145\113\145\171\061\042\060\040\006  
\003\125\004\013\023\031\117\111\123\124\105\040\106\157\165\156  
\144\141\164\151\157\156\040\105\156\144\157\162\163\145\144\061  
\050\060\046\006\003\125\004\003\023\037\117\111\123\124\105\040  
\127\111\123\145\113\145\171\040\107\154\157\142\141\154\040\122  
\157\157\164\040\107\103\040\103\101\060\166\060\020\006\007\052  
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000  
\004\114\351\120\300\306\017\162\030\274\330\361\272\263\211\342  
\171\112\243\026\247\153\124\044\333\121\377\352\364\011\044\303  
\013\042\237\313\152\047\202\201\015\322\300\257\061\344\164\202  
\156\312\045\331\214\165\235\361\333\320\232\242\113\041\176\026  
\247\143\220\322\071\324\261\207\170\137\030\226\017\120\033\065  
\067\017\152\306\334\331\023\115\244\216\220\067\346\275\133\061  
\221\243\124\060\122\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004  
\024\110\207\024\254\343\303\236\220\140\072\327\312\211\356\323  
\255\214\264\120\146\060\020\006\011\053\006\001\004\001\202\067  
\025\001\004\003\002\001\000\060\012\006\010\052\206\110\316\075  
\004\003\003\003\150\000\060\145\002\060\046\307\151\133\334\325  
\347\262\347\310\014\214\214\303\335\171\214\033\143\325\311\122  
\224\116\115\202\112\163\036\262\200\204\251\045\300\114\132\155  
\111\051\140\170\023\342\176\110\353\144\002\061\000\333\064\040  
\062\010\377\232\111\002\266\210\336\024\257\135\154\231\161\215  
\032\077\213\327\340\242\066\206\034\007\202\072\166\123\375\302  
\242\355\357\173\260\200\117\130\017\113\123\071\275

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "OISTE WISEKey Global Root GC CA"

# Issuer: CN=OISTE WISEKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISEKey,C=CH

# Serial Number:21:2a:56:0c:ae:da:0c:ab:40:45:bf:2b:a2:2d:3a:ea

# Subject: CN=OISTE WISEKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISEKey,C=CH

```
Not Valid Before: Tue May 09
09:48:34 2017
Not Valid After : Fri May 09 09:58:33 2042
Fingerprint (SHA-256):
85:60:F9:1C:36:24:DA:BA:95:70:B5:FE:A0:DB:E3:6F:F1:1A:83:23:BE:94:86:85:4F:B3:F3:4A:55:71:19:8D
Fingerprint (SHA1): E0:11:84:5E:34:DE:BE:88:81:B9:9C:F6:16:26:D1:96:1F:C3:B9:31
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "OISTE WISeKey Global Root GC CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\340\021\204\136\064\336\276\210\201\271\234\366\026\046\321\226
\037\303\271\061
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\251\326\271\055\057\223\144\370\245\151\312\221\351\150\007\043
END
CKA_ISSUER MULTILINE_OCTAL
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\103\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\041\052\126\014\256\332\014\253\100\105\277\053\242\055
\072\352
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "UCA Global G2 Root"
#
Issuer: CN=UCA Global G2 Root,O=UniTrust,C=CN
Serial Number:5d:df:b1:da:5a:a3:ed:5d:be:5a:65:20:65:03:90:ef
Subject: CN=UCA Global G2 Root,O=UniTrust,C=CN
Not Valid Before: Fri Mar 11 00:00:00 2016
Not Valid After : Mon Dec 31 00:00:00 2040
Fingerprint (SHA-256):
9B:EA:11:C9:76:FE:01:47:64:C1:BE:56:A6:F9:14:B5:A5:60:31:7A:BD:99:88:39:33:82:E5:16:1A:A0:49:3C
Fingerprint (SHA1): 28:F9:78:16:19:7A:FF:18:25:18:AA:44:FE:C1:A0:CE:5C:B6:4C:8A
```

```
CKA_CLASS CK_OBJECT_CLASS
CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "UCA Global G2 Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\033\060\031\006\003\125\004\003\014\022\125\103\101
\040\107\154\157\142\141\154\040\107\062\040\122\157\157\164
END
CKA_ID UTF8 ""
CKA_ISSUER MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\033\060\031\006\003\125\004\003\014\022\125\103\101
\040\107\154\157\142\141\154\040\107\062\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\135\337\261\332\132\243\355\135\276\132\145\040\145\003
\220\357
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\106\060\202\003\056\240\003\002\001\002\002\020\135
\337\261\332\132\243\355\135\276\132\145\040\145\003\220\357\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\075
\061\013\060\011\006\003\125\004\006\023\002\103\116\061\021\060
\017\006\003\125\004\012\014\010\125\156\151\124\162\165\163\164
\061\033\060\031\006\003\125\004\003\014\022\125\103\101\040\107
\154\157\142\141\154\040\107\062\040\122\157\157\164\060\036\027
\015\061\066\060\063\061\061\060\060\060\060\060\060\132\027\015
\064\060\061\062\063\061\060\060\060\060\060\060\132\060\075\061
\013\060\011\006\003\125\004\006\023\002\103\116\061\021\060\017
\006\003\125\004\012\014\010\125\156\151\124\162\165\163\164\061
\033\060\031\006\003\125\004\003\014\022\125\103\101\040\107\154
\157\142\141\154\040\107\062\040\122\157\157\164\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\305\346\053
\157\174\357\046\005\047\243\201\044\332\157\313\001\371\231\232
\251\062\302\042\207\141\101\221\073\313\303\150\033\006\305\114
\251\053\301\147\027\042\035\053\355\371\051\211\223\242\170\275
\222\153\240\243\015\242\176\312\223\263\246\321\214\065\325\165
\371\027\366\317\105\305\345\172\354\167\223\240\217\043\256\016
\032\003\177\276\324\320\355\056\173\253\106\043\133\377\054\346
\124\172\224\300\052\025\360\311\215\260\172\073\044\341\327\150
\342\061\074\006\063\106\266\124\021\246\245\057\042\124\052\130
```

\015\001\002\361\372\025\121\147\154\300\372\327\266\033\177\321  
\126\210\057\032\072\215\073\273\202\021\340\107\000\320\122\207  
\253\373\206\176\017\044\153\100\235\064\147\274\215\307\055\206  
\157\171\076\216\251\074\027\113\177\260\231\343\260\161\140\334  
\013\365\144\303\316\103\274\155\161\271\322\336\047\133\212\350  
\330\306\256\341\131\175\317\050\055\065\270\225\126\032\361\262  
\130\113\267\022\067\310\174\263\355\113\200\341\215\372\062\043  
\266\157\267\110\225\010\261\104\116\205\214\072\002\124\040\057  
\337\277\127\117\073\072\220\041\327\301\046\065\124\040\354\307  
\077\107\354\357\132\277\113\172\301\255\073\027\120\134\142\330  
\017\113\112\334\053\372\156\274\163\222\315\354\307\120\350\101  
\226\327\251\176\155\330\351\035\217\212\265\271\130\222\272\112  
\222\053\014\126\375\200\353\010\360\136\051\156\033\034\014\257  
\217\223\211\255\333\275\243\236\041\312\211\031\354\337\265\303  
\032\353\026\376\170\066\114\326\156\320\076\027\034\220\027\153  
\046\272\373\172\057\277\021\034\030\016\055\163\003\217\240\345  
\065\240\132\342\114\165\035\161\341\071\070\123\170\100\314\203  
\223\327\012\236\235\133\217\212\344\345\340\110\344\110\262\107  
\315\116\052\165\052\173\362\042\366\311\276\011\221\226\127\172  
\210\210\254\356\160\254\371\334\051\343\014\034\073\022\116\104  
\326\247\116\260\046\310\363\331\032\227\221\150\352\357\215\106  
\006\322\126\105\130\232\074\014\017\203\270\005\045\303\071\317  
\073\244\064\211\267\171\022\057\107\305\347\251\227\151\374\246  
\167\147\265\337\173\361\172\145\025\344\141\126\145\002\003\001  
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\201\304\214\314\365\344\060\377\245\014\010\137\214\025  
\147\041\164\001\337\337\060\015\006\011\052\206\110\206\367\015  
\001\001\013\005\000\003\202\002\001\000\023\145\042\365\216\053  
\255\104\344\313\377\271\150\346\303\200\110\075\004\173\372\043  
\057\172\355\066\332\262\316\155\366\346\236\345\137\130\217\313  
\067\062\241\310\145\266\256\070\075\065\033\076\274\073\266\004  
\320\274\371\111\365\233\367\205\305\066\266\313\274\370\310\071  
\325\344\137\007\275\025\124\227\164\312\312\355\117\272\272\144  
\166\237\201\270\204\105\111\114\215\157\242\353\261\314\321\303  
\224\332\104\302\346\342\352\030\350\242\037\047\005\272\327\345  
\326\251\315\335\357\166\230\215\000\016\315\033\372\003\267\216  
\200\130\016\047\077\122\373\224\242\312\136\145\311\326\204\332  
\271\065\161\363\046\300\117\167\346\201\047\322\167\073\232\024  
\157\171\364\366\320\341\323\224\272\320\127\121\275\047\005\015  
\301\375\310\022\060\356\157\215\021\053\010\235\324\324\277\200  
\105\024\232\210\104\332\060\352\264\247\343\356\357\133\202\325  
\076\326\255\170\222\333\134\074\363\330\255\372\270\153\177\304  
\066\050\266\002\025\212\124\054\234\260\027\163\216\320\067\243  
\024\074\230\225\000\014\051\005\133\236\111\111\261\137\307\343  
\313\317\047\145\216\065\027\267\127\310\060\331\101\133\271\024  
\266\350\302\017\224\061\247\224\230\314\152\353\265\341\047\365

```
\020\250\001\350\216\022\142\350\210\314\265\177\106\227\300\233
\020\146\070\032\066\106\137\042\150\075\337\311\306\023\047\253
\123\006\254\242\074\206\006\145\157\261\176\261\051\104\232\243
\272\111\151\050\151\217\327\345\137\255\004\206\144\157\032\240
\014\305\010\142\316\200\243\320\363\354\150\336\276\063\307\027
\133\177\200\304\114\114\261\246\204\212\303\073\270\011\315\024
\201\272\030\343\124\127\066\376\333\057\174\107\241\072\063\310
\371\130\073\104\117\261\312\002\211\004\226\050\150\305\113\270
\046\211\273\326\063\057\120\325\376\232\211\272\030\062\222\124
\306\133\340\235\371\136\345\015\042\233\366\332\342\310\041\262
\142\041\252\206\100\262\056\144\323\137\310\343\176\021\147\105
\037\005\376\343\242\357\263\250\263\363\175\217\370\014\037\042
\037\055\160\264\270\001\064\166\060\000\345\043\170\247\126\327
\120\037\212\373\006\365\302\031\360\320
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "UCA Global G2 Root"

# Issuer: CN=UCA Global G2 Root,O=UniTrust,C=CN

# Serial Number:5d:df:b1:da:5a:a3:ed:5d:be:5a:65:20:65:03:90:ef

# Subject: CN=UCA Global G2 Root,O=UniTrust,C=CN

# Not Valid Before: Fri Mar 11 00:00:00 2016

# Not Valid After : Mon Dec 31 00:00:00 2040

# Fingerprint (SHA-256):

9B:EA:11:C9:76:FE:01:47:64:C1:BE:56:A6:F9:14:B5:A5:60:31:7A:BD:99:88:39:33:82:E5:16:1A:A0:49:3C

# Fingerprint (SHA1): 28:F9:78:16:19:7A:FF:18:25:18:AA:44:FE:C1:A0:CE:5C:B6:4C:8A

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "UCA Global G2 Root"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\050\371\170\026\031\172\377\030\045\030\252\104\376\301\240\316
\134\266\114\212
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\200\376\360\304\112\360\134\142\062\237\034\272\170\251\120\370
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\075\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\033\060\031\006\003\125\004\003\014\022\125\103\101
\040\107\154\157\142\141\154\040\107\062\040\122\157\157\164
```

END

```

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\135\337\261\332\132\243\355\135\276\132\145\040\145\003
\220\357
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

#
Certificate "UCA Extended Validation Root"
#
Issuer: CN=UCA Extended Validation Root,O=UniTrust,C=CN
Serial Number:4f:d2:2b:8f:f5:64:c8:33:9e:4f:34:58:66:23:70:60
Subject: CN=UCA Extended Validation Root,O=UniTrust,C=CN
Not Valid Before: Fri Mar 13 00:00:00 2015
Not Valid After : Fri Dec 31 00:00:00 2038
Fingerprint (SHA-256):
D4:3A:F9:B3:54:73:75:5C:96:84:FC:06:D7:D8:CB:70:EE:5C:28:E7:73:FB:29:4E:B4:1E:E7:17:22:92:4D:24
Fingerprint (SHA1): A3:A1:B0:6F:24:61:23:4A:E3:36:A5:C2:37:FC:A6:FF:DD:F0:D7:3A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "UCA Extended Validation Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\045\060\043\006\003\125\004\003\014\034\125\103\101
\040\105\170\164\145\156\144\145\144\040\126\141\154\151\144\141
\164\151\157\156\040\122\157\157\164
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\045\060\043\006\003\125\004\003\014\034\125\103\101
\040\105\170\164\145\156\144\145\144\040\126\141\154\151\144\141
\164\151\157\156\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\117\322\053\217\365\144\310\063\236\117\064\130\146\043
\160\140
END
CKA_VALUE MULTILINE_OCTAL

```

\060\202\005\132\060\202\003\102\240\003\002\001\002\002\020\117  
\322\053\217\365\144\310\063\236\117\064\130\146\043\160\140\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\107  
\061\013\060\011\006\003\125\004\006\023\002\103\116\061\021\060  
\017\006\003\125\004\012\014\010\125\156\151\124\162\165\163\164  
\061\045\060\043\006\003\125\004\003\014\034\125\103\101\040\105  
\170\164\145\156\144\145\144\040\126\141\154\151\144\141\164\151  
\157\156\040\122\157\157\164\060\036\027\015\061\065\060\063\061  
\063\060\060\060\060\060\060\132\027\015\063\070\061\062\063\061  
\060\060\060\060\060\060\132\060\107\061\013\060\011\006\003\125  
\004\006\023\002\103\116\061\021\060\017\006\003\125\004\012\014  
\010\125\156\151\124\162\165\163\164\061\045\060\043\006\003\125  
\004\003\014\034\125\103\101\040\105\170\164\145\156\144\145\144  
\040\126\141\154\151\144\141\164\151\157\156\040\122\157\157\164  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\251\011\007\050\023\002\260\231\340\144\252\036\103\026\172  
\163\261\221\240\165\076\250\372\343\070\000\172\354\211\152\040  
\017\213\305\260\233\063\003\132\206\306\130\206\325\301\205\273  
\117\306\234\100\115\312\276\356\151\226\270\255\201\060\232\174  
\222\005\353\005\053\232\110\320\270\166\076\226\310\040\273\322  
\260\361\217\330\254\105\106\377\252\147\140\264\167\176\152\037  
\074\032\122\172\004\075\007\074\205\015\204\320\037\166\012\367  
\152\024\337\162\343\064\174\127\116\126\001\076\171\361\252\051  
\073\154\372\370\217\155\115\310\065\337\256\353\334\044\356\171  
\105\247\205\266\005\210\336\210\135\045\174\227\144\147\011\331  
\277\132\025\005\206\363\011\036\354\130\062\063\021\363\167\144  
\260\166\037\344\020\065\027\033\362\016\261\154\244\052\243\163  
\374\011\037\036\062\031\123\021\347\331\263\054\056\166\056\241  
\243\336\176\152\210\011\350\362\007\212\370\262\315\020\347\342  
\163\100\223\273\010\321\077\341\374\013\224\263\045\357\174\246  
\327\321\257\237\377\226\232\365\221\173\230\013\167\324\176\350  
\007\322\142\265\225\071\343\363\361\155\017\016\145\204\212\143  
\124\305\200\266\340\236\113\175\107\046\247\001\010\135\321\210  
\236\327\303\062\104\372\202\112\012\150\124\177\070\123\003\314  
\244\000\063\144\121\131\013\243\202\221\172\136\354\026\302\363  
\052\346\142\332\052\333\131\142\020\045\112\052\201\013\107\007  
\103\006\160\207\322\372\223\021\051\172\110\115\353\224\307\160  
\115\257\147\325\121\261\200\040\001\001\264\172\010\246\220\177  
\116\340\357\007\101\207\257\152\245\136\213\373\317\120\262\232  
\124\257\303\211\272\130\055\365\060\230\261\066\162\071\176\111  
\004\375\051\247\114\171\344\005\127\333\224\271\026\123\215\106  
\263\035\225\141\127\126\177\257\360\026\133\141\130\157\066\120  
\021\013\330\254\053\225\026\032\016\037\010\315\066\064\145\020  
\142\146\325\200\137\024\040\137\055\014\240\170\012\150\326\054  
\327\351\157\053\322\112\005\223\374\236\157\153\147\377\210\361  
\116\245\151\112\122\067\005\352\306\026\215\322\304\231\321\202  
\053\073\272\065\165\367\121\121\130\363\310\007\335\344\264\003



\177\002\003\001\000\001\243\102\060\100\060\035\006\003\125\035  
\016\004\026\004\024\331\164\072\344\060\075\015\367\022\334\176  
\132\005\237\036\064\232\367\341\024\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\206\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\066\215  
\227\314\102\025\144\051\067\233\046\054\326\373\256\025\151\054  
\153\032\032\367\137\266\371\007\114\131\352\363\311\310\271\256  
\314\272\056\172\334\300\365\260\055\300\073\257\237\160\005\021  
\152\237\045\117\001\051\160\343\345\014\341\352\132\174\334\111  
\273\301\036\052\201\365\026\113\162\221\310\242\061\271\252\332  
\374\235\037\363\135\100\002\023\374\116\034\006\312\263\024\220  
\124\027\031\022\032\361\037\327\014\151\132\366\161\170\364\224  
\175\221\013\216\354\220\124\216\274\157\241\114\253\374\164\144  
\375\161\232\370\101\007\241\315\221\344\074\232\340\233\062\071  
\163\253\052\325\151\310\170\221\046\061\175\342\307\060\361\374  
\024\170\167\022\016\023\364\335\026\224\277\113\147\173\160\123  
\205\312\260\273\363\070\115\054\220\071\300\015\302\135\153\351  
\342\345\325\210\215\326\054\277\253\033\276\265\050\207\022\027  
\164\156\374\175\374\217\320\207\046\260\033\373\271\154\253\342  
\236\075\025\301\073\056\147\002\130\221\237\357\370\102\037\054  
\267\150\365\165\255\317\265\366\377\021\175\302\360\044\245\255  
\323\372\240\074\251\372\135\334\245\240\357\104\244\276\326\350  
\345\344\023\226\027\173\006\076\062\355\307\267\102\274\166\243  
\330\145\070\053\070\065\121\041\016\016\157\056\064\023\100\341  
\053\147\014\155\112\101\060\030\043\132\062\125\231\311\027\340  
\074\336\366\354\171\255\053\130\031\242\255\054\042\032\225\216  
\276\226\220\135\102\127\304\371\024\003\065\053\034\055\121\127  
\010\247\072\336\077\344\310\264\003\163\302\301\046\200\273\013  
\102\037\255\015\257\046\162\332\314\276\263\243\203\130\015\202  
\305\037\106\121\343\234\030\314\215\233\215\354\111\353\165\120  
\325\214\050\131\312\164\064\332\214\013\041\253\036\352\033\345  
\307\375\025\076\300\027\252\373\043\156\046\106\313\372\371\261  
\162\153\151\317\042\204\013\142\017\254\331\031\000\224\242\166  
\074\324\055\232\355\004\236\055\006\142\020\067\122\034\205\162  
\033\047\345\314\306\061\354\067\354\143\131\233\013\035\166\314  
\176\062\232\210\225\010\066\122\273\336\166\137\166\111\111\255  
\177\275\145\040\262\311\301\053\166\030\166\237\126\261

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "UCA Extended Validation Root"

# Issuer: CN=UCA Extended Validation Root,O=UniTrust,C=CN

# Serial Number:4f:d2:2b:8f:f5:64:c8:33:9e:4f:34:58:66:23:70:60

# Subject: CN=UCA Extended Validation Root,O=UniTrust,C=CN

```

Not Valid Before: Fri Mar 13 00:00:00 2015
Not Valid After : Fri Dec 31 00:00:00 2038
Fingerprint (SHA-256):
D4:3A:F9:B3:54:73:75:5C:96:84:FC:06:D7:D8:CB:70:EE:5C:28:E7:73:FB:29:4E:B4:1E:E7:17:22:92:4D:24
Fingerprint (SHA1): A3:A1:B0:6F:24:61:23:4A:E3:36:A5:C2:37:FC:A6:FF:DD:F0:D7:3A
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL
 UTF8 "UCA Extended Validation Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\243\241\260\157\044\141\043\112\343\066\245\302\067\374\246\377
\335\360\327\072
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\241\363\137\103\306\064\233\332\277\214\176\005\123\255\226\342
END
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\045\060\043\006\003\125\004\003\014\034\125\103\101
\040\105\170\164\145\156\144\145\144\040\126\141\154\151\144\141
\164\151\157\156\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\117\322\053\217\365\144\310\063\236\117\064\130\146\043
\160\140
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Certigna Root CA"
#
Issuer: CN=Certigna Root
 CA,OU=0002 48146308100036,O=Dhimyotis,C=FR
Serial Number:00:ca:e9:1b:89:f1:55:03:0d:a3:e6:41:6d:c4:e3:a6:e1
Subject: CN=Certigna Root CA,OU=0002 48146308100036,O=Dhimyotis,C=FR
Not Valid Before: Tue Oct 01 08:32:27 2013
Not Valid After : Sat Oct 01 08:32:27 2033
Fingerprint (SHA-256):
D4:8D:3D:23:EE:DB:50:A4:59:E5:51:97:60:1C:27:77:4B:9D:7B:18:C9:4D:5A:05:95:11:A1:02:50:B9:31:68
Fingerprint (SHA1): 2D:0D:52:14:FF:9E:AD:99:24:01:74:20:47:6E:6C:85:27:27:F5:43
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE

```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certigna Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\034\060\032\006\003\125\004\013\014\023\060\060
\060\062\040\064\070\061\064\066\063\060\070\061\060\060\060\063
\066\061\031\060\027\006\003\125\004\003\014\020\103\145\162\164
\151\147\156\141\040\122\157\157\164\040\103\101
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\034\060\032\006\003\125\004\013\014\023\060\060
\060\062\040\064\070\061\064\066\063\060\070\061\060\060\060\063
\066\061\031\060\027\006\003\125\004\003\014\020\103\145\162\164
\151\147\156\141\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\312\351\033\211\361\125\003\015\243\346\101\155\304
\343\246\341
END
CKA_VALUE MULTILINE_OCTAL
\060\202\006\133\060\202\004\103\240\003\002\001\002\002\021\000
\312\351\033\211\361\125\003\015\243\346\101\155\304\343\246\341
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061\022
\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157\164
\151\163\061\034\060\032\006\003\125\004\013\014\023\060\060\060
\062\040\064\070\061\064\066\063\060\070\061\060\060\060\063\066
\061\031\060\027\006\003\125\004\003\014\020\103\145\162\164\151
\147\156\141\040\122\157\157\164\040\103\101\060\036\027\015\061
\063\061\060\060\061\060\070\063\062\062\067\132\027\015\063\063
\061\060\060\061\060\070\063\062\062\067\132\060\132\061\013\060
\011\006\003\125\004\006\023\002\106\122\061\022\060\020\006\003
\125\004\012\014\011\104\150\151\155\171\157\164\151\163\061\034
\060\032\006\003\125\004\013\014\023\060\060\060\062\040\064\070
\061\064\066\063\060\070\061\060\060\060\063\066\061\031\060\027
\006\003\125\004\003\014\020\103\145\162\164\151\147\156\141\040
\122\157\157\164\040\103\101\060\202\002\042\060\015\006\011\052
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060
\202\002\012\002\202\002\001\000\315\030\071\145\032\131\261\352
\144\026\016\214\224\044\225\174\203\323\305\071\046\334\014\357
\026\127\215\327\330\254\243\102\177\202\312\355\315\133\333\016
```

\267\055\355\105\010\027\262\331\263\313\326\027\122\162\050\333  
\216\116\236\212\266\013\371\236\204\232\115\166\336\042\051\134  
\322\263\322\006\076\060\071\251\164\243\222\126\034\241\157\114  
\012\040\155\237\043\172\264\306\332\054\344\035\054\334\263\050  
\320\023\362\114\116\002\111\241\124\100\236\346\345\005\240\055  
\204\310\377\230\154\320\353\212\032\204\010\036\267\150\043\356  
\043\325\160\316\155\121\151\020\356\241\172\302\321\042\061\302  
\202\205\322\362\125\166\120\174\045\172\311\204\134\013\254\335  
\102\116\053\347\202\242\044\211\313\220\262\320\356\043\272\146  
\114\273\142\244\371\123\132\144\173\174\230\372\243\110\236\017  
\225\256\247\030\364\152\354\056\003\105\257\360\164\370\052\315  
\172\135\321\276\104\046\062\051\361\361\365\154\314\176\002\041  
\013\237\157\244\077\276\235\123\342\317\175\251\054\174\130\032  
\227\341\075\067\067\030\146\050\322\100\305\121\212\214\303\055  
\316\123\210\044\130\144\060\026\305\252\340\326\012\246\100\337  
\170\366\365\004\174\151\023\204\274\321\321\247\006\317\001\367  
\150\300\250\127\273\072\141\255\004\214\223\343\255\374\360\333  
\104\155\131\334\111\131\256\254\232\231\066\060\101\173\166\063  
\042\207\243\302\222\206\156\371\160\356\256\207\207\225\033\304  
\172\275\061\363\324\322\345\231\377\276\110\354\165\365\170\026  
\035\246\160\301\177\074\033\241\222\373\317\310\074\326\305\223  
\012\217\365\125\072\166\225\316\131\230\212\011\225\167\062\232  
\203\272\054\004\072\227\275\324\057\276\327\154\233\242\312\175  
\155\046\311\125\325\317\303\171\122\010\011\231\007\044\055\144  
\045\153\246\041\151\233\152\335\164\115\153\227\172\101\275\253  
\027\371\220\027\110\217\066\371\055\325\305\333\356\252\205\105  
\101\372\315\072\105\261\150\346\066\114\233\220\127\354\043\271  
\207\010\302\304\011\361\227\206\052\050\115\342\164\300\332\304  
\214\333\337\342\241\027\131\316\044\131\164\061\332\177\375\060  
\155\331\334\341\152\341\374\137\002\003\001\000\001\243\202\001  
\032\060\202\001\026\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004  
\024\030\207\126\340\156\167\356\044\065\074\116\163\232\037\326  
\341\342\171\176\053\060\037\006\003\125\035\043\004\030\060\026  
\200\024\030\207\126\340\156\167\356\044\065\074\116\163\232\037  
\326\341\342\171\176\053\060\104\006\003\125\035\040\004\075\060  
\073\060\071\006\004\125\035\040\000\060\061\060\057\006\010\053  
\006\001\005\005\007\002\001\026\043\150\164\164\160\163\072\057  
\057\167\167\167\167\056\143\145\162\164\151\147\156\141\056\146  
\162\057\141\165\164\157\162\151\164\145\163\057\060\155\006\003  
\125\035\037\004\146\060\144\060\057\240\055\240\053\206\051\150  
\164\164\160\072\057\057\143\162\154\056\143\145\162\164\151\147  
\156\141\056\146\162\057\143\145\162\164\151\147\156\141\162\157  
\157\164\143\141\056\143\162\154\060\061\240\057\240\055\206\053  
\150\164\164\160\072\057\057\143\162\154\056\144\150\151\155\171  
\157\164\151\163\056\143\157\155\057\143\145\162\164\151\147\156  
\141\162\157\157\164\143\141\056\143\162\154\060\015\006\011\052

\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\224  
\270\236\117\360\343\225\010\042\347\315\150\101\367\034\125\325  
\174\000\342\055\072\211\135\150\070\057\121\042\013\112\215\313  
\351\273\135\076\273\134\075\261\050\376\344\123\125\023\317\241  
\220\033\002\035\137\146\106\011\063\050\341\015\044\227\160\323  
\020\037\352\144\127\226\273\135\332\347\304\214\117\114\144\106  
\035\134\207\343\131\336\102\321\233\250\176\246\211\335\217\034  
\311\060\202\355\073\234\315\300\351\031\340\152\330\002\165\067  
\253\367\064\050\050\221\362\004\012\117\065\343\140\046\001\372  
\320\021\214\371\021\152\356\257\075\303\120\323\217\137\063\171  
\074\206\250\163\105\220\214\040\266\162\163\027\043\276\007\145  
\345\170\222\015\272\001\300\353\214\034\146\277\254\206\167\001  
\224\015\234\346\351\071\215\037\246\121\214\231\014\071\167\341  
\264\233\372\034\147\127\157\152\152\216\251\053\114\127\171\172  
\127\042\317\315\137\143\106\215\134\131\072\206\370\062\107\142  
\243\147\015\030\221\334\373\246\153\365\110\141\163\043\131\216  
\002\247\274\104\352\364\111\235\361\124\130\371\140\257\332\030  
\244\057\050\105\334\172\240\210\206\135\363\073\347\377\051\065  
\200\374\144\103\224\346\343\034\157\276\255\016\052\143\231\053  
\311\176\205\366\161\350\006\003\225\376\336\217\110\034\132\324  
\222\350\053\356\347\061\333\272\004\152\207\230\347\305\137\357  
\175\247\042\367\001\330\115\371\211\320\016\232\005\131\244\236  
\230\331\157\053\312\160\276\144\302\125\243\364\351\257\303\222  
\051\334\210\026\044\231\074\215\046\230\266\133\267\314\316\267  
\067\007\375\046\331\230\205\044\377\131\043\003\232\355\235\235  
\250\344\136\070\316\327\122\015\157\322\077\155\261\005\153\111  
\316\212\221\106\163\364\366\057\360\250\163\167\016\145\254\241  
\215\146\122\151\176\113\150\014\307\036\067\047\203\245\214\307  
\002\344\024\315\111\001\260\163\263\375\306\220\072\157\322\154  
\355\073\356\354\221\276\242\103\135\213\000\112\146\045\104\160  
\336\100\017\370\174\025\367\242\316\074\327\136\023\214\201\027  
\030\027\321\275\361\167\020\072\324\145\071\301\047\254\127\054  
\045\124\377\242\332\117\212\141\071\136\256\075\112\214\275

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certigna Root CA"

# Issuer: CN=Certigna Root CA,OU=0002 48146308100036,O=Dhimyotis,C=FR

# Serial Number:00:ca:e9:1b:89:f1:55:03:0d:a3:e6:41:6d:c4:e3:a6:e1

# Subject: CN=Certigna Root CA,OU=0002 48146308100036,O=Dhimyotis,C=FR

# Not Valid Before: Tue Oct 01 08:32:27 2013

# Not Valid After : Sat Oct 01 08:32:27 2033

# Fingerprint (SHA-256):

D4:8D:3D:23:EE:DB:50:A4:59:E5:51:97:60:1C:27:77:4B:9D:7B:18:C9:4D:5A:05:95:11:A1:02:50:B9:31:68

# Fingerprint (SHA1): 2D:0D:52:14:FF:9E:AD:99:24:01:74:20:47:6E:6C:85:27:27:F5:43

```

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN
CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certigna Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\055\015\122\024\377\236\255\231\044\001\164\040\107\156\154\205
\047\047\365\103
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\016\134\060\142\047\353\133\274\327\256\142\272\351\325\337\167
END
CKA_ISSUER MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\034\060\032\006\003\125\004\013\014\023\060\060
\060\062\040\064\070\061\064\066\063\060\070\061\060\060\060\063
\066\061\031\060\027\006\003\125\004\003\014\020\103\145\162\164
\151\147\156\141\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\312\351\033\211\361\125\003\015\243\346\101\155\304
\343\246\341
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING
CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "emSign Root CA - G1"
#
Issuer: CN=emSign Root CA - G1,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
Serial Number:31:f5:e4:62:0c:6c:58:ed:d6:d8
Subject: CN=emSign Root CA - G1,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
Not Valid Before: Sun Feb 18 18:30:00 2018
Not Valid After : Wed Feb 18 18:30:00 2043
Fingerprint (SHA-256):
40:F6:AF:03:46:A9:9A:A1:CD:1D:55:5A:4E:9C:CE:62:C7:F9:63:46:03:EE:40:66:15:83:3D:C8:C8:D0:03:67
Fingerprint (SHA1): 8A:C7:AD:8F:73:AC:4E:C1:B5:75:4D:A5:40:F4:FC:CF:7C:B5:8E:8C
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign Root CA - G1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

```

CKA\_SUBJECT MULTILINE\_OCTAL

\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116\061  
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156  
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145  
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147  
\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032\006  
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157  
\164\040\103\101\040\055\040\107\061

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116\061  
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156  
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145  
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147  
\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032\006  
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157  
\164\040\103\101\040\055\040\107\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\012\061\365\344\142\014\154\130\355\326\330

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\224\060\202\002\174\240\003\002\001\002\002\012\061  
\365\344\142\014\154\130\355\326\330\060\015\006\011\052\206\110  
\206\367\015\001\001\013\005\000\060\147\061\013\060\011\006\003  
\125\004\006\023\002\111\116\061\023\060\021\006\003\125\004\013  
\023\012\145\155\123\151\147\156\040\120\113\111\061\045\060\043  
\006\003\125\004\012\023\034\145\115\165\144\150\162\141\040\124  
\145\143\150\156\157\154\157\147\151\145\163\040\114\151\155\151  
\164\145\144\061\034\060\032\006\003\125\004\003\023\023\145\155  
\123\151\147\156\040\122\157\157\164\040\103\101\040\055\040\107  
\061\060\036\027\015\061\070\060\062\061\070\061\070\063\060\060\060  
\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060\060  
\132\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116  
\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147  
\156\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034  
\145\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157  
\147\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032  
\006\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157  
\157\164\040\103\101\040\055\040\107\061\060\202\001\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001  
\017\000\060\202\001\012\002\202\001\001\000\223\113\273\351\146  
\212\356\235\133\325\064\223\320\033\036\303\347\236\270\144\063  
\177\143\170\150\264\315\056\161\165\327\233\040\306\115\051\274  
\266\150\140\212\367\041\232\126\065\132\363\166\275\330\315\232  
\377\223\126\113\245\131\006\241\223\064\051\335\026\064\165\116

\362\201\264\307\226\116\255\031\025\122\112\376\074\160\165\160  
\315\257\053\253\025\232\063\074\252\263\213\252\315\103\375\365  
\352\160\377\355\317\021\073\224\316\116\062\026\323\043\100\052  
\167\263\257\074\001\054\154\355\231\054\213\331\116\151\230\262  
\367\217\101\260\062\170\141\326\015\137\303\372\242\100\222\035  
\134\027\346\160\076\065\347\242\267\302\142\342\253\244\070\114  
\265\071\065\157\352\003\151\372\072\124\150\205\155\326\362\057  
\103\125\036\221\015\016\330\325\152\244\226\321\023\074\054\170  
\120\350\072\222\322\027\126\345\065\032\100\034\076\215\054\355  
\071\337\102\340\203\101\164\337\243\315\302\206\140\110\150\343  
\151\013\124\000\213\344\166\151\041\015\171\116\064\010\136\024  
\302\314\261\267\255\327\174\160\212\307\205\002\003\001\000\001  
\243\102\060\100\060\035\006\003\125\035\016\004\026\004\024\373  
\357\015\206\236\260\343\335\251\271\361\041\027\177\076\374\360  
\167\053\032\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001  
\013\005\000\003\202\001\001\000\131\377\362\214\365\207\175\161  
\075\243\237\033\133\321\332\370\323\234\153\066\275\233\251\141  
\353\336\026\054\164\075\236\346\165\332\327\272\247\274\102\027  
\347\075\221\353\345\175\335\076\234\361\317\222\254\154\110\314  
\302\042\077\151\073\305\266\025\057\243\065\306\150\052\034\127  
\257\071\357\215\320\065\303\030\014\173\000\126\034\315\213\031  
\164\336\276\017\022\340\320\252\241\077\002\064\261\160\316\235  
\030\326\010\003\011\106\356\140\340\176\266\304\111\004\121\175  
\160\140\274\252\262\377\171\162\172\246\035\075\137\052\370\312  
\342\375\071\267\107\271\353\176\337\004\043\257\372\234\006\007  
\351\373\143\223\200\100\265\306\154\012\061\050\316\014\237\317  
\263\043\065\200\101\215\154\304\067\173\201\057\200\241\100\102  
\205\351\331\070\215\350\241\123\315\001\277\151\350\132\006\362  
\105\013\220\372\256\341\277\235\362\256\127\074\245\256\262\126  
\364\213\145\100\351\375\061\201\054\364\071\011\330\356\153\247  
\264\246\035\025\245\230\367\001\201\330\205\175\363\121\134\161  
\210\336\272\314\037\200\176\112

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "emSign Root CA - G1"

# Issuer: CN=emSign Root CA - G1,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN

# Serial Number:31:f5:e4:62:0c:6c:58:ed:d6:d8

# Subject: CN=emSign Root CA - G1,O=eMudhra Technologies  
Limited,OU=emSign PKI,C=IN

# Not Valid Before: Sun Feb 18 18:30:00 2018

# Not Valid After : Wed Feb 18 18:30:00 2043

# Fingerprint (SHA-256):



```

40:F6:AF:03:46:A9:9A:A1:CD:1D:55:5A:4E:9C:CE:62:C7:F9:63:46:03:EE:40:66:15:83:3D:C8:C8:D0:03:67
Fingerprint (SHA1): 8A:C7:AD:8F:73:AC:4E:C1:B5:75:4D:A5:40:F4:FC:CF:7C:B5:8E:8C
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign Root CA - G1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\212\307\255\217\163\254\116\301\265\165\115\245\100\364\374\317
\174\265\216\214
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\234\102\204\127\335\313\013\247\056\225\255\266\363\332\274\254
END
CKA_ISSUER MULTILINE_OCTAL
\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032\006
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157
\164\040\103\101\040\055\040\107\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\012\061\365\344\142\014\154\130\355\326\330
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "emSign ECC Root CA - G3"
#
Issuer: CN=emSign ECC Root CA - G3,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
Serial Number:3c:f6:07:a9:68:70:0e:da:8b:84
Subject: CN=emSign ECC Root CA - G3,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
Not Valid Before: Sun Feb 18 18:30:00 2018
Not Valid After : Wed Feb 18 18:30:00 2043
Fingerprint (SHA-256):
86:A1:EC:BA:08:9C:4A:8D:3B:BE:27:34:C6:12:BA:34:1D:81:3E:04:3C:F9:E8:A8:62:CD:5C:57:A3:6B:BE:6B
Fingerprint (SHA1): 30:43:FA:4F:F2:57:DC:A0:C3:80:EE:2E:58:EA:78:B2:3F:E6:BB:C1
CKA_CLASS
CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE

```

CKA\_LABEL UTF8 "emSign ECC Root CA - G3"  
CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509  
CKA\_SUBJECT MULTILINE\_OCTAL  
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\116\061  
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156  
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145  
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147  
\151\145\163\040\114\151\155\151\164\145\144\061\040\060\036\006  
\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103  
\040\122\157\157\164\040\103\101\040\055\040\107\063

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL  
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\116\061  
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156  
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145  
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147  
\151\145\163\040\114\151\155\151\164\145\144\061\040\060\036\006  
\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103  
\040\122\157\157\164\040\103\101\040\055\040\107\063

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\012\074\366\007\251\150\160\016\332\213\204

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\116\060\202\001\323\240\003\002\001\002\002\012\074  
\366\007\251\150\160\016\332\213\204\060\012\006\010\052\206\110  
\316\075\004\003\003\060\153\061\013\060\011\006\003\125\004\006  
\023\002\111\116\061\023\060\021\006\003\125\004\013\023\012\145  
\155\123\151\147\156\040\120\113\111\061\045\060\043\006\003\125  
\004\012\023\034\145\115\165\144\150\162\141\040\124\145\143\150  
\156\157\154\157\147\151\145\163\040\114\151\155\151\164\145\144  
\061\040\060\036\006\003\125\004\003\023\027\145\155\123\151\147  
\156\040\105\103\103\040\122\157\157\164\040\103\101\040\055\040  
\107\063\060\036\027\015\061\070\060\062\061\070\061\070\063\060  
\060\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060  
\060\132\060\153\061\013\060\011\006\003\125\004\006\023\002\111  
\116\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151  
\147\156\040\120\113\111\061\045\060\043\006\003\125\004\012\023  
\034\145\115\165\144\150\162\141\040\124\145\143\150\156\157\154  
\157\147\151\145\163\040\114\151\155\151\164\145\144\061\040\060  
\036\006\003\125\004\003\023\027\145\155\123\151\147\156\040\105  
\103\103\040\122\157\157\164\040\103\101\040\055\040\107\063\060  
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201  
\004\000\042\003\142\000\004\043\245\014\270\055\022\365\050\363  
\261\262\335\342\002\022\200\236\071\137\111\115\237\311\045\064  
\131\164\354\273\006\034\347\300\162\257\350\256\057\341\101\124

```
\207\024\250\112\262\350\174\202\346\133\152\265\334\263\165\316
\213\006\320\206\043\277\106\325\216\017\077\004\364\327\034\222
\176\366\245\143\302\365\137\216\056\117\241\030\031\002\053\062
\012\202\144\175\026\223\321\243\102\060\100\060\035\006\003\125
\035\016\004\026\004\024\174\135\002\204\023\324\314\212\233\201
\316\027\034\056\051\036\234\110\143\102\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\012\006\010\052
\206\110\316\075\004\003\003\003\151\000\060\146\002\061\000\276
\363\141\317\002\020\035\144\225\007\270\030\156\210\205\005\057
\203\010\027\220\312\037\212\114\350\015\033\172\261\255\325\201
\011\107\357\073\254\010\004\174\134\231\261\355\107\007\322\002
\061\000\235\272\125\374\251\112\350\355\355\346\166\001\102\173
\310\370\140\331\215\121\213\125\073\373\214\173\353\145\011\303
\370\226\315\107\250\202\362\026\125\167\044\176\022\020\225\004
\054\243
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "emSign ECC Root CA - G3"

# Issuer: CN=emSign ECC Root CA - G3,O=eMudhra Technologies

Limited,OU=emSign PKI,C=IN

# Serial Number:3c:f6:07:a9:68:70:0e:da:8b:84

# Subject: CN=emSign ECC Root CA - G3,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN

# Not Valid Before: Sun Feb 18 18:30:00 2018

# Not Valid After : Wed Feb 18 18:30:00 2043

# Fingerprint (SHA-256):

86:A1:EC:BA:08:9C:4A:8D:3B:BE:27:34:C6:12:BA:34:1D:81:3E:04:3C:F9:E8:A8:62:CD:5C:57:A3:6B:BE:6B

# Fingerprint (SHA1): 30:43:FA:4F:F2:57:DC:A0:C3:80:EE:2E:58:EA:78:B2:3F:E6:BB:C1

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "emSign ECC Root CA - G3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\060\103\372\117\362\127\334\240\303\200\356\056\130\352\170\262
\077\346\273\301
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\316\013\162\321\237\210\216\320\120\003\350\343\270\213\147\100
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
```

```
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\040\060\036\006
\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103
\040\122\157\157\164\040\103\101\040\055\040\107\063
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\012\074\366\007\251\150\160\016\332\213\204
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "emSign Root CA - C1"

#

# Issuer: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US

# Serial Number:00:ae:cf:00:ba:c4:cf:32:f8:43:b2

# Subject: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US

# Not Valid Before: Sun Feb 18 18:30:00 2018

# Not Valid After : Wed Feb 18 18:30:00 2043

# Fingerprint (SHA-256):

```
12:56:09:AA:30:1D:A0:A2:49:B9:7A:82:39:CB:6A:34:21:6F:44:DC:AC:9F:39:54:B1:42:92:F2:E8:C8:60:8F
```

#

Fingerprint (SHA1): E7:2E:F1:DF:FC:B2:09:28:CF:5D:D4:D5:67:37:B1:51:CB:86:4F:01

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "emSign Root CA - C1"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006\003
\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157\164
\040\103\101\040\055\040\103\061
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006\003
\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157\164
\040\103\101\040\055\040\103\061
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\013\000\256\317\000\272\304\317\062\370\103\262

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\163\060\202\002\133\240\003\002\001\002\002\013\000  
\256\317\000\272\304\317\062\370\103\262\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\060\126\061\013\060\011\006  
\003\125\004\006\023\002\125\123\061\023\060\021\006\003\125\004  
\013\023\012\145\155\123\151\147\156\040\120\113\111\061\024\060  
\022\006\003\125\004\012\023\013\145\115\165\144\150\162\141\040  
\111\156\143\061\034\060\032\006\003\125\004\003\023\023\145\155  
\123\151\147\156\040\122\157\157\164\040\103\101\040\055\040\103  
\061\060\036\027\015\061\070\060\062\061\070\061\070\063\060\060  
\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060\060  
\132\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147  
\156\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013  
\145\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006  
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157  
\164\040\103\101\040\055\040\103\061\060\202\001\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017  
\000\060\202\001\012\002\202\001\001\000\317\353\251\271\361\231  
\005\314\330\050\041\112\363\163\064\121\204\126\020\365\240\117  
\054\022\343\372\023\232\047\320\317\371\171\032\164\137\035\171  
\071\374\133\370\160\216\340\222\122\367\344\045\371\124\203\331  
\035\323\310\132\205\077\136\307\266\007\356\076\300\316\232\257  
\254\126\102\052\071\045\160\326\277\265\173\066\255\254\366\163  
\334\315\327\035\212\203\245\373\053\220\025\067\153\034\046\107  
\334\073\051\126\223\152\263\301\152\072\235\075\365\301\227\070  
\130\005\213\034\021\343\344\264\270\135\205\035\203\376\170\137  
\013\105\150\030\110\245\106\163\064\073\376\017\310\166\273\307  
\030\363\005\321\206\363\205\355\347\271\331\062\255\125\210\316  
\246\266\221\260\117\254\176\025\043\226\366\077\360\040\064\026  
\336\012\306\304\004\105\171\177\247\375\276\322\251\245\257\234  
\305\043\052\367\074\041\154\275\257\217\116\305\072\262\363\064  
\022\374\337\200\032\111\244\324\251\225\367\236\211\136\242\211  
\254\224\313\250\150\233\257\212\145\047\315\211\356\335\214\265  
\153\051\160\103\240\151\013\344\271\017\002\003\001\000\001\243  
\102\060\100\060\035\006\003\125\035\016\004\026\004\024\376\241  
\340\160\036\052\003\071\122\132\102\276\134\221\205\172\030\252  
\115\265\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003  
\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\001\001\000\302\112\126\372\025\041\173\050\242  
\351\345\035\373\370\055\304\071\226\101\114\073\047\054\304\154  
\030\025\200\306\254\257\107\131\057\046\013\343\066\260\357\073

```
\376\103\227\111\062\231\022\025\133\337\021\051\377\253\123\370
\273\301\170\017\254\234\123\257\127\275\150\214\075\151\063\360
\243\240\043\143\073\144\147\042\104\255\325\161\313\126\052\170
\222\243\117\022\061\066\066\342\336\376\000\304\243\140\017\047
\255\240\260\212\265\066\172\122\241\275\047\364\040\047\142\350
\115\224\044\023\344\012\004\351\074\253\056\310\103\011\112\306
\141\004\345\111\064\176\323\304\310\365\017\300\252\351\272\124
\136\363\143\053\117\117\120\324\376\271\173\231\214\075\300\056
\274\002\053\323\304\100\344\212\007\061\036\233\316\046\231\023
\373\021\352\232\042\014\021\031\307\136\033\201\120\060\310\226
\022\156\347\313\101\177\221\073\242\107\267\124\200\033\334\000
\314\232\220\352\303\303\120\006\142\014\060\300\025\110\247\250
\131\174\341\256\042\242\342\012\172\017\372\142\253\122\114\341
\361\337\312\276\203\015\102
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

# Trust for "emSign Root CA - C1"

# Issuer: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US

# Serial Number:00:ae:cf:00:ba:c4:cf:32:f8:43:b2

# Subject: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US

# Not Valid Before: Sun Feb 18 18:30:00 2018

# Not Valid After : Wed Feb 18 18:30:00 2043

# Fingerprint (SHA-256):

12:56:09:AA:30:1D:A0:A2:49:B9:7A:82:39:CB:6A:34:21:6F:44:DC:AC:9F:39:54:B1:42:92:F2:E8:C8:60:8F

# Fingerprint (SHA1): E7:2E:F1:DF:FC:B2:09:28:CF:5D:D4:D5:67:37:B1:51:CB:86:4F:01

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "emSign Root CA - C1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\347\056\361\337\374\262\011\050\317\135\324\325\147\067\261\121
\313\206\117\001
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\330\343\135\001\041\372\170\132\260\337\272\322\356\052\137\150
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006\003
\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157\164
```

```

\040\103\101\040\055\040\103\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\013\000\256\317\000\272\304\317\062\370\103\262
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "emSign ECC Root CA - C3"
#
Issuer: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US
Serial Number:7b:71:b6:82:56:b8:12:7c:9c:a8
Subject: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US
Not Valid Before: Sun Feb 18 18:30:00 2018
Not Valid After : Wed Feb 18 18:30:00 2043
Fingerprint (SHA-256):
BC:4D:80:9B:15:18:9D:78:DB:3E:1D:8C:F4:F9:72:6A:79:5D:A1:64:3C:A5:F1:35:8E:1D:DB:0E:DC:0D:7E:B3
#
Fingerprint (SHA1): B6:AF:43:C2:9B:81:53:7D:F6:EF:6B:C3:1F:1F:60:15:0C:EE:48:66
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign ECC Root CA - C3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006\003
\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103\040
\122\157\157\164\040\103\101\040\055\040\103\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006\003
\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103\040
\122\157\157\164\040\103\101\040\055\040\103\063
END
CKA_SERIAL_NUMBER

```

MULTILINE\_OCTAL

\002\012\173\161\266\202\126\270\022\174\234\250

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\053\060\202\001\261\240\003\002\001\002\002\012\173  
\161\266\202\126\270\022\174\234\250\060\012\006\010\052\206\110  
\316\075\004\003\003\060\132\061\013\060\011\006\003\125\004\006  
\023\002\125\123\061\023\060\021\006\003\125\004\013\023\012\145  
\155\123\151\147\156\040\120\113\111\061\024\060\022\006\003\125  
\004\012\023\013\145\115\165\144\150\162\141\040\111\156\143\061  
\040\060\036\006\003\125\004\003\023\027\145\155\123\151\147\156  
\040\105\103\103\040\122\157\157\164\040\103\101\040\055\040\103  
\063\060\036\027\015\061\070\060\062\061\070\061\070\063\060\060  
\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060\060  
\132\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147  
\156\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013  
\145\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006  
\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103  
\040\122\157\157\164\040\103\101\040\055\040\103\063\060\166\060  
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000  
\042\003\142\000\004\375\245\141\256\173\046\020\035\351\267\042  
\060\256\006\364\201\263\261\102\161\225\071\274\323\122\343\257  
\257\371\362\227\065\222\066\106\016\207\225\215\271\071\132\351  
\273\337\320\376\310\007\101\074\273\125\157\203\243\152\373\142  
\260\201\211\002\160\175\110\305\112\343\351\042\124\042\115\223  
\273\102\014\257\167\234\043\246\175\327\141\021\316\145\307\370  
\177\376\365\362\251\243\102\060\100\060\035\006\003\125\035\016  
\004\026\004\024\373\132\110\320\200\040\100\362\250\351\000\007  
\151\031\167\247\346\303\364\317\060\016\006\003\125\035\017\001  
\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001  
\001\377\004\005\060\003\001\001\377\060\012\006\010\052\206\110  
\316\075\004\003\003\003\150\000\060\145\002\061\000\264\330\057  
\002\211\375\266\114\142\272\103\116\023\204\162\265\256\335\034  
\336\326\265\334\126\217\130\100\132\055\336\040\114\042\203\312  
\223\250\176\356\022\100\307\326\207\117\370\337\205\002\060\034  
\024\144\344\174\226\203\021\234\260\321\132\141\113\246\017\111  
\323\000\374\241\374\344\245\377\177\255\327\060\320\307\167\177  
\276\201\007\125\060\120\040\024\365\127\070\012\250\061\121

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "emSign ECC Root CA - C3"

# Issuer: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US

# Serial Number:7b:71:b6:82:56:b8:12:7c:9c:a8



```
Subject: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US
Not Valid Before: Sun Feb 18 18:30:00 2018
#
Not Valid After : Wed Feb 18 18:30:00 2043
Fingerprint (SHA-256):
BC:4D:80:9B:15:18:9D:78:DB:3E:1D:8C:F4:F9:72:6A:79:5D:A1:64:3C:A5:F1:35:8E:1D:DB:0E:DC:0D:7E:B3
Fingerprint (SHA1): B6:AF:43:C2:9B:81:53:7D:F6:EF:6B:C3:1F:1F:60:15:0C:EE:48:66
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign ECC Root CA - C3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\266\257\103\302\233\201\123\175\366\357\153\303\037\037\140\025
\014\356\110\146
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\076\123\263\243\201\356\327\020\370\323\260\035\027\222\365\325
END
CKA_ISSUER MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006\003
\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103\040
\122\157\157\164\040\103\101\040\055\040\103\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\012\173\161\266\202\126\270\022\174\234\250
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Hongkong Post Root CA 3"
#
Issuer: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK
Serial Number:08:16:5f:8a:4c:a5:ec:00:c9:93:40:df:c4:c6:ae:23:b8:1c:5a:a4
Subject: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK
Not Valid Before: Sat Jun 03 02:29:46 2017
Not Valid After : Tue Jun 03 02:29:46 2042
Fingerprint (SHA-256):
5A:2F:C0:3F:0C:83:B0:90:BB:FA:40:60:4B:09:88:44:6C:76:36:18:3D:F9:84:6E:17:10:1A:44:7F:B8:EF:D6
Fingerprint (SHA1): 58:A2:D0:EC:20:52:81:5B:C1:F3:F8:64:02:24:4E:C2:8E:02:4B:02
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
```

```
CKA_TOKEN CK_BBOOL
CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Hongkong Post Root CA 3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\022\060\020\006\003\125\004\010\023\011\110\157\156\147\040\113
\157\156\147\061\022\060\020\006\003\125\004\007\023\011\110\157
\156\147\040\113\157\156\147\061\026\060\024\006\003\125\004\012
\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164\061
\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153\157
\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101\040
\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\022\060\020\006\003\125\004\010\023\011\110\157\156\147\040\113
\157\156\147\061\022\060\020\006\003\125\004\007\023\011\110\157
\156\147\040\113\157\156\147\061\026\060\024\006\003\125\004\012
\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164\061
\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153\157
\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101\040
\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\024\010\026\137\212\114\245\354\000\311\223\100\337\304\306
\256\043\270\034\132\244
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\317\060\202\003\267\240\003\002\001\002\002\024\010
\026\137\212\114\245\354\000\311\223\100\337\304\306\256\043\270
\034\132\244\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\157\061\013\060\011\006\003\125\004\006\023\002\110
\113\061\022\060\020\006\003\125\004\010\023\011\110\157\156\147
\040\113\157\156\147\061\022\060\020\006\003\125\004\007\023\011
\110\157\156\147\040\113\157\156\147\061\026\060\024\006\003\125
\004\012\023\015\110\157\156\147\153\157\156\147\040\120\157\163
\164\061\040\060\036\006\003\125\004\003\023\027\110\157\156\147
\153\157\156\147\040\120\157\163\164\040\122\157\157\164\040\103
\101\040\063\060\036\027\015\061\067\060\066\060\063\060\062\062\062
\071\064\066\132\027\015\064\062\060\066\060\063\060\062\062\071
\064\066\132\060\157\061\013\060\011\006\003\125\004\006\023\002
\110\113\061\022\060\020\006\003\125\004\010\023\011\110\157\156
\147\040\113\157\156\147\061\022\060\020\006\003\125\004\007\023
```

\011\110\157\156\147\040\113\157\156\147\061\026\060\024\006\003  
\125\004\012\023\015\110\157\156\147\153\157\156\147\040\120\157  
\163\164\061\040\060\036\006\003\125\004\003\023\027\110\157\156  
\147\153\157\156\147\040\120\157\163\164\040\122\157\157\164\040  
\103\101\040\063\060\202\002\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012  
\002\202\002\001\000\263\210\327\352\316\017\040\116\276\346\326  
\003\155\356\131\374\302\127\337\051\150\241\203\016\076\150\307  
\150\130\234\034\140\113\211\103\014\271\324\025\262\356\301\116  
\165\351\265\247\357\345\351\065\231\344\314\034\347\113\137\215  
\063\060\040\063\123\331\246\273\325\076\023\216\351\037\207\111  
\255\120\055\120\312\030\276\001\130\242\023\160\226\273\211\210  
\126\200\134\370\275\054\074\341\114\127\210\273\323\271\225\357  
\313\307\366\332\061\164\050\246\346\124\211\365\101\061\312\345  
\046\032\315\202\340\160\332\073\051\273\325\003\365\231\272\125  
\365\144\321\140\016\263\211\111\270\212\057\005\322\204\105\050  
\174\217\150\120\022\170\374\013\265\123\313\302\230\034\204\243  
\236\260\276\043\244\332\334\310\053\036\332\156\105\036\211\230  
\332\371\000\056\006\351\014\073\160\325\120\045\210\231\313\315  
\163\140\367\325\377\065\147\305\241\274\136\253\315\112\270\105  
\353\310\150\036\015\015\024\106\022\343\322\144\142\212\102\230  
\274\264\306\010\010\370\375\250\114\144\234\166\001\275\057\251  
\154\063\017\330\077\050\270\074\151\001\102\206\176\151\301\311  
\006\312\345\172\106\145\351\302\326\120\101\056\077\267\344\355  
\154\327\277\046\001\021\242\026\051\112\153\064\006\220\354\023  
\322\266\373\152\166\322\074\355\360\326\055\335\341\025\354\243  
\233\057\054\311\076\053\344\151\073\377\162\045\261\066\206\133  
\307\177\153\213\125\033\112\305\040\141\075\256\313\120\341\010  
\072\276\260\217\143\101\123\060\010\131\074\230\035\167\272\143  
\221\172\312\020\120\140\277\360\327\274\225\207\217\227\305\376  
\227\152\001\224\243\174\133\205\035\052\071\072\320\124\241\321  
\071\161\235\375\041\371\265\173\360\342\340\002\217\156\226\044  
\045\054\240\036\054\250\304\211\247\357\355\231\006\057\266\012  
\114\117\333\242\314\067\032\257\107\205\055\212\137\304\064\064  
\114\000\375\030\223\147\023\321\067\346\110\264\213\006\305\127  
\173\031\206\012\171\313\000\311\122\257\102\377\067\217\341\243  
\036\172\075\120\253\143\006\347\025\265\077\266\105\067\224\067  
\261\176\362\110\303\177\305\165\376\227\215\105\217\032\247\032  
\162\050\032\100\017\002\003\001\000\001\243\143\060\141\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060  
\037\006\003\125\035\043\004\030\060\026\200\024\027\235\315\036  
\213\326\071\053\160\323\134\324\240\270\037\260\000\374\305\141  
\060\035\006\003\125\035\016\004\026\004\024\027\235\315\036\213  
\326\071\053\160\323\134\324\240\270\037\260\000\374\305\141\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202  
\002\001\000\126\325\173\156\346\042\001\322\102\233\030\325\016  
\327\146\043\134\343\376\240\307\222\322\351\224\255\113\242\306

\354\022\174\164\325\110\322\131\024\231\300\353\271\321\353\364  
\110\060\133\255\247\127\163\231\251\323\345\267\321\056\131\044  
\130\334\150\056\056\142\330\152\344\160\013\055\040\120\040\244  
\062\225\321\000\230\273\323\375\367\062\362\111\256\306\172\340  
\107\276\156\316\313\243\162\072\055\151\135\313\310\350\105\071  
\324\372\102\301\021\114\167\135\222\373\152\377\130\104\345\353  
\201\236\257\240\231\255\276\251\001\146\313\070\035\074\337\103  
\037\364\115\156\264\272\027\106\374\175\375\207\201\171\152\015  
\063\017\372\057\370\024\271\200\263\135\115\252\227\341\371\344  
\030\305\370\325\070\214\046\074\375\362\050\342\356\132\111\210  
\054\337\171\075\216\236\220\074\275\101\112\072\335\133\366\232  
\264\316\077\045\060\177\062\175\242\003\224\320\334\172\241\122  
\336\156\223\215\030\046\375\125\254\275\217\233\322\317\257\347  
\206\054\313\037\011\157\243\157\251\204\324\163\277\115\241\164  
\033\116\043\140\362\314\016\252\177\244\234\114\045\250\262\146  
\073\070\377\331\224\060\366\162\204\276\150\125\020\017\306\163  
\054\026\151\223\007\376\261\105\355\273\242\125\152\260\332\265  
\112\002\045\047\205\327\267\267\206\104\026\211\154\200\053\076  
\227\251\234\325\176\125\114\306\336\105\020\034\352\351\073\237  
\003\123\356\356\172\001\002\026\170\324\350\302\276\106\166\210  
\023\077\042\273\110\022\035\122\000\264\002\176\041\032\036\234  
\045\364\363\075\136\036\322\034\371\263\055\266\367\067\134\306  
\313\041\116\260\367\231\107\030\205\301\053\272\125\256\006\352  
\320\007\262\334\253\320\202\226\165\316\322\120\376\231\347\317  
\057\237\347\166\321\141\052\373\041\273\061\320\252\237\107\244  
\262\042\312\026\072\120\127\304\133\103\147\305\145\142\003\111  
\001\353\103\331\330\370\236\255\317\261\143\016\105\364\240\132  
\054\233\055\305\246\300\255\250\107\364\047\114\070\015\056\033  
\111\073\122\364\350\210\203\053\124\050\324\362\065\122\264\062  
\203\142\151\144\014\221\234\237\227\352\164\026\375\037\021\006  
\232\233\364

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Hongkong Post Root CA 3"

# Issuer: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK

# Serial Number:08:16:5f:8a:4c:a5:ec:00:c9:93:40:df:c4:c6:ae:23:b8:1c:5a:a4

# Subject: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK

# Not Valid Before: Sat Jun 03 02:29:46 2017

# Not Valid After : Tue Jun 03 02:29:46 2042

# Fingerprint (SHA-256):

5A:2F:C0:3F:0C:83:B0:90:BB:FA:40:60:4B:09:88:44:6C:76:36:18:3D:F9:84:6E:17:10:1A:44:7F:B8:EF:D6

#

Fingerprint (SHA1): 58:A2:D0:EC:20:52:81:5B:C1:F3:F8:64:02:24:4E:C2:8E:02:4B:02

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

```

CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Hongkong Post Root CA 3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\130\242\320\354\040\122\201\133\301\363\370\144\002\044\116\302
\216\002\113\002
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\021\374\237\275\163\060\002\212\375\077\363\130\271\313\040\360
END
CKA_ISSUER MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\022\060\020\006\003\125\004\010\023\011\110\157\156\147\040\113
\157\156\147\061\022\060\020\006\003\125\004\007\023\011\110\157
\156\147\040\113\157\156\147\061\026\060\024\006\003\125\004\012
\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164\061
\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153\157
\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101\040
\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\010\026\137\212\114\245\354\000\311\223\100\337\304\306
\256\043\270\034\132\244
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Entrust Root Certification Authority - G4"
#
Issuer: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
Serial Number:00:d9:b5:43:7f:af:a9:39:0f:00:00:00:00:55:65:ad:58
Subject: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
Not Valid Before: Wed May 27 11:11:16 2015
Not Valid After : Sun Dec 27 11:41:16 2037
Fingerprint (SHA-256):
DB:35:17:D1:F6:73:2A:2D:5A:B9:7C:53:3E:C7:07:79:EE:32:70:A6:2F:B4:AC:42:38:37:24:60:E6:F0:1E:88
#
Fingerprint (SHA1): 14:88:4E:86:26:37:B0:26:AF:59:62:5C:40:77:EC:35:29:BA:96:01
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE

```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust Root Certification Authority - G4"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\064
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\064
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\331\265\103\177\257\251\071\017\000\000\000\000\125
\145\255\130
END
CKA_VALUE
MULTILINE_OCTAL
\060\202\006\113\060\202\004\063\240\003\002\001\002\002\021\000
\331\265\103\177\257\251\071\017\000\000\000\000\125\145\255\130
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165\163
\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004\013
\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165\163
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\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162\155  
\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051\040  
\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111\156  
\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162\151  
\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060\060  
\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040\122  
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107\064  
\060\036\027\015\061\065\060\065\062\067\061\061\061\061\061\066  
\132\027\015\063\067\061\062\062\067\061\061\064\061\061\066\132  
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165  
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004  
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165  
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\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051  
\040\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111  
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162  
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060  
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040  
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107  
\064\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002  
\001\000\261\354\054\102\356\342\321\060\377\245\222\107\342\055  
\303\272\144\227\155\312\367\015\265\131\301\263\313\250\150\031  
\330\257\204\155\060\160\135\176\363\056\322\123\231\341\376\037  
\136\331\110\257\135\023\215\333\377\143\063\115\323\000\002\274  
\304\370\321\006\010\224\171\130\212\025\336\051\263\375\375\304  
\117\350\252\342\240\073\171\315\277\153\103\062\335\331\164\020  
\271\367\364\150\324\273\320\207\325\252\113\212\052\157\052\004  
\265\262\246\307\240\172\346\110\253\322\321\131\314\326\176\043  
\346\227\154\360\102\345\334\121\113\025\101\355\111\112\311\336  
\020\227\326\166\301\357\245\265\066\024\227\065\330\170\042\065  
\122\357\103\275\333\047\333\141\126\202\064\334\313\210\140\014  
\013\132\345\054\001\306\124\257\327\252\301\020\173\322\005\132  
\270\100\236\206\247\303\220\206\002\126\122\011\172\234\322\047  
\202\123\112\145\122\152\365\074\347\250\362\234\257\213\275\323  
\016\324\324\136\156\207\236\152\075\105\035\321\135\033\364\351  
\012\254\140\231\373\211\264\377\230\054\317\174\035\351\002\252  
\004\232\036\270\334\210\156\045\263\154\146\367\074\220\363\127  
\301\263\057\365\155\362\373\312\241\370\051\235\106\213\263\152  
\366\346\147\007\276\054\147\012\052\037\132\262\076\127\304\323  
\041\041\143\145\122\221\033\261\231\216\171\176\346\353\215\000  
\331\132\252\352\163\350\244\202\002\107\226\376\133\216\124\141  
\243\353\057\113\060\260\213\043\165\162\174\041\074\310\366\361  
\164\324\034\173\243\005\125\356\273\115\073\062\276\232\167\146  
\236\254\151\220\042\007\037\141\072\226\276\345\232\117\314\005

\074\050\131\323\301\014\124\250\131\141\275\310\162\114\350\334  
\237\207\177\275\234\110\066\136\225\243\016\271\070\044\125\374  
\165\146\353\002\343\010\064\051\112\306\343\053\057\063\240\332  
\243\206\245\022\227\375\200\053\332\024\102\343\222\275\076\362  
\135\136\147\164\056\034\210\107\051\064\137\342\062\250\234\045  
\067\214\272\230\000\227\213\111\226\036\375\045\212\254\334\332  
\330\135\164\156\146\260\377\104\337\241\030\306\276\110\057\067  
\224\170\370\225\112\077\177\023\136\135\131\375\164\206\103\143  
\163\111\002\003\001\000\001\243\102\060\100\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003  
\125\035\016\004\026\004\024\237\070\304\126\043\303\071\350\240  
\161\154\350\124\114\344\350\072\261\277\147\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\022  
\345\102\246\173\213\017\014\344\106\245\266\140\100\207\214\045  
\176\255\270\150\056\133\306\100\166\074\003\370\311\131\364\363  
\253\142\316\020\215\264\132\144\214\150\300\260\162\103\064\322  
\033\013\366\054\123\322\312\220\113\206\146\374\252\203\042\364  
\213\032\157\046\110\254\166\167\010\277\305\230\134\364\046\211  
\236\173\303\271\144\062\001\177\323\303\335\130\155\354\261\253  
\204\125\164\167\204\004\047\122\153\206\114\316\335\271\145\377  
\326\306\136\237\232\020\231\113\165\152\376\152\351\227\040\344  
\344\166\172\306\320\044\252\220\315\040\220\272\107\144\373\177  
\007\263\123\170\265\012\142\362\163\103\316\101\053\201\152\056  
\205\026\224\123\324\153\137\162\042\253\121\055\102\325\000\234  
\231\277\336\273\224\073\127\375\232\365\206\313\126\073\133\210  
\001\345\174\050\113\003\371\111\203\174\262\177\174\343\355\216  
\241\177\140\123\216\125\235\120\064\022\017\267\227\173\154\207  
\112\104\347\365\155\354\200\067\360\130\031\156\112\150\166\360  
\037\222\344\352\265\222\323\141\121\020\013\255\247\331\137\307  
\137\334\037\243\134\214\241\176\233\267\236\323\126\157\146\136  
\007\226\040\355\013\164\373\146\116\213\021\025\351\201\111\176  
\157\260\324\120\177\042\327\137\145\002\015\246\364\205\036\330  
\256\006\113\112\247\322\061\146\302\370\316\345\010\246\244\002  
\226\104\150\127\304\325\063\317\031\057\024\304\224\034\173\244  
\331\360\237\016\261\200\342\321\236\021\144\251\210\021\072\166  
\202\345\142\302\200\330\244\203\355\223\357\174\057\220\260\062  
\114\226\025\150\110\122\324\231\010\300\044\350\034\343\263\245  
\041\016\222\300\220\037\317\040\137\312\073\070\307\267\155\072  
\363\346\104\270\016\061\153\210\216\160\353\234\027\122\250\101  
\224\056\207\266\347\246\022\305\165\337\133\300\012\156\173\244  
\344\136\206\371\066\224\337\167\303\351\015\300\071\361\171\273  
\106\216\253\103\131\047\267\040\273\043\351\126\100\041\354\061  
\075\145\252\103\362\075\337\160\104\341\272\115\046\020\073\230  
\237\363\310\216\033\070\126\041\152\121\223\323\221\312\106\332  
\211\267\075\123\203\054\010\037\213\217\123\335\377\254\037

END

CKA\_NSS\_MOZILLA\_CA\_POLICY



CK\_BBOOL CK\_TRUE

# Trust for "Entrust Root Certification Authority - G4"

# Issuer: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

# Serial Number:00:d9:b5:43:7f:af:a9:39:0f:00:00:00:00:55:65:ad:58

#

Subject: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

# Not Valid Before: Wed May 27 11:11:16 2015

# Not Valid After : Sun Dec 27 11:41:16 2037

# Fingerprint (SHA-256):

DB:35:17:D1:F6:73:2A:2D:5A:B9:7C:53:3E:C7:07:79:EE:32:70:A6:2F:B4:AC:42:38:37:24:60:E6:F0:1E:88

# Fingerprint (SHA1): 14:88:4E:86:26:37:B0:26:AF:59:62:5C:40:77:EC:35:29:BA:96:01

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Entrust Root Certification Authority - G4"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\024\210\116\206\046\067\260\046\257\131\142\134\100\167\354\065  
\051\272\226\001

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\211\123\361\203\043\267\174\216\005\361\214\161\070\116\037\210

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165  
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004  
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165  
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162  
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051  
\040\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111  
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162  
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060  
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040  
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107  
\064

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\021\000\331\265\103\177\257\251\071\017\000\000\000\000\125  
\145\255\130

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

```

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

#
Certificate "Microsoft ECC Root Certificate Authority 2017"
#
Issuer: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US
Serial Number:66:f2:3d:af:87:de:8b:b1:4a:ea:0c:57:31:01:c2:ec
Subject: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US
Not Valid Before: Wed Dec 18 23:06:45 2019
Not Valid After : Fri Jul 18 23:16:04 2042
Fingerprint (SHA-256):
35:8D:F3:9D:76:4A:F9:E1:B7:66:E9:C9:72:DF:35:2E:E1:5C:FA:C2:27:AF:6A:D1:D7:0E:8E:4A:6E:DC:BA:02
Fingerprint (SHA1): 99:9A:64:C3:7F:F4:7D:9F:AB:95:F1:47:69:89:14:60:EE:C4:C3:C5
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsoft ECC Root Certificate Authority 2017"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\105\103\103\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\105\103\103\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\146\362\075\257\207\336\213\261\112\352\014\127\061\001
\302\354
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\131\060\202\001\337\240\003\002\001\002\002\020\146
\362\075\257\207\336\213\261\112\352\014\127\061\001\302\354\060

```

\012\006\010\052\206\110\316\075\004\003\003\060\145\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\036\060\034\006\003  
\125\004\012\023\025\115\151\143\162\157\163\157\146\164\040\103  
\157\162\160\157\162\141\164\151\157\156\061\066\060\064\006\003  
\125\004\003\023\055\115\151\143\162\157\163\157\146\164\040\105  
\103\103\040\122\157\157\164\040\103\145\162\164\151\146\151\143  
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\062\060  
\061\067\060\036\027\015\061\071\061\062\061\070\062\063\060\066  
\064\065\132\027\015\064\062\060\067\061\070\062\063\061\066\060  
\064\132\060\145\061\013\060\011\006\003\125\004\006\023\002\125  
\123\061\036\060\034\006\003\125\004\012\023\025\115\151\143\162  
\157\163\157\146\164\040\103\157\162\160\157\162\141\164\151\157  
\156\061\066\060\064\006\003\125\004\003\023\055\115\151\143\162  
\157\163\157\146\164\040\105\103\103\040\122\157\157\164\040\103  
\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157  
\162\151\164\171\040\062\060\061\067\060\166\060\020\006\007\052  
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000  
\004\324\274\075\002\102\165\101\023\043\315\200\004\206\002\121  
\057\152\250\201\142\013\145\314\366\312\235\036\157\112\146\121  
\242\003\331\235\221\372\266\026\261\214\156\336\174\315\333\171  
\246\057\316\273\316\161\057\345\245\253\050\354\143\004\146\231  
\370\372\362\223\020\005\341\201\050\102\343\306\150\364\346\033  
\204\140\112\211\257\355\171\017\073\316\361\366\104\365\001\170  
\300\243\124\060\122\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004  
\024\310\313\231\162\160\122\014\370\346\276\262\004\127\051\052  
\317\102\020\355\065\060\020\006\011\053\006\001\004\001\202\067  
\025\001\004\003\002\001\000\060\012\006\010\052\206\110\316\075  
\004\003\003\003\150\000\060\145\002\060\130\362\115\352\014\371  
\137\136\356\140\051\313\072\362\333\326\062\204\031\077\174\325  
\057\302\261\314\223\256\120\273\011\062\306\306\355\176\311\066  
\224\022\344\150\205\006\242\033\320\057\002\061\000\231\351\026  
\264\016\372\126\110\324\244\060\026\221\170\333\124\214\145\001  
\212\347\120\146\302\061\267\071\272\270\032\042\007\116\374\153  
\124\026\040\377\053\265\347\114\014\115\246\117\163

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Microsoft ECC Root Certificate Authority 2017"

# Issuer: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US

# Serial Number:66:f2:3d:af:87:de:8b:b1:4a:ea:0c:57:31:01:c2:ec

# Subject: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US

# Not Valid Before: Wed Dec 18 23:06:45 2019

# Not Valid After : Fri Jul 18 23:16:04 2042

```

Fingerprint (SHA-256):
35:8D:F3:9D:76:4A:F9:E1:B7:66:E9:C9:72:DF:35:2E:E1:5C:FA:C2:27:AF:6A:D1:D7:0E:8E:4A:6E:DC:BA:02
#
Fingerprint (SHA1): 99:9A:64:C3:7F:F4:7D:9F:AB:95:F1:47:69:89:14:60:EE:C4:C3:C5
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsoft ECC Root Certificate Authority 2017"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\231\232\144\303\177\364\175\237\253\225\361\107\151\211\024\140
\356\304\303\305
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\335\241\003\346\112\223\020\321\277\360\031\102\313\376\355\147
END
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\105\103\103\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\146\362\075\257\207\336\213\261\112\352\014\127\061\001
\302\354
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Microsoft RSA Root Certificate Authority 2017"
#
Issuer: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US
Serial Number: 1e:d3:97:09:5f:d8:b4:b3:47:70:1e:aa:be:7f:45:b3
Subject: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US
Not Valid Before: Wed Dec 18 22:51:22 2019
Not Valid After : Fri Jul 18 23:00:23 2042
Fingerprint (SHA-256):
C7:41:F7:0F:4B:2A:8D:88:BF:2E:71:C1:41:22:EF:53:EF:10:EB:A0:CF:A5:E6:4C:FA:20:F4:18:85:30:73:E0
Fingerprint (SHA1): 73:A5:E6:4A:3B:FF:83:16:FF:0E:DC:CC:61:8A:90:6E:4E:AE:4D:74
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL

```

```
CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsoft RSA Root Certificate Authority 2017"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\122\123\101\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\122\123\101\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\036\323\227\011\137\330\264\263\107\160\036\252\276\177
\105\263
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\250\060\202\003\220\240\003\002\001\002\002\020\036
\323\227\011\137\330\264\263\107\160\036\252\276\177\105\263\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\145
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\036\060
\034\006\003\125\004\012\023\025\115\151\143\162\157\163\157\146
\164\040\103\157\162\160\157\162\141\164\151\157\156\061\066\060
\064\006\003\125\004\003\023\055\115\151\143\162\157\163\157\146
\164\040\122\123\101\040\122\157\157\164\040\103\145\162\164\151
\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171
\040\062\060\061\067\060\036\027\015\061\071\061\062\061\070\062
\062\065\061\062\062\132\027\015\064\062\060\067\061\070\062\063
\060\060\062\063\132\060\145\061\013\060\011\006\003\125\004\006
\023\002\125\123\061\036\060\034\006\003\125\004\012\023\025\115
\151\143\162\157\163\157\146\164\040\103\157\162\160\157\162\141
\164\151\157\156\061\066\060\064\006\003\125\004\003\023\055\115
\151\143\162\157\163\157\146\164\040\122\123\101\040\122\157\157
\164\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165
\164\150\157\162\151\164\171\040\062\060\061\067\060\202\002\042
```

\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\312\133\276  
\224\063\214\051\225\221\026\012\225\275\107\142\301\211\363\231  
\066\337\106\220\311\245\355\170\152\157\107\221\150\370\047\147  
\120\063\035\241\246\373\340\345\103\243\204\002\127\001\135\234  
\110\100\202\123\020\274\277\307\073\150\220\266\202\055\345\364  
\145\320\314\155\031\314\225\371\173\254\112\224\255\016\336\113  
\103\035\207\007\222\023\220\200\203\144\065\071\004\374\345\351  
\154\263\266\037\120\224\070\145\120\134\027\106\271\266\205\265  
\034\265\027\350\326\105\235\330\262\046\260\312\304\160\112\256  
\140\244\335\263\331\354\374\073\325\127\162\274\077\310\311\262  
\336\113\153\370\043\154\003\300\005\275\225\307\315\163\073\146  
\200\144\343\032\254\056\371\107\005\362\006\266\233\163\365\170  
\063\133\307\241\373\047\052\241\264\232\221\214\221\323\072\202  
\076\166\100\264\315\122\141\121\160\050\077\305\305\132\362\311  
\214\111\273\024\133\115\310\377\147\115\114\022\226\255\365\376  
\170\250\227\207\327\375\136\040\200\334\241\113\042\373\324\211  
\255\272\316\107\227\107\125\173\217\105\310\147\050\204\225\034  
\150\060\357\357\111\340\065\173\144\347\230\260\224\332\115\205  
\073\076\125\304\050\257\127\363\236\023\333\106\047\237\036\242  
\136\104\203\244\245\312\325\023\263\113\077\304\343\302\346\206  
\141\244\122\060\271\172\040\117\157\017\070\123\313\063\014\023  
\053\217\326\232\275\052\310\055\261\034\175\113\121\312\107\321  
\110\047\162\135\207\353\325\105\346\110\145\235\257\122\220\272  
\133\242\030\145\127\022\237\150\271\324\025\153\224\304\151\042  
\230\364\063\340\355\371\121\216\101\120\311\064\117\166\220\254  
\374\070\301\330\341\173\271\343\343\224\341\106\151\313\016\012  
\120\153\023\272\254\017\067\132\267\022\265\220\201\036\126\256  
\127\042\206\331\311\322\321\327\121\343\253\073\306\125\375\036  
\016\323\164\012\321\332\252\352\151\270\227\050\217\110\304\007  
\370\122\103\072\364\312\125\065\054\260\246\152\300\234\371\362  
\201\341\022\152\300\105\331\147\263\316\377\043\242\211\012\124  
\324\024\271\052\250\327\354\371\253\315\045\130\062\171\217\220  
\133\230\071\304\010\006\301\254\177\016\075\000\245\002\003\001  
\000\001\243\124\060\122\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\011\313\131\177\206\262\160\217\032\303\071\343\300\331  
\351\277\273\115\262\043\060\020\006\011\053\006\001\004\001\202  
\067\025\001\004\003\002\001\000\060\015\006\011\052\206\110\206  
\367\015\001\001\014\005\000\003\202\002\001\000\254\257\076\135  
\302\021\226\211\216\243\347\222\326\227\025\270\023\242\246\102  
\056\002\315\026\005\131\047\312\040\350\272\270\350\032\354\115  
\250\227\126\256\145\103\261\217\000\233\122\315\125\315\123\071  
\155\142\114\213\015\133\174\056\104\277\203\020\217\363\123\202  
\200\303\117\072\307\156\021\077\346\343\026\221\204\373\155\204  
\177\064\164\255\211\247\316\271\327\327\237\204\144\222\276\225  
\241\255\011\123\063\335\356\012\352\112\121\216\157\125\253\272

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\265\224\106\256\214\177\330\242\120\045\145\140\200\106\333\063
\004\256\154\265\230\164\124\045\334\223\344\370\343\125\025\075
\270\155\303\012\244\022\301\151\205\156\337\144\361\123\231\341
\112\165\040\235\225\017\344\326\334\003\361\131\030\350\107\211
\262\127\132\224\266\251\330\027\053\027\111\345\166\313\301\126
\231\072\067\261\377\151\054\221\221\223\341\337\114\243\067\166
\115\241\237\370\155\036\035\323\372\354\373\364\105\035\023\155
\317\367\131\345\042\047\162\053\206\363\127\273\060\355\044\115
\334\175\126\273\243\263\370\064\171\211\301\340\362\002\141\367
\246\374\017\273\034\027\013\256\101\331\174\275\047\243\375\056
\072\321\223\224\261\163\035\044\213\257\133\040\211\255\267\147
\146\171\365\072\306\246\226\063\376\123\222\310\106\261\021\221
\306\231\177\217\311\326\146\061\040\101\020\207\055\014\326\301
\257\064\230\312\144\203\373\023\127\321\301\360\074\172\214\245
\301\375\225\041\240\161\301\223\147\161\022\352\217\210\012\151
\031\144\231\043\126\373\254\052\056\160\276\146\304\014\204\357
\345\213\363\223\001\370\152\220\223\147\113\262\150\243\265\142
\217\351\077\214\172\073\136\017\347\214\270\306\174\357\067\375
\164\342\310\117\063\162\341\224\071\155\275\022\257\276\014\116
\160\174\033\157\215\263\062\223\163\104\026\155\350\364\367\340
\225\200\217\226\135\070\244\364\253\336\012\060\207\223\330\115
\000\161\142\105\047\113\072\102\204\133\177\145\267\147\064\122
\055\234\026\153\252\250\330\173\243\102\114\161\307\014\312\076
\203\344\246\357\267\001\060\136\121\243\171\365\160\151\246\101
\104\017\206\260\054\221\306\075\352\256\017\204
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Microsoft RSA Root Certificate Authority 2017"

# Issuer: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US

# Serial Number: 1e:d3:97:09:5f:d8:b4:b3:47:70:1e:aa:be:7f:45:b3

# Subject: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US

# Not Valid Before: Wed Dec 18 22:51:22 2019

# Not Valid After : Fri Jul 18 23:00:23 2042

# Fingerprint (SHA-256):

C7:41:F7:0F:4B:2A:8D:88:BF:2E:71:C1:41:22:EF:53:EF:10:EB:A0:CF:A5:E6:4C:FA:20:F4:18:85:30:73:E0

# Fingerprint (SHA1): 73:A5:E6:4A:3B:FF:83:16:FF:0E:DC:CC:61:8A:90:6E:4E:AE:4D:74

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL

CK\_FALSE

CKA\_LABEL UTF8 "Microsoft RSA Root Certificate Authority 2017"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\163\245\346\112\073\377\203\026\377\016\334\314\141\212\220\156

```

\116\256\115\164
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\020\377\000\377\317\311\370\307\172\300\356\065\216\311\017\107
END
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\122\123\101\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\036\323\227\011\137\330\264\263\107\160\036\252\276\177
\105\263
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING
CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "e-Szigno Root CA 2017"
#
Issuer: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU
Serial Number:01:54:48:ef:21:fd:97:59:0d:f5:04:0a
Subject: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU
Not Valid Before: Tue Aug 22 12:07:06 2017
Not Valid After : Fri Aug 22 12:07:06 2042
Fingerprint (SHA-256):
BE:B0:0B:30:83:9B:9B:C3:2C:32:E4:44:79:05:95:06:41:F2:64:21:B1:5E:D0:89:19:8B:51:8A:E2:EA:1B:99
Fingerprint (SHA1): 89:D4:83:03:4F:9E:9A:48:80:5F:72:37:D4:A9:A6:EF:CB:7C:1F:D1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "e-Szigno Root CA 2017"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\161\061\013\060\011\006\003\125\004\006\023\002\110\125\061
\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145
\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151\143
\162\157\163\145\143\040\114\164\144\056\061\027\060\025\006\003
\125\004\141\014\016\126\101\124\110\125\055\062\063\065\070\064
\064\071\067\061\036\060\034\006\003\125\004\003\014\025\145\055

```



```
\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040\062
\060\061\067
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\161\061\013\060\011\006\003\125\004\006\023\002\110\125\061
\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145
\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151\143
\162\157\163\145\143\040\114\164\144\056\061\027\060\025\006\003
\125\004\141\014\016\126\101\124\110\125\055\062\063\065\070\064
\064\071\067\061\036\060\034\006\003\125\004\003\014\025\145\055
\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040\062
\060\061\067
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\001\124\110\357\041\375\227\131\015\365\004\012
END
CKA_VALUE
MULTILINE_OCTAL
\060\202\002\100\060\202\001\345\240\003\002\001\002\002\014\001
\124\110\357\041\375\227\131\015\365\004\012\060\012\006\010\052
\206\110\316\075\004\003\002\060\161\061\013\060\011\006\003\125
\004\006\023\002\110\125\061\021\060\017\006\003\125\004\007\014
\010\102\165\144\141\160\145\163\164\061\026\060\024\006\003\125
\004\012\014\015\115\151\143\162\157\163\145\143\040\114\164\144
\056\061\027\060\025\006\003\125\004\141\014\016\126\101\124\110
\125\055\062\063\065\070\064\064\071\067\061\036\060\034\006\003
\125\004\003\014\025\145\055\123\172\151\147\156\157\040\122\157
\157\164\040\103\101\040\062\060\061\067\060\036\027\015\061\067
\060\070\062\062\061\062\060\067\060\066\132\027\015\064\062\060
\070\062\062\061\062\060\067\060\066\132\060\161\061\013\060\011
\006\003\125\004\006\023\002\110\125\061\021\060\017\006\003\125
\004\007\014\010\102\165\144\141\160\145\163\164\061\026\060\024
\006\003\125\004\012\014\015\115\151\143\162\157\163\145\143\040
\114\164\144\056\061\027\060\025\006\003\125\004\141\014\016\126
\101\124\110\125\055\062\063\065\070\064\064\071\067\061\036\060
\034\006\003\125\004\003\014\025\145\055\123\172\151\147\156\157
\040\122\157\157\164\040\103\101\040\062\060\061\067\060\131\060
\023\006\007\052\206\110\316\075\002\001\006\010\052\206\110\316
\075\003\001\007\003\102\000\004\226\334\075\212\330\260\173\157
\306\047\276\104\220\261\263\126\025\173\216\103\044\175\032\204
\131\356\143\150\262\306\136\207\320\025\110\036\250\220\255\275
\123\242\332\336\072\220\246\140\137\150\062\265\206\101\337\207
\133\054\173\305\376\174\172\332\243\143\060\141\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006
\003\125\035\016\004\026\004\024\207\021\025\010\321\252\301\170
```

```
\014\261\257\316\306\311\220\357\277\060\004\300\060\037\006\003
\125\035\043\004\030\060\026\200\024\207\021\025\010\321\252\301
\170\014\261\257\316\306\311\220\357\277\060\004\300\060\012\006
\010\052\206\110\316\075\004\003\002\003\111\000\060\106\002\041
\000\265\127\335\327\212\125\013\066\341\206\104\372\324\331\150
\215\270\334\043\212\212\015\324\057\175\352\163\354\277\115\154
\250\002\041\000\313\245\264\022\372\347\265\350\317\176\223\374
\363\065\217\157\116\132\174\264\274\116\262\374\162\252\133\131
\371\347\334\061
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "e-Szigno Root CA 2017"

# Issuer: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU

# Serial Number:01:54:48:ef:21:fd:97:59:0d:f5:04:0a

# Subject: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU

# Not Valid Before: Tue Aug 22 12:07:06 2017

# Not Valid After : Fri Aug 22 12:07:06 2042

# Fingerprint (SHA-256):

BE:B0:0B:30:83:9B:9B:C3:2C:32:E4:44:79:05:95:06:41:F2:64:21:B1:5E:D0:89:19:8B:51:8A:E2:EA:1B:99

#

Fingerprint (SHA1): 89:D4:83:03:4F:9E:9A:48:80:5F:72:37:D4:A9:A6:EF:CB:7C:1F:D1

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "e-Szigno Root CA 2017"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\211\324\203\003\117\236\232\110\200\137\162\067\324\251\246\357
\313\174\037\321
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\336\037\366\236\204\256\247\264\041\316\036\130\175\321\204\230
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\161\061\013\060\011\006\003\125\004\006\023\002\110\125\061
\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145
\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151\143
\162\157\163\145\143\040\114\164\144\056\061\027\060\025\006\003
\125\004\141\014\016\126\101\124\110\125\055\062\063\065\070\064
\064\071\067\061\036\060\034\006\003\125\004\003\014\025\145\055
\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040\062
\060\061\067
```

END

CKA\_SERIAL\_NUMBER

```

MULTILINE_OCTAL
\002\014\001\124\110\357\041\375\227\131\015\365\004\012
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "certSIGN Root CA G2"
#
Issuer: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO
Serial Number:11:00:34:b6:4e:c6:36:2d:36
Subject: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO
Not Valid Before: Mon Feb 06 09:27:35 2017
Not Valid After : Thu Feb 06 09:27:35 2042
Fingerprint (SHA-256):
65:7C:FE:2F:A7:3F:AA:38:46:25:71:F3:32:A2:36:3A:46:FC:E7:02:09:51:71:07:02:CD:FB:B6:EE:DA:33:05
Fingerprint (SHA1): 26:F9:93:B4:ED:3D:28:27:B0:B9:4B:A7:E9:15:1D:A3:8D:92:E5:32
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "certSIGN Root CA G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT
MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\024\060\022\006\003\125\004\012\023\013\103\105\122\124\123\111
\107\116\040\123\101\061\034\060\032\006\003\125\004\013\023\023
\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103\101
\040\107\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\024\060\022\006\003\125\004\012\023\013\103\105\122\124\123\111
\107\116\040\123\101\061\034\060\032\006\003\125\004\013\023\023
\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103\101
\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\021\000\064\266\116\306\066\055\066
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\107\060\202\003\057\240\003\002\001\002\002\011\021
\000\064\266\116\306\066\055\066\060\015\006\011\052\206\110\206
\367\015\001\001\013\005\000\060\101\061\013\060\011\006\003\125

```

\004\006\023\002\122\117\061\024\060\022\006\003\125\004\012\023  
\013\103\105\122\124\123\111\107\116\040\123\101\061\034\060\032  
\006\003\125\004\013\023\023\143\145\162\164\123\111\107\116\040  
\122\117\117\124\040\103\101\040\107\062\060\036\027\015\061\067  
\060\062\060\066\060\071\062\067\063\065\132\027\015\064\062\060  
\062\060\066\060\071\062\067\063\065\132\060\101\061\013\060\011  
\006\003\125\004\006\023\002\122\117\061\024\060\022\006\003\125  
\004\012\023\013\103\105\122\124\123\111\107\116\040\123\101\061  
\034\060\032\006\003\125\004\013\023\023\143\145\162\164\123\111  
\107\116\040\122\117\117\124\040\103\101\040\107\062\060\202\002  
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000  
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\300\305  
\165\031\221\175\104\164\164\207\376\016\073\226\334\330\001\026  
\314\356\143\221\347\013\157\316\073\012\151\032\174\302\343\257  
\202\216\206\327\136\217\127\353\323\041\131\375\071\067\102\060  
\276\120\352\266\017\251\210\330\056\055\151\041\347\321\067\030  
\116\175\221\325\026\137\153\133\000\302\071\103\015\066\205\122  
\271\123\145\017\035\102\345\217\317\005\323\356\334\014\032\331  
\270\213\170\042\147\344\151\260\150\305\074\344\154\132\106\347  
\315\307\372\357\304\354\113\275\152\244\254\375\314\050\121\357  
\222\264\051\253\253\065\232\114\344\304\010\306\046\314\370\151  
\237\344\234\360\051\323\134\371\306\026\045\236\043\303\040\301  
\075\017\077\070\100\260\376\202\104\070\252\132\032\212\153\143  
\130\070\264\025\323\266\021\151\173\036\124\356\214\032\042\254  
\162\227\077\043\131\233\311\042\204\301\007\117\314\177\342\127  
\312\022\160\273\246\145\363\151\165\143\275\225\373\033\227\315  
\344\250\257\366\321\116\250\331\212\161\044\315\066\075\274\226  
\304\361\154\251\256\345\317\015\156\050\015\260\016\265\312\121  
\173\170\024\303\040\057\177\373\024\125\341\021\231\375\325\012  
\241\236\002\343\142\137\353\065\113\054\270\162\350\076\075\117  
\254\054\273\056\206\342\243\166\217\345\223\052\317\245\253\310  
\134\215\113\006\377\022\106\254\170\313\024\007\065\340\251\337  
\213\351\257\025\117\026\211\133\275\366\215\306\131\256\210\205  
\016\301\211\353\037\147\305\105\216\377\155\067\066\053\170\146  
\203\221\121\053\075\377\121\167\166\142\241\354\147\076\076\201  
\203\340\126\251\120\037\037\172\231\253\143\277\204\027\167\361  
\015\073\337\367\234\141\263\065\230\212\072\262\354\074\032\067  
\077\176\217\222\317\331\022\024\144\332\020\002\025\101\377\117  
\304\353\034\243\311\372\231\367\106\351\341\030\331\261\270\062  
\055\313\024\014\120\330\203\145\203\356\271\134\317\313\005\132  
\114\372\031\227\153\326\135\023\323\302\134\124\274\062\163\240  
\170\365\361\155\036\313\237\245\246\237\042\334\321\121\236\202  
\171\144\140\051\023\076\243\375\117\162\152\253\342\324\345\270  
\044\125\054\104\113\212\210\104\234\312\204\323\052\073\002\003  
\001\000\001\243\102\060\100\060\017\006\003\125\035\023\001\001  
\377\004\005\060\003\001\001\377\060\016\006\003\125\035\017\001  
\001\377\004\004\003\002\001\006\060\035\006\003\125\035\016\004  
\026\004\024\202\041\055\146\306\327\240\340\025\353\316\114\011

\167\304\140\236\124\156\003\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\003\202\002\001\000\140\336\032\270\347  
\362\140\202\325\003\063\201\313\006\212\361\042\111\351\350\352  
\221\177\306\063\136\150\031\003\206\073\103\001\317\007\160\344  
\010\036\145\205\221\346\021\042\267\365\002\043\216\256\271\036  
\175\037\176\154\346\275\045\325\225\032\362\005\246\257\205\002  
\157\256\370\326\061\377\045\311\112\310\307\212\251\331\237\113  
\111\233\021\127\231\222\103\021\336\266\063\244\314\327\215\144  
\175\324\315\074\050\054\264\232\226\352\115\365\304\104\304\045  
\252\040\200\330\051\125\367\340\101\374\006\046\377\271\066\365  
\103\024\003\146\170\341\021\261\332\040\137\106\000\170\000\041  
\245\036\000\050\141\170\157\250\001\001\217\235\064\232\377\364  
\070\220\373\270\321\263\162\006\311\161\346\201\305\171\355\013  
\246\171\362\023\013\234\367\135\016\173\044\223\264\110\333\206  
\137\336\120\206\170\347\100\346\061\250\220\166\160\141\257\234  
\067\054\021\265\202\267\252\256\044\064\133\162\014\151\015\315  
\131\237\366\161\257\234\013\321\012\070\371\006\042\203\123\045  
\014\374\121\304\346\276\342\071\225\013\044\255\257\321\225\344  
\226\327\164\144\153\161\116\002\074\252\205\363\040\243\103\071  
\166\133\154\120\376\232\234\024\036\145\024\212\025\275\243\202  
\105\132\111\126\152\322\234\261\143\062\345\141\340\123\042\016  
\247\012\111\352\313\176\037\250\342\142\200\366\020\105\122\230  
\006\030\336\245\315\057\177\252\324\351\076\010\162\354\043\003  
\002\074\246\252\330\274\147\164\075\024\027\373\124\113\027\343  
\323\171\075\155\153\111\311\050\016\056\164\120\277\014\331\106  
\072\020\206\311\247\077\351\240\354\177\353\245\167\130\151\161  
\346\203\012\067\362\206\111\152\276\171\010\220\366\002\026\144  
\076\345\332\114\176\014\064\311\371\137\266\263\050\121\247\247  
\053\252\111\372\215\145\051\116\343\153\023\247\224\243\055\121  
\155\170\014\104\313\337\336\010\157\316\243\144\253\323\225\204  
\324\271\122\124\162\173\226\045\314\274\151\343\110\156\015\320  
\307\235\047\232\252\370\023\222\335\036\337\143\237\065\251\026  
\066\354\214\270\203\364\075\211\217\315\264\027\136\327\263\027  
\101\020\135\047\163\140\205\127\111\042\007

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "certSIGN Root CA G2"

# Issuer: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO

# Serial Number:11:00:34:b6:4e:c6:36:2d:36

# Subject: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO

# Not Valid Before: Mon Feb 06 09:27:35 2017

# Not Valid After : Thu Feb 06 09:27:35 2042

# Fingerprint (SHA-256):

65:7C:FE:2F:A7:3F:AA:38:46:25:71:F3:32:A2:36:3A:46:FC:E7:02:09:51:71:07:02:CD:FB:B6:EE:DA:33:05

```

Fingerprint (SHA1): 26:F9:93:B4:ED:3D:28:27:B0:B9:4B:A7:E9:15:1D:A3:8D:92:E5:32
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL
 UTF8 "certSIGN Root CA G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\046\371\223\264\355\075\050\047\260\271\113\247\351\025\035\243
\215\222\345\062
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\214\361\165\212\306\031\317\224\267\367\145\040\207\303\227\307
END
CKA_ISSUER MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\024\060\022\006\003\125\004\012\023\013\103\105\122\124\123\111
\107\116\040\123\101\061\034\060\032\006\003\125\004\013\023\023
\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103\101
\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\021\000\064\266\116\306\066\055\066
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Trustwave Global Certification Authority"
#
Issuer: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
#
 Serial Number:05:f7:0e:86:da:49:f3:46:35:2e:ba:b2
Subject: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
Not Valid Before: Wed Aug 23 19:34:12 2017
Not Valid After : Sat Aug 23 19:34:12 2042
Fingerprint (SHA-256):
97:55:20:15:F5:DD:FC:3C:87:88:C0:06:94:45:55:40:88:94:45:00:84:F1:00:86:70:86:BC:1A:2B:B5:8D:C8
Fingerprint (SHA1): 2F:8F:36:4F:E1:58:97:44:21:59:87:A5:2A:9A:D0:69:95:26:7F:B5
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Trustwave Global Certification Authority"

```

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\021\060\017\006\003\125\004\010\014\010\111\154\154\151\156  
\157\151\163\061\020\060\016\006\003\125\004\007\014\007\103\150  
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\014\030  
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156  
\147\163\054\040\111\156\143\056\061\061\060\057\006\003\125\004  
\003\014\050\124\162\165\163\164\167\141\166\145\040\107\154\157  
\142\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\021\060\017\006\003\125\004\010\014\010\111\154\154\151\156  
\157\151\163\061\020\060\016\006\003\125\004\007\014\007\103\150  
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\014\030  
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156  
\147\163\054\040\111\156\143\056\061\061\060\057\006\003\125\004  
\003\014\050\124\162\165\163\164\167\141\166\145\040\107\154\157  
\142\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\014\005\367\016\206\332\111\363\106\065\056\272\262

END

CKA\_VALUE

MULTILINE\_OCTAL

\060\202\005\332\060\202\003\302\240\003\002\001\002\002\014\005  
\367\016\206\332\111\363\106\065\056\272\262\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\060\201\210\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\021\060\017\006\003  
\125\004\010\014\010\111\154\154\151\156\157\151\163\061\020\060  
\016\006\003\125\004\007\014\007\103\150\151\143\141\147\157\061  
\041\060\037\006\003\125\004\012\014\030\124\162\165\163\164\167  
\141\166\145\040\110\157\154\144\151\156\147\163\054\040\111\156  
\143\056\061\061\060\057\006\003\125\004\003\014\050\124\162\165  
\163\164\167\141\166\145\040\107\154\157\142\141\154\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171\060\036\027\015\061\067\060\070\062\063\061  
\071\063\064\061\062\132\027\015\064\062\060\070\062\063\061\071  
\063\064\061\062\132\060\201\210\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\021\060\017\006\003\125\004\010\014\010  
\111\154\154\151\156\157\151\163\061\020\060\016\006\003\125\004  
\007\014\007\103\150\151\143\141\147\157\061\041\060\037\006\003  
\125\004\012\014\030\124\162\165\163\164\167\141\166\145\040\110

\157\154\144\151\156\147\163\054\040\111\156\143\056\061\061\060  
\057\006\003\125\004\003\014\050\124\162\165\163\164\167\141\166  
\145\040\107\154\157\142\141\154\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\271\135\121\050\113\074\067\222\321\202\316\275\035\275\315  
\335\270\253\317\012\076\341\135\345\334\252\011\271\127\002\076  
\346\143\141\337\362\017\202\143\256\243\367\254\163\321\174\347  
\263\013\257\010\000\011\131\177\315\051\052\210\223\207\027\030  
\200\355\210\262\264\266\020\037\055\326\137\125\242\023\135\321  
\306\353\006\126\211\210\376\254\062\235\375\134\303\005\307\156  
\356\206\211\272\210\003\235\162\041\206\220\256\217\003\245\334  
\237\210\050\313\243\222\111\017\354\320\017\342\155\104\117\200  
\152\262\324\347\240\012\123\001\272\216\227\221\166\156\274\374  
\325\153\066\346\100\210\326\173\057\137\005\350\054\155\021\363  
\347\262\276\222\104\114\322\227\244\376\322\162\201\103\007\234  
\351\021\076\365\213\032\131\175\037\150\130\335\004\000\054\226  
\363\103\263\176\230\031\164\331\234\163\331\030\276\101\307\064  
\171\331\364\142\302\103\271\263\047\260\042\313\371\075\122\307  
\060\107\263\311\076\270\152\342\347\350\201\160\136\102\213\117  
\046\245\376\072\302\040\156\273\370\026\216\315\014\251\264\033  
\154\166\020\341\130\171\106\076\124\316\200\250\127\011\067\051  
\033\231\023\217\014\310\326\054\034\373\005\350\010\225\075\145  
\106\334\356\315\151\342\115\217\207\050\116\064\013\076\317\024  
\331\273\335\266\120\232\255\167\324\031\326\332\032\210\310\116  
\033\047\165\330\262\010\361\256\203\060\271\021\016\315\207\360  
\204\215\025\162\174\241\357\314\362\210\141\272\364\151\273\014  
\214\013\165\127\004\270\116\052\024\056\075\017\034\036\062\246  
\142\066\356\146\342\042\270\005\100\143\020\042\363\063\035\164  
\162\212\054\365\071\051\240\323\347\033\200\204\055\305\075\343  
\115\261\375\032\157\272\145\007\073\130\354\102\105\046\373\330  
\332\045\162\304\366\000\261\042\171\275\343\174\131\142\112\234  
\005\157\075\316\346\326\107\143\231\306\044\157\162\022\310\254  
\177\220\264\013\221\160\350\267\346\026\020\161\027\316\336\006  
\117\110\101\175\065\112\243\211\362\311\113\173\101\021\155\147  
\267\010\230\114\345\021\031\256\102\200\334\373\220\005\324\370  
\120\312\276\344\255\307\302\224\327\026\235\346\027\217\257\066  
\373\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125  
\035\016\004\026\004\024\231\340\031\147\015\142\333\166\263\332  
\075\270\133\350\375\102\322\061\016\207\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\230\163  
\160\342\260\323\355\071\354\114\140\331\251\022\206\027\036\226  
\320\350\124\050\073\144\055\041\246\370\235\126\023\152\110\075  
\117\307\076\051\333\155\130\203\124\075\207\175\043\005\324\344  
\034\334\350\070\145\206\305\165\247\132\333\065\005\275\167\336



\273\051\067\100\005\007\303\224\122\237\312\144\335\361\033\053  
\334\106\012\020\002\061\375\112\150\015\007\144\220\346\036\365  
\052\241\250\273\074\135\371\243\010\013\021\014\361\077\055\020  
\224\157\376\342\064\207\203\326\317\345\033\065\155\322\003\341  
\260\015\250\240\252\106\047\202\066\247\025\266\010\246\102\124  
\127\266\231\132\342\013\171\220\327\127\022\121\065\031\210\101  
\150\045\324\067\027\204\025\373\001\162\334\225\336\122\046\040  
\230\046\342\166\365\047\157\372\000\073\112\141\331\015\313\121  
\223\052\375\026\006\226\247\043\232\043\110\376\121\275\266\304  
\260\261\124\316\336\154\101\255\026\147\176\333\375\070\315\271  
\070\116\262\301\140\313\235\027\337\130\236\172\142\262\046\217  
\164\225\233\344\133\035\322\017\335\230\034\233\131\271\043\323  
\061\240\246\377\070\335\317\040\117\351\130\126\072\147\303\321  
\366\231\231\235\272\066\266\200\057\210\107\117\206\277\104\072  
\200\344\067\034\246\272\352\227\230\021\320\204\142\107\144\036  
\252\356\100\277\064\261\234\217\116\341\362\222\117\037\216\363  
\236\227\336\363\246\171\152\211\161\117\113\047\027\110\376\354  
\364\120\017\117\111\175\314\105\343\275\172\100\305\101\334\141  
\126\047\006\151\345\162\101\201\323\266\001\211\240\057\072\162  
\171\376\072\060\277\101\354\307\142\076\221\113\307\331\061\166  
\102\371\367\074\143\354\046\214\163\014\175\032\035\352\250\174  
\207\250\302\047\174\341\063\101\017\317\317\374\000\240\042\200  
\236\112\247\157\000\260\101\105\267\042\312\150\110\305\102\242  
\256\335\035\362\340\156\116\005\130\261\300\220\026\052\244\075  
\020\100\276\217\142\143\203\251\234\202\175\055\002\351\203\060  
\174\313\047\311\375\036\146\000\260\056\323\041\057\216\063\026  
\154\230\355\020\250\007\326\314\223\317\333\321\151\034\344\312  
\311\340\266\234\351\316\161\161\336\154\077\026\244\171

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Trustwave Global Certification Authority"

# Issuer: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,  
Inc.",L=Chicago,ST=Illinois,C=US

# Serial Number:05:f7:0e:86:da:49:f3:46:35:2e:ba:b2

# Subject: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,  
Inc.",L=Chicago,ST=Illinois,C=US

# Not Valid Before: Wed Aug 23 19:34:12 2017

# Not Valid After : Sat Aug 23 19:34:12 2042

# Fingerprint (SHA-256):

97:55:20:15:F5:DD:FC:3C:87:88:C0:06:94:45:55:40:88:94:45:00:84:F1:00:86:70:86:BC:1A:2B:B5:8D:C8

# Fingerprint (SHA1): 2F:8F:36:4F:E1:58:97:44:21:59:87:A5:2A:9A:D0:69:95:26:7F:B5

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE

```

CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Trustwave Global Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\057\217\066\117\341\130\227\104\041\131\207\245\052\232\320\151
\225\046\177\265
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\370\034\030\055\057\272\137\155\241\154\274\307\253\221\307\016
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\014\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\014\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\014\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\061\060\057\006\003\125\004
\003\014\050\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\005\367\016\206\332\111\363\106\065\056\272\262
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Trustwave Global ECC P256 Certification Authority"
#
Issuer: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
Serial Number:0d:6a:5f:08:3f:28:5c:3e:51:95:df:5d
Subject: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
Not Valid Before: Wed Aug 23 19:35:10 2017
Not Valid After : Sat Aug 23 19:35:10 2042
Fingerprint (SHA-256):
94:5B:BC:82:5E:A5:54:F4:89:D1:FD:51:A7:3D:DF:2E:A6:24:AC:70:19:A0:52:05:22:5C:22:A7:8C:CF:A8:B4
Fingerprint (SHA1): B4:90:82:DD:45:0C:BE:8B:5B:B1:66:D3:E2:A4:08:26:CD:ED:42:CF
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE

```

CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Trustwave Global ECC P256 Certification Authority"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156  
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150  
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030  
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156  
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004  
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157  
\142\141\154\040\105\103\103\040\120\062\065\066\040\103\145\162  
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157  
\162\151\164\171

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156  
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150  
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030  
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156  
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004  
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157  
\142\141\154\040\105\103\103\040\120\062\065\066\040\103\145\162  
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157  
\162\151\164\171

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\014\015\152\137\010\077\050\134\076\121\225\337\135

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\140\060\202\002\007\240\003\002\001\002\002\014\015  
\152\137\010\077\050\134\076\121\225\337\135\060\012\006\010\052  
\206\110\316\075\004\003\002\060\201\221\061\013\060\011\006\003  
\125\004\006\023\002\125\123\061\021\060\017\006\003\125\004\010  
\023\010\111\154\154\151\156\157\151\163\061\020\060\016\006\003  
\125\004\007\023\007\103\150\151\143\141\147\157\061\041\060\037  
\006\003\125\004\012\023\030\124\162\165\163\164\167\141\166\145  
\040\110\157\154\144\151\156\147\163\054\040\111\156\143\056\061  
\072\060\070\006\003\125\004\003\023\061\124\162\165\163\164\167  
\141\166\145\040\107\154\157\142\141\154\040\105\103\103\040\120  
\062\065\066\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\060\036\027\015\061  
\067\060\070\062\063\061\071\063\065\061\060\132\027\015\064\062  
\060\070\062\063\061\071\063\065\061\060\132\060\201\221\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\021\060\017\006

```
\003\125\004\010\023\010\111\154\154\151\156\157\151\163\061\020
\060\016\006\003\125\004\007\023\007\103\150\151\143\141\147\157
\061\041\060\037\006\003\125\004\012\023\030\124\162\165\163\164
\167\141\166\145\040\110\157\154\144\151\156\147\163\054\040\111
\156\143\056\061\072\060\070\006\003\125\004\003\023\061\124\162
\165\163\164\167\141\166\145\040\107\154\157\142\141\154\040\105
\103\103\040\120\062\065\066\040\103\145\162\164\151\146\151\143
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060
\131\060\023\006\007\052\206\110\316\075\002\001\006\010\052\206
\110\316\075\003\001\007\003\102\000\004\176\373\154\346\043\343
\163\062\010\312\140\346\123\234\272\164\215\030\260\170\220\122
\200\335\070\300\112\035\321\250\314\223\244\227\006\070\312\015
\025\142\306\216\001\052\145\235\252\337\064\221\056\201\301\344
\063\222\061\304\375\011\072\246\077\255\243\103\060\101\060\017
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060
\017\006\003\125\035\017\001\001\377\004\005\003\003\007\006\000
\060\035\006\003\125\035\016\004\026\004\024\243\101\006\254\220
\155\321\112\353\165\245\112\020\231\263\261\241\213\112\367\060
\012\006\010\052\206\110\316\075\004\003\002\003\107\000\060\104
\002\040\007\346\124\332\016\240\132\262\256\021\237\207\305\266
\377\151\336\045\276\370\240\267\010\363\104\316\052\337\010\041
\014\067\002\040\055\046\003\240\005\275\153\321\366\134\370\145
\314\206\155\263\234\064\110\143\204\011\305\215\167\032\342\314
\234\341\164\173
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Trustwave Global ECC P256 Certification Authority"

# Issuer: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings, Inc.",L=Chicago,ST=Illinois,C=US

# Serial Number:0d:6a:5f:08:3f:28:5c:3e:51:95:df:5d

# Subject: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings, Inc.",L=Chicago,ST=Illinois,C=US

# Not Valid Before: Wed Aug 23 19:35:10 2017

# Not Valid After : Sat Aug 23 19:35:10 2042

# Fingerprint (SHA-256):

94:5B:BC:82:5E:A5:54:F4:89:D1:FD:51:A7:3D:DF:2E:A6:24:AC:70:19:A0:52:05:22:5C:22:A7:8C:CF:A8:B4

# Fingerprint (SHA1): B4:90:82:DD:45:0C:BE:8B:5B:B1:66:D3:E2:A4:08:26:CD:ED:42:CF

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Trustwave Global

ECC P256 Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE OCTAL

\264\220\202\335\105\014\276\213\133\261\146\323\342\244\010\046

\315\355\102\317

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\133\104\343\215\135\066\206\046\350\015\005\322\131\247\203\124

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123

\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156

\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150

\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030

\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156

\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004

\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157

\142\141\154\040\105\103\103\040\120\062\065\066\040\103\145\162

\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157

\162\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\014\015\152\137\010\077\050\134\076\121\225\337\135

END

CKA\_TRUST\_SERVER\_AUTH

CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Trustwave Global ECC P384 Certification Authority"

#

# Issuer: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings, Inc.",L=Chicago,ST=Illinois,C=US

# Serial Number:08:bd:85:97:6c:99:27:a4:80:68:47:3b

# Subject: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings, Inc.",L=Chicago,ST=Illinois,C=US

# Not Valid Before: Wed Aug 23 19:36:43 2017

# Not Valid After : Sat Aug 23 19:36:43 2042

# Fingerprint (SHA-256):

55:90:38:59:C8:C0:C3:EB:B8:75:9E:CE:4E:25:57:22:5F:F5:75:8B:BD:38:EB:D4:82:76:60:1E:1B:D5:80:97

# Fingerprint (SHA1): E7:F3:A3:C8:CF:6F:C3:04:2E:6D:0E:67:32:C5:9E:68:95:0D:5E:D2

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL

UTF8 "Trustwave Global ECC P384 Certification Authority"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156  
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150  
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030  
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156  
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004  
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157  
\142\141\154\040\105\103\103\040\120\063\070\064\040\103\145\162  
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157  
\162\151\164\171

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156  
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150  
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030  
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156  
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004  
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157  
\142\141\154\040\105\103\103\040\120\063\070\064\040\103\145\162  
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157  
\162\151\164\171

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\014\010\275\205\227\154\231\047\244\200\150\107\073

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\235\060\202\002\044\240\003\002\001\002\002\014\010  
\275\205\227\154\231\047\244\200\150\107\073\060\012\006\010\052  
\206\110\316\075\004\003\003\060\201\221\061\013\060\011\006\003  
\125\004\006\023\002\125\123\061\021\060\017\006\003\125\004\010  
\023\010\111\154\154\151\156\157\151\163\061\020\060\016\006\003  
\125\004\007\023\007\103\150\151\143\141\147\157\061\041\060\037  
\006\003\125\004\012\023\030\124\162\165\163\164\167\141\166\145  
\040\110\157\154\144\151\156\147\163\054\040\111\156\143\056\061  
\072\060\070\006\003\125\004\003\023\061\124\162\165\163\164\167  
\141\166\145\040\107\154\157\142\141\154\040\105\103\103\040\120  
\063\070\064\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\060\036\027\015\061  
\067\060\070\062\063\061\071\063\066\064\063\132\027\015\064\062  
\060\070\062\063\061\071\063\066\064\063\132\060\201\221\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\021\060\017\006  
\003\125\004\010\023\010\111\154\154\151\156\157\151\163\061\020  
\060\016\006\003\125\004\007\023\007\103\150\151\143\141\147\157  
\061\041\060\037\006\003\125\004\012\023\030\124\162\165\163\164  
\167\141\166\145\040\110\157\154\144\151\156\147\163\054\040\111

\156\143\056\061\072\060\070\006\003\125\004\003\023\061\124\162  
\165\163\164\167\141\166\145\040\107\154\157\142\141\154\040\105  
\103\103\040\120\063\070\064\040\103\145\162\164\151\146\151\143  
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060  
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201  
\004\000\042\003\142\000\004\153\332\015\165\065\010\061\107\005  
\256\105\231\125\361\021\023\056\112\370\020\061\043\243\176\203  
\323\177\050\010\072\046\032\072\317\227\202\037\200\267\047\011  
\217\321\216\060\304\012\233\016\254\130\004\253\367\066\175\224  
\043\244\233\012\212\213\253\353\375\071\045\146\361\136\376\214  
\256\215\101\171\235\011\140\316\050\251\323\212\155\363\326\105  
\324\362\230\204\070\145\240\243\103\060\101\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\017\006\003  
\125\035\017\001\001\377\004\005\003\003\007\006\000\060\035\006  
\003\125\035\016\004\026\004\024\125\251\204\211\322\301\062\275  
\030\313\154\246\007\116\310\347\235\276\202\220\060\012\006\010  
\052\206\110\316\075\004\003\003\003\147\000\060\144\002\060\067  
\001\222\227\105\022\176\240\363\076\255\031\072\162\335\364\120  
\223\003\022\276\104\322\117\101\244\214\234\235\037\243\366\302  
\222\347\110\024\376\116\233\245\221\127\256\306\067\162\273\002  
\060\147\045\012\261\014\136\356\251\143\222\157\345\220\013\376  
\146\042\312\107\375\212\061\367\203\376\172\277\020\276\030\053  
\036\217\366\051\036\224\131\357\216\041\067\313\121\230\245\156  
\113

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Trustwave Global ECC P384 Certification Authority"

# Issuer: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings, Inc.",L=Chicago,ST=Illinois,C=US

# Serial Number:08:bd:85:97:6c:99:27:a4:80:68:47:3b

# Subject: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings, Inc.",L=Chicago,ST=Illinois,C=US

# Not Valid Before: Wed Aug 23 19:36:43 2017

# Not Valid After : Sat Aug 23 19:36:43 2042

# Fingerprint (SHA-256):

55:90:38:59:C8:C0:C3:EB:B8:75:9E:CE:4E:25:57:22:5F:F5:75:8B:BD:38:EB:D4:82:76:60:1E:1B:D5:80:97

# Fingerprint (SHA1): E7:F3:A3:C8:CF:6F:C3:04:2E:6D:0E:67:32:C5:9E:68:95:0D:5E:D2

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Trustwave Global ECC P384 Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\347\363\243\310\317\157\303\004\056\155\016\147\062\305\236\150

\225\015\136\322

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\352\317\140\304\073\271\025\051\100\241\227\355\170\047\223\326

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123

\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156

\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150

\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030

\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156

\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004

\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157

\142\141\154\040\105\103\103\040\120\063\070\064\040\103\145\162

\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157

\162\151\164\171

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\014\010\275\205\227\154\231\047\244\200\150\107\073

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "NAVER Global Root Certification Authority"

#

# Issuer: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR

# Serial Number:01:94:30:1e:a2:0b:dd:f5:c5:33:2a:b1:43:44:71:f8:d6:50:4d:0d

# Subject: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR

# Not Valid Before: Fri Aug 18 08:58:42 2017

# Not Valid After : Tue Aug 18 23:59:59 2037

# Fingerprint (SHA-256):

88:F4:38:DC:F8:FF:D1:FA:8F:42:91:15:FF:E5:F8:2A:E1:E0:6E:0C:70:C3:75:FA:AD:71:7B:34:A4:9E:72:65

# Fingerprint (SHA1): 8F:6B:F2:A9:27:4A:DA:14:A0:C4:F4:8E:61:27:F9:C0:1E:78:5D:D1

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "NAVER Global Root Certification Authority"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\151\061\013\060\011\006\003\125\004\006\023\002\113\122\061

\046\060\044\006\003\125\004\012\014\035\116\101\126\105\122\040



\102\125\123\111\116\105\123\123\040\120\114\101\124\106\117\122  
\115\040\103\157\162\160\056\061\062\060\060\006\003\125\004\003  
\014\051\116\101\126\105\122\040\107\154\157\142\141\154\040\122  
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\151\061\013\060\011\006\003\125\004\006\023\002\113\122\061  
\046\060\044\006\003\125\004\012\014\035\116\101\126\105\122\040  
\102\125\123\111\116\105\123\123\040\120\114\101\124\106\117\122  
\115\040\103\157\162\160\056\061\062\060\060\006\003\125\004\003  
\014\051\116\101\126\105\122\040\107\154\157\142\141\154\040\122  
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\024\001\224\060\036\242\013\335\365\305\063\052\261\103\104  
\161\370\326\120\115\015

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\242\060\202\003\212\240\003\002\001\002\002\024\001  
\224\060\036\242\013\335\365\305\063\052\261\103\104\161\370\326  
\120\115\015\060\015\006\011\052\206\110\206\367\015\001\001\014  
\005\000\060\151\061\013\060\011\006\003\125\004\006\023\002\113  
\122\061\046\060\044\006\003\125\004\012\014\035\116\101\126\105  
\122\040\102\125\123\111\116\105\123\123\040\120\114\101\124\106  
\117\122\115\040\103\157\162\160\056\061\062\060\060\006\003\125  
\004\003\014\051\116\101\126\105\122\040\107\154\157\142\141\154  
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164  
\151\157\156\040\101\165\164\150\157\162\151\164\171\060\036\027  
\015\061\067\060\070\061\070\060\070\065\070\064\062\132\027\015  
\063\067\060\070\061\070\062\063\065\071\065\071\132\060\151\061  
\013\060\011\006\003\125\004\006\023\002\113\122\061\046\060\044  
\006\003\125\004\012\014\035\116\101\126\105\122\040\102\125\123  
\111\116\105\123\123\040\120\114\101\124\106\117\122\115\040\103  
\157\162\160\056\061\062\060\060\006\003\125\004\003\014\051\116  
\101\126\105\122\040\107\154\157\142\141\154\040\122\157\157\164  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171\060\202\002\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000  
\060\202\002\012\002\202\002\001\000\266\324\361\223\134\265\100  
\211\012\253\015\220\133\120\143\256\220\224\164\027\105\162\326  
\173\145\132\051\113\247\126\240\113\270\057\102\165\351\331\173  
\044\132\061\145\253\027\027\321\063\072\331\021\334\100\066\207  
\337\307\152\351\046\136\131\212\167\343\350\110\234\061\026\372  
\076\221\261\312\311\243\342\237\316\041\123\243\002\066\060\313

\122\002\345\332\062\135\303\305\346\371\356\021\307\213\311\104  
\036\204\223\030\112\264\237\345\022\144\151\320\046\205\142\001  
\266\311\002\035\276\203\121\273\134\332\370\255\025\152\231\367  
\222\124\367\064\133\351\277\352\051\201\022\324\123\221\226\263  
\221\132\335\376\220\163\050\373\060\106\265\312\010\007\307\161  
\162\311\146\323\064\227\366\214\364\030\112\341\320\075\132\105  
\266\151\247\051\373\043\316\210\330\022\234\000\110\250\246\017  
\263\073\222\215\161\016\164\305\213\310\114\371\364\233\216\270  
\074\151\355\157\073\120\057\130\355\304\260\320\034\033\152\014  
\342\274\104\252\330\315\024\135\224\170\141\277\016\156\332\052  
\274\057\014\013\161\246\263\026\077\234\346\371\314\237\123\065  
\342\003\240\240\030\277\273\361\276\364\326\214\207\015\102\367  
\006\271\361\155\355\004\224\250\376\266\323\006\306\100\141\337  
\235\235\363\124\166\316\123\072\001\246\222\101\354\004\243\217  
\015\242\325\011\312\326\313\232\361\357\103\135\300\253\245\101  
\317\134\123\160\160\311\210\246\055\324\153\141\163\120\046\206  
\141\016\137\033\302\053\342\214\325\273\235\301\003\102\272\224  
\332\137\251\260\312\314\115\012\357\107\151\003\057\042\373\361  
\050\316\277\135\120\145\250\220\155\263\164\260\010\307\254\250  
\321\353\076\234\374\135\032\203\056\053\313\265\363\104\235\072  
\247\027\141\226\242\161\323\160\226\025\115\267\114\163\356\031  
\134\305\133\076\101\376\254\165\140\073\033\143\316\000\335\332  
\010\220\142\264\345\055\356\110\247\153\027\231\124\276\207\112  
\343\251\136\004\114\353\020\155\124\326\357\361\350\362\142\026  
\313\200\153\355\075\355\365\037\060\245\256\113\311\023\355\212  
\001\001\311\270\121\130\300\146\072\261\146\113\304\325\061\002  
\142\351\164\204\014\333\115\106\055\002\003\001\000\001\243\102  
\060\100\060\035\006\003\125\035\016\004\026\004\024\322\237\210  
\337\241\315\054\275\354\365\073\001\001\223\063\047\262\353\140  
\113\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\015\006\011\052\206\110\206\367\015\001\001\014\005  
\000\003\202\002\001\000\062\312\200\263\235\075\124\006\335\322  
\322\056\360\244\001\041\013\147\110\312\155\216\340\310\252\015  
\252\215\041\127\217\306\076\172\312\333\121\324\122\263\324\226  
\204\245\130\140\177\345\013\216\037\365\334\012\025\201\345\073  
\266\267\042\057\011\234\023\026\261\154\014\065\010\155\253\143  
\162\355\334\276\354\307\127\346\060\040\161\326\327\020\301\023  
\125\001\214\052\103\344\101\361\317\072\172\123\222\316\242\003  
\005\015\070\337\002\273\020\056\331\073\322\233\172\300\241\246  
\370\265\061\346\364\165\311\271\123\231\165\107\042\132\024\025  
\307\170\033\266\235\351\014\370\033\166\361\205\204\336\241\332  
\022\357\244\342\020\227\172\170\336\014\121\227\250\041\100\213  
\206\275\015\360\136\116\113\066\273\073\040\037\212\102\126\341  
\013\032\277\173\320\042\103\054\104\214\373\345\052\264\154\034  
\034\272\224\340\023\176\041\346\232\302\313\305\102\144\264\036  
\224\173\010\045\310\161\314\207\105\127\205\323\237\051\142\042  
\203\121\227\000\030\227\167\152\230\222\311\174\140\154\337\154

```
\175\112\344\160\114\302\236\270\035\367\320\064\307\017\314\373
\247\377\003\276\255\160\220\332\013\335\310\155\227\137\232\177
\011\062\101\375\315\242\314\132\155\114\362\252\111\376\146\370
\351\330\065\353\016\050\036\356\110\057\072\320\171\011\070\174
\246\042\202\223\225\320\003\276\276\002\240\005\335\040\042\343
\157\035\210\064\140\306\346\012\271\011\165\013\360\007\350\151
\226\065\307\373\043\201\216\070\071\270\105\053\103\170\242\321
\054\024\377\015\050\162\162\225\233\136\011\333\211\104\230\252
\241\111\273\161\122\362\277\366\377\047\241\066\257\270\266\167
\210\335\072\244\155\233\064\220\334\024\135\060\277\267\353\027
\344\207\267\161\320\241\327\167\025\324\102\327\362\363\061\231
\135\233\335\026\155\077\352\006\043\370\106\242\042\355\223\366
\335\232\346\052\207\261\230\124\361\042\367\153\105\343\342\216
\166\035\232\215\304\006\215\066\267\024\363\235\124\151\267\216
\074\325\244\155\223\201\267\255\366\275\144\173\302\311\150\071
\240\222\234\315\064\206\221\220\372\144\121\235\376\376\353\245
\365\165\336\211\367\162
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "NAVER Global Root Certification Authority"

# Issuer: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR

# Serial Number:01:94:30:1e:a2:0b:dd:f5:c5:33:2a:b1:43:44:71:f8:d6:50:4d:0d

# Subject: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR

# Not Valid Before: Fri Aug 18 08:58:42 2017

# Not Valid After : Tue Aug 18 23:59:59 2037

# Fingerprint (SHA-256):

88:F4:38:DC:F8:FF:D1:FA:8F:42:91:15:FF:E5:F8:2A:E1:E0:6E:0C:70:C3:75:FA:AD:71:7B:34:A4:9E:72:65

# Fingerprint (SHA1): 8F:6B:F2:A9:27:4A:DA:14:A0:C4:F4:8E:61:27:F9:C0:1E:78:5D:D1

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "NAVER Global Root Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\217\153\362\251\047\112\332\024\240\304\364\216\141\047\371\300
\036\170\135\321
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\310\176\101\366\045\073\365\011\263\027\350\106\075\277\320\233
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\151\061\013\060\011\006\003\125\004\006\023\002\113\122\061
\046\060\044\006\003\125\004\012\014\035\116\101\126\105\122\040
```

```

\102\125\123\111\116\105\123\123\040\120\114\101\124\106\117\122
\115\040\103\157\162\160\056\061\062\060\060\006\003\125\004\003
\014\051\116\101\126\105\122\040\107\154\157\142\141\154\040\122
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\001\224\060\036\242\013\335\365\305\063\052\261\103\104
\161\370\326\120\115\015
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "AC RAIZ FNMT-RCM SERVIDORES SEGUROS"
#
Issuer: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-
Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES
Serial Number:62:f6:32:6c:e5:c4:e3:68:5c:1b:62:dd:9c:2e:9d:95
Subject: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-
Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES
Not Valid Before: Thu Dec 20 09:37:33 2018
Not Valid After : Sun Dec 20 09:37:33 2043
Fingerprint (SHA-256):
55:41:53:B1:3D:2C:F9:DD:B7:53:BF:BE:1A:4E:0A:E0:8D:0A:A4:18:70:58:FE:60:A2:B8:62:B2:E4:B8:7B:CB
Fingerprint (SHA1): 62:FF:D9:9E:C0:65:0D:03:CE:75:93:D2:ED:3F:2D:32:C9:E3:E5:4A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8
"AC RAIZ FNMT-RCM SERVIDORES SEGUROS"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\170\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\016\060\014\006\003\125\004\013\014\005\103\145\162
\145\163\061\030\060\026\006\003\125\004\141\014\017\126\101\124
\105\123\055\121\062\070\062\066\060\060\064\112\061\054\060\052
\006\003\125\004\003\014\043\101\103\040\122\101\111\132\040\106
\116\115\124\055\122\103\115\040\123\105\122\126\111\104\117\122
\105\123\040\123\105\107\125\122\117\123
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL

```

\060\170\061\013\060\011\006\003\125\004\006\023\002\105\123\061  
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122  
\103\115\061\016\060\014\006\003\125\004\013\014\005\103\145\162  
\145\163\061\030\060\026\006\003\125\004\141\014\017\126\101\124  
\105\123\055\121\062\070\062\066\060\060\064\112\061\054\060\052  
\006\003\125\004\003\014\043\101\103\040\122\101\111\132\040\106  
\116\115\124\055\122\103\115\040\123\105\122\126\111\104\117\122  
\105\123\040\123\105\107\125\122\117\123

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\142\366\062\154\345\304\343\150\134\033\142\335\234\056  
\235\225

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\156\060\202\001\363\240\003\002\001\002\002\020\142  
\366\062\154\345\304\343\150\134\033\142\335\234\056\235\225\060  
\012\006\010\052\206\110\316\075\004\003\003\060\170\061\013\060  
\011\006\003\125\004\006\023\002\105\123\061\021\060\017\006\003  
\125\004\012\014\010\106\116\115\124\055\122\103\115\061\016\060  
\014\006\003\125\004\013\014\005\103\145\162\145\163\061\030\060  
\026\006\003\125\004\141\014\017\126\101\124\105\123\055\121\062  
\070\062\066\060\060\064\112\061\054\060\052\006\003\125\004\003  
\014\043\101\103\040\122\101\111\132\040\106\116\115\124\055\122  
\103\115\040\123\105\122\126\111\104\117\122\105\123\040\123\105  
\107\125\122\117\123\060\036\027\015\064\063\061\062\062\060\060  
\071\063\067\063\063\132\027\015\064\063\061\062\062\060\060\071  
\063\067\063\063\132\060\170\061\013\060\011\006\003\125\004\006  
\023\002\105\123\061\021\060\017\006\003\125\004\012\014\010\106  
\116\115\124\055\122\103\115\061\016\060\014\006\003\125\004\013  
\014\005\103\145\162\145\163\061\030\060\026\006\003\125\004\141  
\014\017\126\101\124\105\123\055\121\062\070\062\066\060\060\064  
\112\061\054\060\052\006\003\125\004\003\014\043\101\103\040\122  
\101\111\132\040\106\116\115\124\055\122\103\115\040\123\105\122  
\126\111\104\117\122\105\123\040\123\105\107\125\122\117\123\060  
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201  
\004\000\042\003\142\000\004\366\272\127\123\310\312\253\337\066  
\112\122\041\344\227\322\203\147\236\360\145\121\320\136\207\307  
\107\261\131\362\127\107\233\000\002\223\104\027\151\333\102\307  
\261\262\072\030\016\264\135\214\263\146\135\241\064\371\066\054  
\111\333\363\106\374\263\104\151\104\023\146\375\327\305\375\257  
\066\115\316\003\115\007\161\317\257\152\005\322\242\103\132\012  
\122\157\001\003\116\216\213\243\102\060\100\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003  
\125\035\016\004\026\004\024\001\271\057\357\277\021\206\140\362  
\117\320\101\156\253\163\037\347\322\156\111\060\012\006\010\052  
\206\110\316\075\004\003\003\003\151\000\060\146\002\061\000\256

```
\112\343\053\100\303\164\021\362\225\255\026\043\336\116\014\032
\346\135\245\044\136\153\104\173\374\070\342\117\313\234\105\027
\021\114\024\047\046\125\071\165\112\003\314\023\220\237\222\002
\061\000\372\112\154\140\210\163\363\356\270\230\142\251\316\053
\302\331\212\246\160\061\035\257\260\224\114\353\117\306\343\321
\363\142\247\074\377\223\056\007\134\111\001\147\151\022\002\162
\277\347
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "AC

RAIZ FNMT-RCM SERVIDORES SEGUROS"

# Issuer: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-  
Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES

# Serial Number:62:f6:32:6c:e5:c4:e3:68:5c:1b:62:dd:9c:2e:9d:95

# Subject: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-  
Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES

# Not Valid Before: Thu Dec 20 09:37:33 2018

# Not Valid After : Sun Dec 20 09:37:33 2043

# Fingerprint (SHA-256):

55:41:53:B1:3D:2C:F9:DD:B7:53:BF:BE:1A:4E:0A:E0:8D:0A:A4:18:70:58:FE:60:A2:B8:62:B2:E4:B8:7B:CB

# Fingerprint (SHA1): 62:FF:D9:9E:C0:65:0D:03:CE:75:93:D2:ED:3F:2D:32:C9:E3:E5:4A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "AC RAIZ FNMT-RCM SERVIDORES SEGUROS"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\142\377\331\236\300\145\015\003\316\165\223\322\355\077\055\062
\311\343\345\112
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\031\066\234\122\003\057\322\321\273\043\314\335\036\022\125\273
```

END

CKA\_ISSUER

MULTILINE\_OCTAL

```
\060\170\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\016\060\014\006\003\125\004\013\014\005\103\145\162
\145\163\061\030\060\026\006\003\125\004\141\014\017\126\101\124
\105\123\055\121\062\070\062\066\060\060\064\112\061\054\060\052
\006\003\125\004\003\014\043\101\103\040\122\101\111\132\040\106
\116\115\124\055\122\103\115\040\123\105\122\126\111\104\117\122
\105\123\040\123\105\107\125\122\117\123
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\142\366\062\154\345\304\343\150\134\033\142\335\234\056
\235\225
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GlobalSign Secure Mail Root R45"
#
Issuer: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE
Serial Number:76:53:fe:a8:4c:50:ab:9f:8d:32:b5:1d:03:8f:57:dc
#
Subject: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE
Not Valid Before: Wed Mar 18 00:00:00 2020
Not Valid After : Sat Mar 18 00:00:00 2045
Fingerprint (SHA-256):
31:9A:F0:A7:72:9E:6F:89:26:9C:13:1E:A6:A3:A1:6F:CD:86:38:9F:DC:AB:3C:47:A4:A6:75:C1:61:A3:F9:74
Fingerprint (SHA1): 76:18:D1:F3:80:24:3D:52:40:C6:11:6A:AD:57:77:09:7D:81:30:A0
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Secure Mail Root R45"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\122\064\065
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\122\064\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\166\123\376\250\114\120\253\237\215\062\265\035\003\217
\127\334
```

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\160\060\202\003\130\240\003\002\001\002\002\020\166  
\123\376\250\114\120\253\237\215\062\265\035\003\217\127\334\060  
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\122  
\061\013\060\011\006\003\125\004\006\023\002\102\105\061\031\060  
\027\006\003\125\004\012\023\020\107\154\157\142\141\154\123\151  
\147\156\040\156\166\055\163\141\061\050\060\046\006\003\125\004  
\003\023\037\107\154\157\142\141\154\123\151\147\156\040\123\145  
\143\165\162\145\040\115\141\151\154\040\122\157\157\164\040\122  
\064\065\060\036\027\015\062\060\060\063\061\070\060\060\060\060  
\060\060\132\027\015\064\065\060\063\061\070\060\060\060\060\060  
\060\132\060\122\061\013\060\011\006\003\125\004\006\023\002\102  
\105\061\031\060\027\006\003\125\004\012\023\020\107\154\157\142  
\141\154\123\151\147\156\040\156\166\055\163\141\061\050\060\046  
\006\003\125\004\003\023\037\107\154\157\142\141\154\123\151\147  
\156\040\123\145\143\165\162\145\040\115\141\151\154\040\122\157  
\157\164\040\122\064\065\060\202\002\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202  
\002\012\002\202\002\001\000\334\171\314\155\006\371\155\273\340  
\126\004\154\177\340\165\314\055\005\111\350\113\334\124\354\133  
\167\225\162\277\177\142\235\205\251\212\044\120\137\123\345\333  
\164\157\244\051\133\023\052\011\255\232\305\057\302\367\166\073  
\241\105\106\252\103\346\044\376\053\260\157\062\160\031\106\132  
\171\046\057\374\075\175\137\144\313\127\314\141\141\250\331\225  
\156\343\225\240\156\177\107\022\030\326\357\003\311\373\212\372  
\232\275\202\025\251\125\167\113\021\117\131\340\153\303\161\363  
\014\330\124\325\201\150\076\023\271\025\056\207\212\074\104\047  
\066\142\044\156\370\054\005\162\060\141\275\102\221\043\304\235  
\045\247\331\124\232\024\243\061\255\200\171\014\247\143\154\230  
\243\254\127\107\063\037\145\226\341\320\322\065\332\371\161\367  
\241\246\045\265\101\135\337\076\140\330\321\366\237\245\362\270  
\314\023\252\217\371\262\156\341\203\055\223\335\076\205\032\335  
\350\261\134\046\001\313\111\205\374\374\322\324\177\205\142\206  
\164\371\313\354\065\042\242\014\060\217\073\253\171\353\126\362  
\372\102\363\355\371\037\105\211\100\051\255\352\222\164\352\122  
\375\126\264\053\332\242\355\165\302\156\253\316\122\220\113\366  
\336\360\111\217\232\110\324\210\031\155\105\346\314\214\271\335  
\144\140\140\002\100\370\271\317\274\130\353\075\205\271\306\012  
\323\234\007\146\217\307\030\071\043\106\341\074\036\243\057\120  
\141\222\013\075\053\154\361\243\107\070\127\221\253\015\217\306  
\235\115\004\322\046\122\134\345\245\375\052\055\026\052\001\151  
\347\251\175\341\066\267\261\052\305\331\261\215\275\271\213\316  
\314\213\241\076\013\110\315\120\225\064\304\330\010\131\330\153  
\046\364\276\365\324\042\027\000\127\311\256\233\004\060\063\237  
\013\373\337\126\242\311\156\124\166\332\261\227\142\047\131\017  
\021\212\042\033\144\226\077\250\361\267\044\112\215\074\123\174  
\155\203\166\075\262\046\110\163\365\104\026\001\055\011\052\216



\026\226\120\320\163\006\135\273\042\110\202\114\012\106\132\077  
\200\377\134\362\362\232\254\054\010\340\326\352\360\022\070\201  
\117\246\020\355\106\253\314\026\234\013\317\144\246\231\002\205  
\104\147\106\255\375\115\347\002\003\001\000\001\243\102\060\100  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\035\006\003\125\035\016\004\026\004\024\240\223\025\050  
\156\356\217\010\262\065\306\236\142\171\164\247\261\016\053\173  
\060\015\006\011\052\206\110\206\367\015\001\001\014\005\000\003  
\202\002\001\000\105\012\370\321\134\254\142\201\320\004\327\266  
\377\127\121\211\013\014\313\336\044\145\067\373\253\236\355\146  
\364\352\014\031\151\211\270\031\261\060\126\264\331\366\367\276  
\306\256\227\313\105\366\021\214\072\060\144\114\301\237\131\300  
\106\102\010\006\107\144\027\170\340\225\007\006\326\214\242\254  
\251\331\077\323\173\126\117\374\304\207\050\337\266\053\026\043  
\300\237\037\133\343\326\104\136\042\117\043\004\214\065\026\265  
\171\007\206\134\057\227\342\366\010\144\246\334\333\250\212\343  
\244\173\167\015\321\051\223\050\040\264\123\243\113\116\137\336  
\301\366\165\043\374\037\074\170\117\160\061\170\057\242\065\124  
\161\004\254\310\304\155\303\366\221\261\376\315\356\104\156\201  
\366\100\305\076\052\001\277\253\114\261\003\077\015\021\344\017  
\322\044\343\042\210\233\237\137\107\075\121\111\340\011\067\176  
\027\041\061\166\267\147\161\110\050\113\045\327\020\350\237\141  
\131\026\305\076\062\116\037\014\316\243\314\017\344\307\021\007  
\042\057\070\010\335\133\227\353\102\154\131\232\232\356\172\320  
\235\337\305\333\011\103\056\012\252\031\075\153\350\152\060\172  
\127\346\277\263\152\071\251\217\343\361\117\145\150\266\275\237  
\050\217\241\026\132\011\120\072\062\056\035\057\104\021\102\246  
\000\346\061\230\377\055\241\017\346\244\140\126\317\171\327\262  
\116\327\260\372\156\014\127\043\307\316\037\245\261\114\155\031  
\111\236\016\177\160\217\161\077\130\050\237\165\335\141\340\072  
\267\071\266\356\227\324\065\121\373\213\111\140\310\074\146\256  
\227\356\215\046\131\127\273\170\360\172\120\060\011\260\140\252  
\237\116\334\311\076\036\072\334\142\223\063\260\072\124\164\157  
\054\061\105\321\153\021\062\152\150\166\366\075\366\152\023\136  
\044\230\347\352\035\232\317\170\202\007\140\367\115\020\323\201  
\232\105\215\236\257\233\334\200\307\103\262\225\150\244\303\016  
\350\012\107\025\277\124\063\334\001\347\325\246\036\163\330\172  
\262\277\057\255\343\125\060\236\337\016\101\274\340\021\365\241  
\014\250\042\341\343\000\243\116\160\174\222\343\004\321\172\102  
\212\165\220\131\343\233\321\114\242\144\275\163\171\233\157\362  
\263\301\366\074

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

```

Trust for "GlobalSign Secure Mail Root R45"
Issuer: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE
Serial Number:76:53:fe:a8:4c:50:ab:9f:8d:32:b5:1d:03:8f:57:dc
Subject: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE
Not Valid Before: Wed Mar 18 00:00:00 2020
Not Valid After : Sat Mar 18 00:00:00 2045
Fingerprint (SHA-256):
31:9A:F0:A7:72:9E:6F:89:26:9C:13:1E:A6:A3:A1:6F:CD:86:38:9F:DC:AB:3C:47:A4:A6:75:C1:61:A3:F9:74
Fingerprint (SHA1): 76:18:D1:F3:80:24:3D:52:40:C6:11:6A:AD:57:77:09:7D:81:30:A0
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE
CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Secure Mail Root R45"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\166\030\321\363\200\044\075\122\100\306\021\152\255\127\167\011
\175\201\060\240
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\223\304\173\263\016\124\107\034\103\054\213\276\160\205\142\051
END
CKA_ISSUER MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\122\064\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\166\123\376\250\114\120\253\237\215\062\265\035\003\217
\127\334
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL
CK_FALSE

#
Certificate "GlobalSign Secure Mail Root E45"
#
Issuer: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE
Serial Number:76:53:fe:aa:27:1d:95:46:5d:d6:f1:9e:e5:b8:90:0a
Subject: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE
Not Valid Before: Wed Mar 18 00:00:00 2020
Not Valid After : Sat Mar 18 00:00:00 2045

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```
Fingerprint (SHA-256):
5C:BF:6F:B8:1F:D4:17:EA:41:28:CD:6F:81:72:A3:C9:40:20:94:F7:4A:B2:ED:3A:06:B4:40:5D:04:F3:0B:19
Fingerprint (SHA1): 18:2E:1F:32:4F:89:DF:BE:FE:88:89:F0:93:C2:C4:A0:2B:67:75:21
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Secure Mail Root E45"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\105\064\065
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\105\064\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\166\123\376\252\047\035\225\106\135\326\361\236\345\270
\220\012
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\041\060\202\001\247\240\003\002\001\002\002\020\166
\123\376\252\047\035\225\106\135\326\361\236\345\270\220\012\060
\012\006\010\052\206\110\316\075\004\003\003\060\122\061\013\060
\011\006\003\125\004\006\023\002\102\105\061\031\060\027\006\003
\125\004\012\023\020\107\154\157\142\141\154\123\151\147\156\040
\156\166\055\163\141\061\050\060\046\006\003\125\004\003\023\037
\107\154\157\142\141\154\123\151\147\156\040\123\145\143\165\162
\145\040\115\141\151\154\040\122\157\157\164\040\105\064\065\060
\036\027\015\062\060\060\063\061\070\060\060\060\060\060\060\132
\027\015\064\065\060\063\061\070\060\060\060\060\060\060\132\060
\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061\031
\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154\123
\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003\125
\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040\123
\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164\040
\105\064\065\060\166\060\020\006\007\052\206\110\316\075\002\001
```

```
\006\005\053\201\004\000\042\003\142\000\004\371\171\213\201\107
\067\211\226\077\105\111\120\177\032\046\013\223\062\176\056\300
\300\247\010\232\303\156\217\233\076\013\042\354\067\123\267\157
\212\260\274\047\067\113\155\251\106\073\331\037\377\245\241\104
\273\055\163\277\236\101\007\134\123\233\121\010\072\132\273\157
\070\307\026\221\170\302\112\023\151\035\202\337\132\057\000\210
\226\242\056\034\164\371\235\176\146\067\212\243\102\060\100\060
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\035\006\003\125\035\016\004\026\004\024\337\023\136\213\137
\302\100\002\375\126\267\224\114\266\036\325\246\261\024\226\060
\012\006\010\052\206\110\316\075\004\003\003\003\150\000\060\145
\002\060\023\260\276\327\161\040\076\344\253\234\316\066\022\175
\137\114\037\052\265\151\105\063\137\323\055\132\262\344\210\307
\336\012\066\102\062\171\235\246\153\272\341\371\104\052\173\212
\303\022\002\061\000\240\146\034\116\207\235\207\311\355\231\114
\033\012\356\055\140\303\067\307\035\315\265\162\260\331\306\357
\274\362\377\077\360\122\335\010\347\252\144\171\303\344\151\127
\221\057\244\313\174
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign Secure Mail Root E45"

# Issuer: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE

# Serial Number:76:53:fe:aa:27:1d:95:46:5d:d6:f1:9e:e5:b8:90:0a

# Subject: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE

# Not Valid Before: Wed Mar 18 00:00:00 2020

# Not Valid After : Sat Mar 18 00:00:00 2045

# Fingerprint (SHA-256):

5C:BF:6F:B8:1F:D4:17:EA:41:28:CD:6F:81:72:A3:C9:40:20:94:F7:4A:B2:ED:3A:06:B4:40:5D:04:F3:0B:19

# Fingerprint (SHA1): 18:2E:1F:32:4F:89:DF:BE:FE:88:89:F0:93:C2:C4:A0:2B:67:75:21

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GlobalSign Secure Mail Root E45"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\030\056\037\062\117\211\337\276\376\210\211\360\223\302\304\240
\053\147\165\041
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\305\374\306\056\237\364\122\055\052\250\244\272\373\147\062\377
```

END

CKA\_ISSUER

```

MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\105\064\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\166\123\376\252\047\035\225\106\135\326\361\236\345\270
\220\012
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GlobalSign Root R46"
#
Issuer: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE
Serial Number:11:d2:bb:b9:d7:23:18:9e:40:5f:0a:9d:2d:d0:df:25:67:d1
Subject: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE
Not Valid Before: Wed Mar 20 00:00:00 2019
Not
 Valid After : Tue Mar 20 00:00:00 2046
Fingerprint (SHA-256):
4F:A3:12:6D:8D:3A:11:D1:C4:85:5A:4F:80:7C:BA:D6:CF:91:9D:3A:5A:88:B0:3B:EA:2C:63:72:D9:3C:40:C9
Fingerprint (SHA1): 53:A2:B0:4B:CA:6B:D6:45:E6:39:8A:8E:C4:0D:D2:BF:77:C3:A2:90
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root R46"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\122\064\066
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040

```

\122\157\157\164\040\122\064\066

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\022\021\322\273\271\327\043\030\236\100\137\012\235\055\320  
\337\045\147\321

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\132\060\202\003\102\240\003\002\001\002\002\022\021  
\322\273\271\327\043\030\236\100\137\012\235\055\320\337\045\147  
\321\060\015\006\011\052\206\110\206\367\015\001\001\014\005\000  
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061  
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154  
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003  
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040  
\122\157\157\164\040\122\064\066\060\036\027\015\061\071\060\063  
\062\060\060\060\060\060\060\060\132\027\015\064\066\060\063\062  
\060\060\060\060\060\060\060\132\060\106\061\013\060\011\006\003  
\125\004\006\023\002\102\105\061\031\060\027\006\003\125\004\012  
\023\020\107\154\157\142\141\154\123\151\147\156\040\156\166\055  
\163\141\061\034\060\032\006\003\125\004\003\023\023\107\154\157  
\142\141\154\123\151\147\156\040\122\157\157\164\040\122\064\066  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\254\254\164\062\350\263\145\345\272\355\103\046\035\246\211  
\015\105\272\051\210\262\244\035\143\335\323\301\054\011\127\211  
\071\241\125\351\147\064\167\014\156\344\125\035\122\045\322\023  
\153\136\341\035\251\267\175\211\062\137\015\236\237\054\172\143  
\140\100\037\246\260\266\170\217\231\124\226\010\130\256\344\006  
\274\142\005\002\026\277\257\250\043\003\266\224\017\274\156\154  
\302\313\325\246\273\014\351\366\301\002\373\041\336\146\335\027  
\253\164\102\357\360\164\057\045\364\352\153\125\133\220\333\235  
\337\136\207\012\100\373\255\031\153\373\367\312\140\210\336\332  
\301\217\326\256\325\177\324\074\203\356\327\026\114\203\105\063  
\153\047\320\206\320\034\055\153\363\253\175\361\205\251\365\050  
\322\255\357\363\204\113\034\207\374\023\243\072\162\242\132\021  
\053\326\047\161\047\355\201\055\155\146\201\222\207\264\033\130  
\172\314\077\012\372\106\117\115\170\134\370\053\110\343\004\204  
\313\135\366\264\152\263\145\374\102\236\121\046\043\040\313\075  
\024\371\201\355\145\026\000\117\032\144\227\146\010\317\214\173  
\343\053\300\235\371\024\362\033\361\126\152\026\277\054\205\205  
\315\170\070\232\353\102\152\002\064\030\203\027\116\224\126\370  
\266\202\265\363\226\335\075\363\276\177\040\167\076\173\031\043  
\153\054\324\162\163\103\127\175\340\370\327\151\117\027\066\004  
\371\300\220\140\067\105\336\346\014\330\164\215\256\234\242\155  
\164\135\102\276\006\365\331\144\156\002\020\254\211\260\114\073  
\007\115\100\176\044\305\212\230\202\171\216\244\247\202\040\215  
\043\372\047\161\311\337\306\101\164\240\115\366\221\026\334\106

\214\137\051\143\061\131\161\014\330\157\302\266\062\175\373\346  
\135\123\246\176\025\374\273\165\174\135\354\370\366\027\034\354  
\307\153\031\313\363\173\360\053\007\245\331\154\171\124\166\154  
\235\034\246\156\016\351\171\014\250\043\152\243\337\033\060\061  
\237\261\124\173\376\152\313\146\252\334\145\320\242\236\112\232  
\007\041\153\201\217\333\304\131\372\336\042\300\004\234\343\252  
\133\066\223\350\075\275\172\241\235\013\166\261\013\307\235\375  
\317\230\250\006\302\370\052\243\241\203\240\267\045\162\245\002  
\343\002\003\001\000\001\243\102\060\100\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125  
\035\016\004\026\004\024\003\134\253\163\201\207\250\314\260\246  
\325\224\342\066\226\111\377\005\231\054\060\015\006\011\052\206  
\110\206\367\015\001\001\014\005\000\003\202\002\001\000\174\170  
\354\366\002\054\273\133\176\222\053\135\071\334\276\330\035\242  
\102\063\115\371\357\244\052\073\104\151\036\254\331\105\243\116  
\074\247\330\044\121\262\124\034\223\116\304\357\173\223\205\140  
\046\352\011\110\340\365\273\307\351\150\322\273\152\061\161\314  
\171\256\021\250\360\231\375\345\037\274\057\250\314\127\353\166  
\304\041\246\107\123\125\115\150\277\005\244\356\327\046\253\142  
\332\103\067\113\342\306\265\345\262\203\031\072\307\323\333\115  
\236\010\172\363\356\317\076\142\373\254\350\140\314\321\307\241  
\134\203\105\304\105\314\363\027\153\024\311\004\002\076\322\044  
\246\171\351\036\316\242\347\301\131\025\237\035\342\113\232\076  
\237\166\010\055\153\330\272\127\024\332\203\352\376\214\125\351  
\320\116\251\314\167\061\261\104\021\172\134\261\076\323\024\105  
\025\030\142\044\023\322\313\115\316\134\203\301\066\362\020\265  
\016\210\155\270\341\126\237\211\336\226\146\071\107\144\054\156  
\115\256\142\173\277\140\164\031\270\126\254\222\254\026\062\355  
\255\150\125\376\230\272\323\064\336\364\311\141\303\016\206\366  
\113\204\140\356\015\173\265\062\130\171\221\125\054\201\103\263  
\164\037\172\252\045\236\035\327\241\213\271\315\102\056\004\244  
\146\203\115\211\065\266\154\250\066\112\171\041\170\042\320\102  
\274\321\100\061\220\241\276\004\317\312\147\355\365\360\200\323  
\140\311\203\052\042\005\320\007\073\122\277\014\236\252\053\371  
\273\346\037\217\045\272\205\215\027\036\002\376\135\120\004\127  
\317\376\055\274\357\134\300\032\253\266\237\044\306\337\163\150  
\110\220\054\024\364\077\122\032\344\322\313\024\303\141\151\317  
\342\371\030\305\272\063\237\024\243\004\135\271\161\367\265\224  
\330\366\063\301\132\301\064\213\174\233\335\223\072\347\023\242  
\160\141\237\257\217\353\330\305\165\370\063\146\324\164\147\072  
\067\167\234\347\335\244\017\166\103\146\212\103\362\237\373\014  
\102\170\143\321\342\017\157\173\324\241\075\164\227\205\267\110  
\071\101\326\040\374\320\072\263\372\350\157\304\212\272\161\067  
\276\213\227\261\170\061\117\263\347\266\003\023\316\124\235\256  
\045\131\314\177\065\137\010\367\100\105\061\170\052\172

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

```

CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

#
Trust for "GlobalSign Root R46"
Issuer: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE
Serial Number:11:d2:bb:b9:d7:23:18:9e:40:5f:0a:9d:2d:d0:df:25:67:d1
Subject: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE
Not Valid Before: Wed Mar 20 00:00:00 2019
Not Valid After : Tue Mar 20 00:00:00 2046
Fingerprint (SHA-256):
4F:A3:12:6D:8D:3A:11:D1:C4:85:5A:4F:80:7C:BA:D6:CF:91:9D:3A:5A:88:B0:3B:EA:2C:63:72:D9:3C:40:C9
Fingerprint (SHA1): 53:A2:B0:4B:CA:6B:D6:45:E6:39:8A:8E:C4:0D:D2:BF:77:C3:A2:90
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root R46"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\123\242\260\113\312\153\326\105\346\071\212\216\304\015\322\277
\167\303\242\220
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\304\024\060\344\372\146\103\224\052\152\033\044\137\031\320\357
END
CKA_ISSUER MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\122\064\066
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\022\021\322\273\271\327\043\030\236\100\137\012\235\055\320
\337\045\147\321
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GlobalSign Root E46"
#
Issuer: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE
Serial Number:11:d2:bb:ba:33:6e:d4:bc:e6:24:68:c5:0d:84:1d:98:e8:43

```



```
Subject: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE
Not Valid Before: Wed Mar 20 00:00:00 2019
Not Valid After : Tue Mar 20 00:00:00 2046
Fingerprint (SHA-256):
CB:B9:C4:4D:84:B8:04:3E:10:50:EA:31:A6:9F:51:49:55:D7:BF:D2:E2:C6:B4:93:01:01:9A:D6:1D:9F:50:58
#
Fingerprint (SHA1): 39:B4:6C:D5:FE:80:06:EB:E2:2F:4A:BB:08:33:A0:AF:DB:B9:DD:84
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root E46"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\105\064\066
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\105\064\066
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\022\021\322\273\272\063\156\324\274\346\044\150\305\015\204
\035\230\350\103
END
CKA_VALUE
MULTILINE_OCTAL
\060\202\002\013\060\202\001\221\240\003\002\001\002\002\022\021
\322\273\272\063\156\324\274\346\044\150\305\015\204\035\230\350
\103\060\012\006\010\052\206\110\316\075\004\003\003\060\106\061
\013\060\011\006\003\125\004\006\023\002\102\105\061\031\060\027
\006\003\125\004\012\023\020\107\154\157\142\141\154\123\151\147
\156\040\156\166\055\163\141\061\034\060\032\006\003\125\004\003
\023\023\107\154\157\142\141\154\123\151\147\156\040\122\157\157
\164\040\105\064\066\060\036\027\015\061\071\060\063\062\060\060
\060\060\060\060\060\132\027\015\064\066\060\063\062\060\060\060
\060\060\060\060\132\060\106\061\013\060\011\006\003\125\004\006
\023\002\102\105\061\031\060\027\006\003\125\004\012\023\020\107
\154\157\142\141\154\123\151\147\156\040\156\166\055\163\141\061
\034\060\032\006\003\125\004\003\023\023\107\154\157\142\141\154
\123\151\147\156\040\122\157\157\164\040\105\064\066\060\166\060
```

```
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000
\042\003\142\000\004\234\016\261\317\267\350\236\122\167\165\064
\372\245\106\247\255\062\031\062\264\007\251\047\312\224\273\014
\322\012\020\307\332\211\260\227\014\160\023\011\001\216\330\352
\107\352\276\262\200\053\315\374\050\015\333\254\274\244\206\067
\355\160\010\000\165\352\223\013\173\056\122\234\043\150\043\006
\103\354\222\057\123\204\333\373\107\024\007\350\137\224\147\135
\311\172\201\074\040\243\102\060\100\060\016\006\003\125\035\017
\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035
\016\004\026\004\024\061\012\220\217\266\306\235\322\104\113\200
\265\242\346\037\261\022\117\033\225\060\012\006\010\052\206\110
\316\075\004\003\003\003\150\000\060\145\002\061\000\337\124\220
\355\233\357\213\224\002\223\027\202\231\276\263\236\054\366\013
\221\214\237\112\024\261\366\144\274\273\150\121\023\014\003\367
\025\213\204\140\271\213\377\122\216\347\214\274\034\002\060\074
\371\021\324\214\116\300\301\141\302\025\114\252\253\035\013\061
\137\073\034\342\000\227\104\061\346\376\163\226\057\332\226\323
\376\010\007\263\064\211\274\005\237\367\036\206\356\213\160
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign Root E46"

# Issuer: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE

# Serial Number:11:d2:bb:ba:33:6e:d4:bc:e6:24:68:c5:0d:84:1d:98:e8:43

# Subject: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE

# Not Valid Before: Wed Mar 20 00:00:00 2019

# Not Valid After : Tue Mar 20 00:00:00 2046

# Fingerprint (SHA-256):

CB:B9:C4:4D:84:B8:04:3E:10:50:EA:31:A6:9F:51:49:55:D7:BF:D2:E2:C6:B4:93:01:01:9A:D6:1D:9F:50:58

# Fingerprint (SHA1): 39:B4:6C:D5:FE:80:06:EB:E2:2F:4A:BB:08:33:A0:AF:DB:B9:DD:84

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL

CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GlobalSign Root E46"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\071\264\154\325\376\200\006\353\342\057\112\273\010\063\240\257
\333\271\335\204
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\265\270\146\355\336\010\203\343\311\342\001\064\006\254\121\157
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\105\064\066
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\022\021\322\273\272\063\156\324\274\346\044\150\305\015\204
\035\230\350\103
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "GLOBALTRUST

2020"

#

# Issuer: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT

# Serial Number:5a:4b:bd:5a:fb:4f:8a:5b:fa:65:e5

# Subject: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT

# Not Valid Before: Mon Feb 10 00:00:00 2020

# Not Valid After : Sun Jun 10 00:00:00 2040

# Fingerprint (SHA-256):

9A:29:6A:51:82:D1:D4:51:A2:E3:7F:43:9B:74:DA:AF:A2:67:52:33:29:F9:0F:9A:0D:20:07:C3:34:E2:3C:9A

# Fingerprint (SHA1): D0:67:C1:13:51:01:0C:AA:D0:C7:6A:65:37:31:16:26:4F:53:71:A2

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GLOBALTRUST 2020"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\115\061\013\060\011\006\003\125\004\006\023\002\101\124\061
\043\060\041\006\003\125\004\012\023\032\145\055\143\157\155\155
\145\162\143\145\040\155\157\156\151\164\157\162\151\156\147\040
\107\155\142\110\061\031\060\027\006\003\125\004\003\023\020\107
\114\117\102\101\114\124\122\125\123\124\040\062\060\062\060
```

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\115\061\013\060\011\006\003\125\004\006\023\002\101\124\061
\043\060\041\006\003\125\004\012\023\032\145\055\143\157\155\155
\145\162\143\145\040\155\157\156\151\164\157\162\151\156\147\040
\107\155\142\110\061\031\060\027\006\003\125\004\003\023\020\107
\114\117\102\101\114\124\122\125\123\124\040\062\060\062\060
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\013\132\113\275\132\373\117\212\133\372\145\345

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\202\060\202\003\152\240\003\002\001\002\002\013\132  
\113\275\132\373\117\212\133\372\145\345\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\060\115\061\013\060\011\006  
\003\125\004\006\023\002\101\124\061\043\060\041\006\003\125\004  
\012\023\032\145\055\143\157\155\155\145\162\143\145\040\155\157  
\156\151\164\157\162\151\156\147\040\107\155\142\110\061\031\060  
\027\006\003\125\004\003\023\020\107\114\117\102\101\114\124\122  
\125\123\124\040\062\060\062\060\060\060\036\027\015\062\060\060\062  
\061\060\060\060\060\060\060\060\132\027\015\064\060\060\066\061  
\060\060\060\060\060\060\060\132\060\115\061\013\060\011\006\003  
\125\004\006\023\002\101\124\061\043\060\041\006\003\125\004\012  
\023\032\145\055\143\157\155\155\145\162\143\145\040\155\157\156  
\151\164\157\162\151\156\147\040\107\155\142\110\061\031\060\027  
\006\003\125\004\003\023\020\107\114\117\102\101\114\124\122\125  
\123\124\040\062\060\062\060\060\202\002\042\060\015\006\011\052  
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060  
\202\002\012\002\202\002\001\000\256\056\126\255\033\034\357\366  
\225\217\240\167\033\053\323\143\217\204\115\105\242\017\237\133  
\105\253\131\173\121\064\371\354\213\212\170\305\335\153\257\275  
\304\337\223\105\036\277\221\070\013\256\016\026\347\101\163\370  
\333\273\321\270\121\340\313\203\073\163\070\156\167\212\017\131  
\143\046\315\247\052\316\124\373\270\342\300\174\107\316\140\174  
\077\262\163\362\300\031\266\212\222\207\065\015\220\050\242\344  
\025\004\143\076\272\257\356\174\136\314\246\213\120\262\070\367  
\101\143\312\316\377\151\217\150\016\225\066\345\314\271\214\011  
\312\113\335\061\220\226\310\314\037\375\126\226\064\333\216\034  
\352\054\276\205\056\143\335\252\251\225\323\375\051\225\023\360  
\310\230\223\331\055\026\107\220\021\203\242\072\042\242\050\127  
\242\353\376\300\214\050\240\246\175\347\052\102\073\202\200\143  
\245\143\037\031\314\174\262\146\250\302\323\155\067\157\342\176  
\006\121\331\105\204\037\022\316\044\122\144\205\013\110\200\116  
\207\261\042\042\060\252\353\256\276\340\002\340\100\350\260\102  
\200\003\121\252\264\176\252\104\327\103\141\363\242\153\026\211  
\111\244\243\244\053\212\002\304\170\364\150\212\301\344\172\066  
\261\157\033\226\033\167\111\215\324\311\006\162\217\317\123\343  
\334\027\205\040\112\334\230\047\323\221\046\053\107\036\151\007  
\257\336\242\344\344\324\153\013\263\136\174\324\044\200\107\051  
\151\073\156\350\254\375\100\353\330\355\161\161\053\362\350\130  
\035\353\101\227\042\305\037\324\071\320\047\217\207\343\030\364  
\340\251\106\015\365\164\072\202\056\320\156\054\221\243\061\134  
\073\106\352\173\004\020\126\136\200\035\365\245\145\350\202\374  
\342\007\214\142\105\365\040\336\106\160\206\241\274\223\323\036  
\164\246\154\260\054\367\003\014\210\014\313\324\162\123\206\274

\140\106\363\230\152\302\361\277\103\371\160\040\167\312\067\101  
\171\125\122\143\215\133\022\237\305\150\304\210\235\254\362\060  
\253\267\243\061\227\147\255\217\027\017\154\307\163\355\044\224  
\153\310\203\232\320\232\067\111\004\253\261\026\310\154\111\111  
\055\253\241\320\214\222\362\101\112\171\041\045\333\143\327\266  
\234\247\176\102\151\373\072\143\002\003\001\000\001\243\143\060  
\141\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\006\060\035\006\003\125\035\016\004\026\004\024\334\056\037  
\321\141\067\171\344\253\325\325\263\022\161\150\075\152\150\234  
\042\060\037\006\003\125\035\043\004\030\060\026\200\024\334\056  
\037\321\141\067\171\344\253\325\325\263\022\161\150\075\152\150  
\234\042\060\015\006\011\052\206\110\206\367\015\001\001\013\005  
\000\003\202\002\001\000\221\360\102\002\150\100\356\303\150\300  
\124\057\337\354\142\303\303\236\212\240\061\050\252\203\216\244  
\126\226\022\020\206\126\272\227\162\322\124\060\174\255\031\325  
\035\150\157\373\024\102\330\215\016\363\265\321\245\343\002\102  
\136\334\350\106\130\007\065\002\060\340\274\164\112\301\103\052  
\377\333\032\320\260\257\154\303\375\313\263\365\177\155\003\056  
\131\126\235\055\055\065\214\262\326\103\027\054\222\012\313\135  
\350\214\017\113\160\103\320\202\377\250\314\277\244\224\300\276  
\207\275\212\343\223\173\306\217\233\026\235\047\145\274\172\305  
\102\202\154\134\007\320\251\301\210\140\104\351\230\205\026\137  
\370\217\312\001\020\316\045\303\371\140\033\240\305\227\303\323  
\054\210\061\242\275\060\354\320\320\300\022\361\301\071\343\345  
\365\370\326\112\335\064\315\373\157\301\117\343\000\213\126\342  
\222\367\050\262\102\167\162\043\147\307\077\021\025\262\304\003  
\005\276\273\021\173\012\277\250\156\347\377\130\103\317\233\147  
\240\200\007\266\035\312\255\155\352\101\021\176\055\164\223\373  
\302\274\276\121\104\305\357\150\045\047\200\343\310\240\324\022  
\354\331\245\067\035\067\174\264\221\312\332\324\261\226\201\357  
\150\134\166\020\111\257\176\245\067\200\261\034\122\275\063\201  
\114\217\371\335\145\331\024\315\212\045\130\364\342\305\203\245  
\011\220\324\154\024\143\265\100\337\353\300\374\304\130\176\015  
\024\026\207\124\047\156\126\344\160\204\270\154\062\022\176\202  
\061\103\276\327\335\174\241\255\256\326\253\040\022\357\012\303  
\020\214\111\226\065\334\013\165\136\261\117\325\117\064\016\021  
\040\007\165\103\105\351\243\021\332\254\243\231\302\266\171\047  
\342\271\357\310\342\366\065\051\172\164\372\305\177\202\005\142  
\246\012\352\150\262\171\107\006\156\362\127\250\025\063\306\367  
\170\112\075\102\173\153\176\376\367\106\352\321\353\216\357\210  
\150\133\350\301\331\161\176\375\144\357\377\147\107\210\130\045  
\057\076\206\007\275\373\250\345\202\250\254\245\323\151\103\315  
\061\210\111\204\123\222\300\261\071\033\071\203\001\060\304\362  
\251\372\320\003\275\162\067\140\126\037\066\174\275\071\221\365  
\155\015\277\173\327\222

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

```

CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "GLOBALTRUST 2020"
Issuer: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT
Serial Number:5a:4b:bd:5a:fb:4f:8a:5b:fa:65:e5
Subject: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT
Not Valid Before: Mon Feb 10 00:00:00 2020
Not Valid After : Sun Jun 10 00:00:00 2040
Fingerprint (SHA-256):
9A:29:6A:51:82:D1:D4:51:A2:E3:7F:43:9B:74:DA:AF:A2:67:52:33:29:F9:0F:9A:0D:20:07:C3:34:E2:3C:9A
Fingerprint (SHA1): D0:67:C1:13:51:01:0C:AA:D0:C7:6A:65:37:31:16:26:4F:53:71:A2
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE
CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GLOBALTRUST 2020"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\320\147\301\023\121\001\014\252\320\307\152\145\067\061\026\046
\117\123\161\242
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\212\307\157\313\155\343\314\242\361\174\203\372\016\170\327\350
END
CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\101\124\061
\043\060\041\006\003\125\004\012\023\032\145\055\143\157\155\155
\145\162\143\145\040\155\157\156\151\164\157\162\151\156\147\040
\107\155\142\110\061\031\060\027\006\003\125\004\003\023\020\107
\114\117\102\101\114\124\122\125\123\124\040\062\060\062\060
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\132\113\275\132\373\117\212\133\372\145\345
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "ANF
Secure Server Root CA"
#
Issuer: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de
Certificacion,C=ES,serialNumber=G63287510
Serial Number:0d:d3:e3:bc:6c:f9:6b:b1

```

```
Subject: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de
Certificacion,C=ES,serialNumber=G63287510
Not Valid Before: Wed Sep 04 10:00:38 2019
Not Valid After : Tue Aug 30 10:00:38 2039
Fingerprint (SHA-256):
FB:8F:EC:75:91:69:B9:10:6B:1E:51:16:44:C6:18:C5:13:04:37:3F:6C:06:43:08:8D:8B:EF:FD:1B:99:75:99
Fingerprint (SHA1): 5B:6E:68:D0:CC:15:B6:A0:5F:1E:C1:5F:AE:02:FC:6B:2F:5D:6F:74
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ANF Secure Server Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\204\061\022\060\020\006\003\125\004\005\023\011\107\066
\063\062\070\067\065\061\060\061\013\060\011\006\003\125\004\006
\023\002\105\123\061\047\060\045\006\003\125\004\012\023\036\101
\116\106\040\101\165\164\157\162\151\144\141\144\040\144\145\040
\103\145\162\164\151\146\151\143\141\143\151\157\156\061\024\060
\022\006\003\125\004\013\023\013\101\116\106\040\103\101\040\122
\141\151\172\061\042\060\040\006\003\125\004\003\023\031\101\116
\106\040\123\145\143\165\162\145\040\123\145\162\166\145\162\040
\122\157\157\164\040\103\101
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\204\061\022\060\020\006\003\125\004\005\023\011\107\066
\063\062\070\067\065\061\060\061\013\060\011\006\003\125\004\006
\023\002\105\123\061\047\060\045\006\003\125\004\012\023\036\101
\116\106\040\101\165\164\157\162\151\144\141\144\040\144\145\040
\103\145\162\164\151\146\151\143\141\143\151\157\156\061\024\060
\022\006\003\125\004\013\023\013\101\116\106\040\103\101\040\122
\141\151\172\061\042\060\040\006\003\125\004\003\023\031\101\116
\106\040\123\145\143\165\162\145\040\123\145\162\166\145\162\040
\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\010\015\323\343\274\154\371\153\261
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\357\060\202\003\327\240\003\002\001\002\002\010\015
\323\343\274\154\371\153\261\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\201\204\061\022\060\020\006\003\125
\004\005\023\011\107\066\063\062\070\067\065\061\060\061\013\060
\011\006\003\125\004\006\023\002\105\123\061\047\060\045\006\003
\125\004\012\023\036\101\116\106\040\101\165\164\157\162\151\144
```

\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141\143  
\151\157\156\061\024\060\022\006\003\125\004\013\023\013\101\116  
\106\040\103\101\040\122\141\151\172\061\042\060\040\006\003\125  
\004\003\023\031\101\116\106\040\123\145\143\165\162\145\040\123  
\145\162\166\145\162\040\122\157\157\164\040\103\101\060\036\027  
\015\061\071\060\071\060\064\061\060\060\060\063\070\132\027\015  
\063\071\060\070\063\060\061\060\060\060\063\070\132\060\201\204  
\061\022\060\020\006\003\125\004\005\023\011\107\066\063\062\070  
\067\065\061\060\061\013\060\011\006\003\125\004\006\023\002\105  
\123\061\047\060\045\006\003\125\004\012\023\036\101\116\106\040  
\101\165\164\157\162\151\144\141\144\040\144\145\040\103\145\162  
\164\151\146\151\143\141\143\151\157\156\061\024\060\022\006\003  
\125\004\013\023\013\101\116\106\040\103\101\040\122\141\151\172  
\061\042\060\040\006\003\125\004\003\023\031\101\116\106\040\123  
\145\143\165\162\145\040\123\145\162\166\145\162\040\122\157\157  
\164\040\103\101\060\202\002\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012  
\002\202\002\001\000\333\353\153\053\346\144\124\225\202\220\243  
\162\244\031\001\235\234\013\201\137\163\111\272\247\254\363\004  
\116\173\226\013\354\021\340\133\246\034\316\033\322\015\203\034  
\053\270\236\035\176\105\062\140\017\007\351\167\130\176\237\152  
\310\141\116\266\046\301\114\215\377\114\357\064\262\037\145\330  
\271\170\365\255\251\161\271\357\117\130\035\245\336\164\040\227  
\241\355\150\114\336\222\027\113\274\253\377\145\232\236\373\107  
\331\127\162\363\011\241\256\166\104\023\156\234\055\104\071\274  
\371\307\073\244\130\075\101\275\264\302\111\243\310\015\322\227  
\057\007\145\122\000\247\156\310\257\150\354\364\024\226\266\127  
\037\126\303\071\237\053\155\344\363\076\366\065\144\332\014\034  
\241\204\113\057\113\113\342\054\044\235\155\223\100\353\265\043  
\216\062\312\157\105\323\250\211\173\036\317\036\372\133\103\213  
\315\315\250\017\152\312\014\136\271\236\107\217\360\331\266\012  
\013\130\145\027\063\271\043\344\167\031\175\313\112\056\222\173  
\117\057\020\167\261\215\057\150\234\142\314\340\120\370\354\221  
\247\124\114\127\011\325\166\143\305\350\145\036\356\155\152\317  
\011\235\372\174\117\255\140\010\375\126\231\017\025\054\173\251  
\200\253\214\141\217\112\007\166\102\336\075\364\335\262\044\063  
\133\270\265\243\104\311\254\177\167\074\035\043\354\202\251\246  
\342\310\006\114\002\376\254\134\231\231\013\057\020\212\246\364  
\177\325\207\164\015\131\111\105\366\360\161\134\071\051\326\277  
\112\043\213\365\137\001\143\322\207\163\050\265\113\012\365\370  
\253\202\054\176\163\045\062\035\013\143\012\027\201\000\377\266  
\166\136\347\264\261\100\312\041\273\325\200\121\345\110\122\147  
\054\322\141\211\007\015\017\316\102\167\300\104\163\234\104\120  
\240\333\020\012\055\225\034\201\257\344\034\345\024\036\361\066  
\101\001\002\057\175\163\247\336\102\314\114\351\211\015\126\367  
\237\221\324\003\306\154\311\217\333\330\034\340\100\230\135\146  
\231\230\200\156\055\377\001\305\316\313\106\037\254\002\306\103  
\346\256\242\204\074\305\116\036\075\155\311\024\114\343\056\101



\273\312\071\277\066\074\052\031\252\101\207\116\245\316\113\062  
\171\335\220\111\177\002\003\001\000\001\243\143\060\141\060\037  
\006\003\125\035\043\004\030\060\026\200\024\234\137\320\154\143  
\243\137\223\312\223\230\010\255\214\207\245\054\134\301\067\060  
\035\006\003\125\035\016\004\026\004\024\234\137\320\154\143\243  
\137\223\312\223\230\010\255\214\207\245\054\134\301\067\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202  
\002\001\000\116\036\271\212\306\240\230\077\156\303\151\300\152  
\134\111\122\254\313\053\135\170\070\301\325\124\204\237\223\360  
\207\031\075\054\146\211\353\015\102\374\314\360\165\205\077\213  
\364\200\135\171\345\027\147\275\065\202\342\362\074\216\175\133  
\066\313\132\200\000\051\362\316\053\054\361\217\252\155\005\223  
\154\162\307\126\353\337\120\043\050\345\105\020\075\350\147\243  
\257\016\125\017\220\011\142\357\113\131\242\366\123\361\300\065  
\344\057\301\044\275\171\057\116\040\042\073\375\032\040\260\244  
\016\054\160\355\164\077\270\023\225\006\121\310\350\207\046\312  
\244\133\152\026\041\222\335\163\140\236\020\030\336\074\201\352  
\350\030\303\174\211\362\213\120\076\275\021\342\025\003\250\066  
\175\063\001\154\110\025\327\210\220\231\004\305\314\346\007\364  
\274\364\220\355\023\342\352\213\303\217\243\063\017\301\051\114  
\023\116\332\025\126\161\163\162\202\120\366\232\063\174\242\261  
\250\032\064\164\145\134\316\321\353\253\123\340\032\200\330\352  
\072\111\344\046\060\233\345\034\212\250\251\025\062\206\231\222  
\012\020\043\126\022\340\366\316\114\342\273\276\333\215\222\163  
\001\146\057\142\076\262\162\047\105\066\355\115\126\343\227\231  
\377\072\065\076\245\124\112\122\131\113\140\333\356\376\170\021  
\177\112\334\024\171\140\266\153\144\003\333\025\203\341\242\276  
\366\043\227\120\360\011\063\066\247\161\226\045\363\271\102\175  
\333\070\077\054\130\254\350\102\341\016\330\323\073\114\056\202  
\351\203\056\153\061\331\335\107\206\117\155\227\221\056\117\342  
\050\161\065\026\321\362\163\376\045\053\007\107\044\143\047\310  
\370\366\331\153\374\022\061\126\010\300\123\102\257\234\320\063  
\176\374\006\360\061\104\003\024\361\130\352\362\152\015\251\021  
\262\203\276\305\032\277\007\352\131\334\243\210\065\357\234\166  
\062\074\115\006\042\316\025\345\335\236\330\217\332\336\322\304  
\071\345\027\201\317\070\107\353\177\210\155\131\033\337\237\102  
\024\256\176\317\250\260\146\145\332\067\257\237\252\075\352\050  
\266\336\325\061\130\026\202\133\352\273\031\165\002\163\032\312  
\110\032\041\223\220\012\216\223\204\247\175\073\043\030\222\211  
\240\215\254

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

```

Trust for "ANF Secure Server Root CA"
Issuer: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de
Certificacion,C=ES,serialNumber=G63287510
Serial Number:0d:d3:e3:bc:6c:f9:6b:b1
Subject: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de
Certificacion,C=ES,serialNumber=G63287510
Not Valid Before: Wed Sep 04 10:00:38 2019
Not Valid After : Tue Aug 30 10:00:38 2039
Fingerprint (SHA-256):
FB:8F:EC:75:91:69:B9:10:6B:1E:51:16:44:C6:18:C5:13:04:37:3F:6C:06:43:08:8D:8B:EF:FD:1B:99:75:99
Fingerprint (SHA1): 5B:6E:68:D0:CC:15:B6:A0:5F:1E:C1:5F:AE:02:FC:6B:2F:5D:6F:74
CKA_CLASS
CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ANF Secure Server Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\133\156\150\320\314\025\266\240\137\036\301\137\256\002\374\153
\057\135\157\164
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\046\246\104\132\331\257\116\057\262\035\266\145\260\116\350\226
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\204\061\022\060\020\006\003\125\004\005\023\011\107\066
\063\062\070\067\065\061\060\061\013\060\011\006\003\125\004\006
\023\002\105\123\061\047\060\045\006\003\125\004\012\023\036\101
\116\106\040\101\165\164\157\162\151\144\141\144\040\144\145\040
\103\145\162\164\151\146\151\143\141\143\151\157\156\061\024\060
\022\006\003\125\004\013\023\013\101\116\106\040\103\101\040\122
\141\151\172\061\042\060\040\006\003\125\004\003\023\031\101\116
\106\040\123\145\143\165\162\145\040\123\145\162\166\145\162\040
\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\010\015\323\343\274\154\371\153\261
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Certum EC-384 CA"
#
Issuer: CN=Certum EC-384 CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

```

```
Serial Number:78:8f:27:5c:81:12:52:20:a5:04:d0:2d:dd:ba:73:f4
Subject: CN=Certum EC-384 CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL
Not Valid Before: Mon Mar 26 07:24:54 2018
Not Valid After : Thu Mar 26 07:24:54 2043
Fingerprint (SHA-256):
6B:32:80:85:62:53:18:AA:50:D1:73:C9:8D:8B:DA:09:D5:7E:27:41:3D:11:4C:F7:87:A0:F5:D0:6C:03:0C:F6
Fingerprint (SHA1): F3:3E:78:3C:AC:DF:F4:A2:CC:AC:67:55:69:56:D7:E5:16:3C:E1:ED
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE
CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum EC-384 CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027\006
\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103\055
\063\070\064\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027\006
\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103\055
\063\070\064\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\170\217\047\134\201\022\122\040\245\004\320\055\335\272
\163\364
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\145\060\202\001\353\240\003\002\001\002\002\020\170
\217\047\134\201\022\122\040\245\004\320\055\335\272\163\364\060
\012\006\010\052\206\110\316\075\004\003\003\060\164\061\013\060
\011\006\003\125\004\006\023\002\120\114\061\041\060\037\006\003
\125\004\012\023\030\101\163\163\145\143\157\040\104\141\164\141
\040\123\171\163\164\145\155\163\040\123\056\101\056\061\047\060
\045\006\003\125\004\013\023\036\103\145\162\164\165\155\040\103
```

\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164  
\150\157\162\151\164\171\061\031\060\027\006\003\125\004\003\023  
\020\103\145\162\164\165\155\040\105\103\055\063\070\064\040\103  
\101\060\036\027\015\061\070\060\063\062\066\060\067\062\064\065  
\064\132\027\015\064\063\060\063\062\066\060\067\062\064\065\064  
\132\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114  
\061\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143  
\157\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123  
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145  
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027  
\006\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103  
\055\063\070\064\040\103\101\060\166\060\020\006\007\052\206\110  
\316\075\002\001\006\005\053\201\004\000\042\003\142\000\004\304  
\050\216\253\030\133\152\276\156\144\067\143\344\315\354\253\072  
\367\314\241\270\016\202\111\327\206\051\237\241\224\362\343\140  
\170\230\201\170\006\115\362\354\232\016\127\140\203\237\264\346  
\027\057\032\263\135\002\133\211\043\074\302\021\005\052\247\210  
\023\030\363\120\204\327\275\064\054\047\211\125\377\316\114\347  
\337\246\037\050\304\360\124\303\271\174\267\123\255\353\302\243  
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\215  
\006\146\164\044\166\072\363\211\367\274\326\275\107\175\057\274  
\020\137\113\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\012\006\010\052\206\110\316\075\004\003\003\003  
\150\000\060\145\002\060\003\125\055\246\346\030\304\174\357\311  
\120\156\301\047\017\234\207\257\156\325\033\010\030\275\222\051  
\301\357\224\221\170\322\072\034\125\211\142\345\033\011\036\272  
\144\153\361\166\264\324\002\061\000\264\102\204\231\377\253\347  
\236\373\221\227\047\135\334\260\133\060\161\316\136\070\032\152  
\331\045\347\352\367\141\222\126\370\352\332\066\302\207\145\226  
\056\162\045\057\177\337\303\023\311

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certum EC-384 CA"

# Issuer: CN=Certum EC-384

CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

# Serial Number:78:8f:27:5c:81:12:52:20:a5:04:d0:2d:dd:ba:73:f4

# Subject: CN=Certum EC-384 CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

# Not Valid Before: Mon Mar 26 07:24:54 2018

# Not Valid After : Thu Mar 26 07:24:54 2043

# Fingerprint (SHA-256):

6B:32:80:85:62:53:18:AA:50:D1:73:C9:8D:8B:DA:09:D5:7E:27:41:3D:11:4C:F7:87:A0:F5:D0:6C:03:0C:F6

# Fingerprint (SHA1): F3:3E:78:3C:AC:DF:F4:A2:CC:AC:67:55:69:56:D7:E5:16:3C:E1:ED

```

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum EC-384 CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\363\076\170\074\254\337\364\242\314\254\147\125\151\126\327\345
\026\074\341\355
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\266\145\263\226\140\227\022\241\354\116\341\075\243\306\311\361
END
CKA_ISSUER MULTILINE_OCTAL
\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027\006
\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103\055
\063\070\064\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\170\217\047\134\201\022\122\040\245\004\320\055\335\272
\163\364
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Certum Trusted Root CA"
#
Issuer: CN=Certum Trusted Root CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL
Serial Number:1e:bf:59:50:b8:c9:80:37:4c:06:f7:eb:55:4f:b5:ed
Subject: CN=Certum Trusted Root
CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL
Not Valid Before: Fri Mar 16 12:10:13 2018
Not Valid After : Mon Mar 16 12:10:13 2043
Fingerprint (SHA-256):
FE:76:96:57:38:55:77:3E:37:A9:5E:7A:D4:D9:CC:96:C3:01:57:C1:5D:31:76:5B:A9:B1:57:04:E1:AE:78:FD
Fingerprint (SHA1): C8:83:44:C0:18:AE:9F:CC:F1:87:B7:8F:22:D1:C5:D7:45:84:BA:E5
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE

```

```
CKA_LABEL UTF8 "Certum Trusted Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\172\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\037\060\035\006
\003\125\004\003\023\026\103\145\162\164\165\155\040\124\162\165
\163\164\145\144\040\122\157\157\164\040\103\101
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\172\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\037\060\035\006
\003\125\004\003\023\026\103\145\162\164\165\155\040\124\162\165
\163\164\145\144\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\036\277\131\120\270\311\200\067\114\006\367\353\125\117
\265\355
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\300\060\202\003\250\240\003\002\001\002\002\020\036
\277\131\120\270\311\200\067\114\006\367\353\125\117\265\355\060
\015\006\011\052\206\110\206\367\015\001\001\015\005\000\060\172
\061\013\060\011\006\003\125\004\006\023\002\120\114\061\041\060
\037\006\003\125\004\012\023\030\101\163\163\145\143\157\040\104
\141\164\141\040\123\171\163\164\145\155\163\040\123\056\101\056
\061\047\060\045\006\003\125\004\013\023\036\103\145\162\164\165
\155\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\101\165\164\150\157\162\151\164\171\061\037\060\035\006\003\125
\004\003\023\026\103\145\162\164\165\155\040\124\162\165\163\164
\145\144\040\122\157\157\164\040\103\101\060\036\027\015\061\070
\060\063\061\066\061\062\061\060\061\063\132\027\015\064\063\060
\063\061\066\061\062\061\060\061\063\132\060\172\061\013\060\011
\006\003\125\004\006\023\002\120\114\061\041\060\037\006\003\125
\004\012\023\030\101\163\163\145\143\157\040\104\141\164\141\040
\123\171\163\164\145\155\163\040\123\056\101\056\061\047\060\045
\006\003\125\004\013\023\036\103\145\162\164\165\155\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171\061\037\060\035\006\003\125\004\003\023\026
```

\103\145\162\164\165\155\040\124\162\165\163\164\145\144\040\122  
\157\157\164\040\103\101\060\202\002\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202  
\002\012\002\202\002\001\000\321\055\216\273\267\066\352\155\067  
\221\237\116\223\247\005\344\051\003\045\316\034\202\367\174\231  
\237\101\006\315\355\243\272\300\333\011\054\301\174\337\051\176  
\113\145\057\223\247\324\001\153\003\050\030\243\330\235\005\301  
\052\330\105\361\221\336\337\073\320\200\002\214\317\070\017\352  
\247\134\170\021\244\301\310\205\134\045\323\323\262\347\045\317  
\021\124\227\253\065\300\036\166\034\357\000\123\237\071\334\024  
\245\054\042\045\263\162\162\374\215\263\345\076\010\036\024\052  
\067\013\210\074\312\260\364\310\302\241\256\274\301\276\051\147  
\125\342\374\255\131\134\376\275\127\054\260\220\215\302\355\067  
\266\174\231\210\265\325\003\232\075\025\015\075\072\250\250\105  
\360\225\116\045\131\035\315\230\151\273\323\314\062\311\215\357  
\201\376\255\175\211\273\272\140\023\312\145\225\147\240\363\031  
\366\003\126\324\152\323\047\342\241\255\203\360\112\022\042\167  
\034\005\163\342\031\161\102\300\354\165\106\232\220\130\340\152  
\216\053\245\106\060\004\216\031\262\027\343\276\251\272\177\126  
\361\044\003\327\262\041\050\166\016\066\060\114\171\325\101\232  
\232\250\270\065\272\014\072\362\104\033\040\210\367\305\045\327  
\075\306\343\076\103\335\207\376\304\352\365\123\076\114\145\377  
\073\112\313\170\132\153\027\137\015\307\303\117\116\232\052\242  
\355\127\115\042\342\106\232\077\017\221\064\044\175\125\343\214  
\225\067\323\032\360\011\053\054\322\311\215\264\015\000\253\147  
\051\050\330\001\365\031\004\266\035\276\166\376\162\134\304\205  
\312\322\200\101\337\005\250\243\325\204\220\117\013\363\340\077  
\233\031\322\067\211\077\362\173\122\034\214\366\341\367\074\007  
\227\214\016\242\131\201\014\262\220\075\323\343\131\106\355\017  
\251\247\336\200\153\132\252\007\266\031\313\274\127\363\227\041  
\172\014\261\053\164\076\353\332\247\147\055\114\304\230\236\066  
\011\166\146\146\374\032\077\352\110\124\034\276\060\275\200\120  
\277\174\265\316\000\366\014\141\331\347\044\003\340\343\001\201  
\016\275\330\205\064\210\275\262\066\250\173\134\010\345\104\200  
\214\157\370\057\325\041\312\035\034\320\373\304\265\207\321\072  
\116\307\166\265\065\110\265\002\003\001\000\001\243\102\060\100  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\035\006\003\125\035\016\004\026\004\024\214\373\034\165  
\274\002\323\237\116\056\110\331\371\140\124\252\304\263\117\372  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006  
\060\015\006\011\052\206\110\206\367\015\001\001\015\005\000\003  
\202\002\001\000\110\242\325\000\013\056\320\077\274\034\325\265  
\124\111\036\132\153\364\344\362\340\100\067\340\314\024\173\271  
\311\372\065\265\165\027\223\152\005\151\205\234\315\117\031\170  
\133\031\201\363\143\076\303\316\133\217\365\057\136\001\166\023  
\077\054\000\271\315\226\122\071\111\155\004\116\305\351\017\206  
\015\341\372\263\137\202\022\361\072\316\146\006\044\064\053\350  
\314\312\347\151\334\207\235\302\064\327\171\321\323\167\270\252

\131\130\376\235\046\372\070\206\076\235\212\207\144\127\345\027  
\072\342\371\215\271\343\063\170\301\220\330\270\335\267\203\121  
\344\304\314\043\325\006\174\346\121\323\315\064\061\300\366\106  
\273\013\255\374\075\020\005\052\073\112\221\045\356\214\324\204  
\207\200\052\274\011\214\252\072\023\137\350\064\171\120\301\020  
\031\371\323\050\036\324\321\121\060\051\263\256\220\147\326\037  
\012\143\261\305\251\306\102\061\143\027\224\357\151\313\057\372  
\214\024\175\304\103\030\211\331\360\062\100\346\200\342\106\137  
\345\343\301\000\131\250\371\350\040\274\211\054\016\107\064\013  
\352\127\302\123\066\374\247\324\257\061\315\376\002\345\165\372  
\271\047\011\371\363\365\073\312\175\237\251\042\313\210\311\252  
\321\107\075\066\167\250\131\144\153\047\317\357\047\301\343\044  
\265\206\367\256\176\062\115\260\171\150\321\071\350\220\130\303  
\203\274\017\054\326\227\353\316\014\341\040\307\332\267\076\303  
\077\277\057\334\064\244\373\053\041\315\147\217\113\364\343\352  
\324\077\347\117\272\271\245\223\105\034\146\037\041\372\144\136  
\157\340\166\224\062\313\165\365\156\345\366\217\307\270\244\314  
\250\226\175\144\373\044\132\112\003\154\153\070\306\350\003\103  
\232\367\127\271\263\051\151\223\070\364\003\362\273\373\202\153  
\007\040\321\122\037\232\144\002\173\230\146\333\134\115\132\017  
\320\204\225\240\074\024\103\006\312\312\333\270\101\066\332\152  
\104\147\207\257\257\343\105\021\025\151\010\262\276\026\071\227  
\044\157\022\105\321\147\135\011\250\311\025\332\372\322\246\137  
\023\141\037\277\205\254\264\255\255\005\224\010\203\036\165\027  
\323\161\073\223\120\043\131\240\355\074\221\124\235\166\000\305  
\303\270\070\333

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certum Trusted Root CA"

# Issuer: CN=Certum

Trusted Root CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

# Serial Number: 1e:bf:59:50:b8:c9:80:37:4c:06:f7:eb:55:4f:b5:ed

# Subject: CN=Certum Trusted Root CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

# Not Valid Before: Fri Mar 16 12:10:13 2018

# Not Valid After : Mon Mar 16 12:10:13 2043

# Fingerprint (SHA-256):

FE:76:96:57:38:55:77:3E:37:A9:5E:7A:D4:D9:CC:96:C3:01:57:C1:5D:31:76:5B:A9:B1:57:04:E1:AE:78:FD

# Fingerprint (SHA1): C8:83:44:C0:18:AE:9F:CC:F1:87:B7:8F:22:D1:C5:D7:45:84:BA:E5

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certum Trusted Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL



\310\203\104\300\030\256\237\314\361\207\267\217\042\321\305\327  
\105\204\272\345

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\121\341\302\347\376\114\204\257\131\016\057\364\124\157\352\051

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\172\061\013\060\011\006\003\125\004\006\023\002\120\114\061  
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157  
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056  
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162  
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\061\037\060\035\006  
\003\125\004\003\023\026\103\145\162\164\165\155\040\124\162\165  
\163\164\145\144\040\122\157\157\164\040\103\101

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\036\277\131\120\270\311\200\067\114\006\367\353\125\117  
\265\355

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "TunTrust Root CA"

#

# Issuer: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN

# Serial Number:13:02:d5:e2:40:4c:92:46:86:16:67:5d:b4:bb:bb:b2:6b:3e:fc:13

#

Subject: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN

# Not Valid Before: Fri Apr 26 08:57:56 2019

# Not Valid After : Tue Apr 26 08:57:56 2044

# Fingerprint (SHA-256):

2E:44:10:2A:B5:8C:B8:54:19:45:1C:8E:19:D9:AC:F3:66:2C:AF:BC:61:4B:6A:53:96:0A:30:F7:D0:E2:EB:41

# Fingerprint (SHA1): CF:E9:70:84:0F:E0:73:0F:9D:F6:0C:7F:2C:4B:EE:20:46:34:9C:BB

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TunTrust Root CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\141\061\013\060\011\006\003\125\004\006\023\002\124\116\061  
\067\060\065\006\003\125\004\012\014\056\101\147\145\156\143\145  
\040\116\141\164\151\157\156\141\154\145\040\144\145\040\103\145

\162\164\151\146\151\143\141\164\151\157\156\040\105\154\145\143  
\164\162\157\156\151\161\165\145\061\031\060\027\006\003\125\004  
\003\014\020\124\165\156\124\162\165\163\164\040\122\157\157\164  
\040\103\101

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\141\061\013\060\011\006\003\125\004\006\023\002\124\116\061  
\067\060\065\006\003\125\004\012\014\056\101\147\145\156\143\145  
\040\116\141\164\151\157\156\141\154\145\040\144\145\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\105\154\145\143  
\164\162\157\156\151\161\165\145\061\031\060\027\006\003\125\004  
\003\014\020\124\165\156\124\162\165\163\164\040\122\157\157\164  
\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\024\023\002\325\342\100\114\222\106\206\026\147\135\264\273  
\273\262\153\076\374\023

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\263\060\202\003\233\240\003\002\001\002\002\024\023  
\002\325\342\100\114\222\106\206\026\147\135\264\273\273\262\153  
\076\374\023\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\141\061\013\060\011\006\003\125\004\006\023\002\124  
\116\061\067\060\065\006\003\125\004\012\014\056\101\147\145\156  
\143\145\040\116\141\164\151\157\156\141\154\145\040\144\145\040  
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\105\154  
\145\143\164\162\157\156\151\161\165\145\061\031\060\027\006\003  
\125\004\003\014\020\124\165\156\124\162\165\163\164\040\122\157  
\157\164\040\103\101\060\036\027\015\061\071\060\064\062\066\060  
\070\065\067\065\066\132\027\015\064\064\060\064\062\066\060\070  
\065\067\065\066\132\060\141\061\013\060\011\006\003\125\004\006  
\023\002\124\116\061\067\060\065\006\003\125\004\012\014\056\101  
\147\145\156\143\145\040\116\141\164\151\157\156\141\154\145\040  
\144\145\040\103\145\162\164\151\146\151\143\141\164\151\157\156  
\040\105\154\145\143\164\162\157\156\151\161\165\145\061\031\060  
\027\006\003\125\004\003\014\020\124\165\156\124\162\165\163\164  
\040\122\157\157\164\040\103\101\060\202\002\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000  
\060\202\002\012\002\202\002\001\000\303\315\323\374\275\004\123  
\335\014\040\072\325\210\056\005\113\101\365\203\202\176\367\131  
\237\236\236\143\350\163\332\366\006\251\117\037\264\371\013\037  
\071\214\232\040\320\176\006\324\354\064\331\206\274\165\133\207  
\210\360\322\331\324\243\012\262\154\033\353\111\054\076\254\135  
\330\224\003\240\354\064\345\060\304\065\175\373\046\115\033\156  
\060\124\330\365\200\105\234\071\255\234\311\045\004\115\232\220  
\076\116\100\156\212\153\315\051\147\306\314\055\340\164\350\005

\127\012\110\120\372\172\103\332\176\354\133\232\016\142\166\376  
\352\235\035\205\162\354\021\273\065\350\037\047\277\301\241\307  
\273\110\026\335\126\327\314\116\240\341\271\254\333\325\203\031  
\032\205\321\224\227\327\312\243\145\013\363\070\371\002\256\335  
\366\147\317\311\077\365\212\054\107\032\231\157\005\015\375\320  
\035\202\061\374\051\314\000\130\227\221\114\200\000\034\063\205  
\226\057\313\101\302\213\020\204\303\011\044\211\037\265\017\331  
\331\167\107\030\222\224\140\134\307\231\003\074\376\367\225\247  
\175\120\241\200\302\251\203\255\130\226\125\041\333\206\131\324  
\257\306\274\335\201\156\007\333\140\142\376\354\020\156\332\150  
\001\364\203\033\251\076\242\133\043\327\144\306\337\334\242\175  
\330\113\272\202\322\121\370\146\277\006\106\344\171\052\046\066  
\171\217\037\116\231\035\262\217\014\016\034\377\311\135\300\375  
\220\020\246\261\067\363\315\072\044\156\264\205\220\277\200\271  
\014\214\325\233\326\310\361\126\077\032\200\211\172\251\342\033  
\062\121\054\076\362\337\173\366\135\172\051\031\216\345\310\275  
\066\161\213\135\114\302\035\077\255\130\242\317\075\160\115\246  
\120\230\045\334\043\371\270\130\101\010\161\277\117\270\204\240  
\217\000\124\025\374\221\155\130\247\226\073\353\113\226\047\315  
\153\242\241\206\254\015\174\124\346\146\114\146\137\220\276\041  
\232\002\106\055\344\203\302\200\271\317\113\076\350\177\074\001  
\354\217\136\315\177\322\050\102\001\225\212\342\227\075\020\041  
\175\366\235\034\305\064\241\354\054\016\012\122\054\022\125\160  
\044\075\313\302\024\065\103\135\047\116\276\300\275\252\174\226  
\347\374\236\141\255\104\323\000\227\002\003\001\000\001\243\143  
\060\141\060\035\006\003\125\035\016\004\026\004\024\006\232\233  
\037\123\175\361\365\244\310\323\206\076\241\163\131\264\367\104  
\041\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\037\006\003\125\035\043\004\030\060\026\200\024\006  
\232\233\037\123\175\361\365\244\310\323\206\076\241\163\131\264  
\367\104\041\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\002\001\000\252\005\156\266\335\025\311\277\263  
\306\040\366\006\107\260\206\223\045\323\215\271\310\000\077\227  
\365\122\047\210\161\311\164\375\353\312\144\333\133\357\036\135  
\272\277\321\353\356\134\151\272\026\310\363\271\217\323\066\056  
\100\111\007\015\131\336\213\020\260\111\005\342\377\221\077\113  
\267\335\002\216\370\201\050\134\314\334\155\257\137\024\234\175  
\130\170\015\366\200\011\271\351\016\227\051\031\270\267\353\370  
\026\313\125\022\344\306\175\273\304\354\370\265\034\116\076\147  
\277\305\137\033\155\155\107\050\252\004\130\141\326\166\277\042  
\177\320\007\152\247\144\123\360\227\215\235\200\077\273\301\007  
\333\145\257\346\233\062\232\303\124\223\304\034\010\303\104\373  
\173\143\021\103\321\152\032\141\152\171\155\220\117\051\216\107  
\005\301\022\151\151\326\306\066\061\341\374\372\200\272\134\117  
\304\353\267\062\254\370\165\141\027\327\020\031\271\361\322\011  
\357\172\102\235\133\132\013\324\306\225\116\052\316\377\007\327  
\117\176\030\006\210\361\031\265\331\230\273\256\161\304\034\347

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\164\131\130\357\014\211\317\213\037\165\223\032\004\024\222\110
\120\251\353\127\051\000\026\343\066\034\310\370\277\360\063\325
\101\017\304\314\074\335\351\063\103\001\221\020\053\036\321\271
\135\315\062\031\213\217\214\040\167\327\042\304\102\334\204\026
\233\045\155\350\264\125\161\177\260\174\263\323\161\111\271\317
\122\244\004\077\334\075\240\273\257\063\236\012\060\140\216\333
\235\135\224\250\275\140\347\142\200\166\201\203\014\214\314\060
\106\111\342\014\322\250\257\353\141\161\357\347\042\142\251\367
\134\144\154\237\026\214\147\066\047\105\365\011\173\277\366\020
\012\361\260\215\124\103\214\004\272\243\077\357\342\065\307\371
\164\340\157\064\101\320\277\163\145\127\040\371\233\147\172\146
\150\044\116\200\145\275\020\231\006\131\362\145\257\270\306\107
\273\375\220\170\213\101\163\056\257\125\037\334\073\222\162\156
\204\323\320\141\114\015\314\166\127\342\055\205\042\025\066\015
\353\001\235\353\330\353\304\204\231\373\300\014\314\062\350\343
\167\332\203\104\213\236\125\050\300\213\130\323\220\076\116\033
\000\361\025\255\203\053\232
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "TunTrust Root CA"

# Issuer: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN

# Serial Number:13:02:d5:e2:40:4c:92:46:86:16:67:5d:b4:bb:bb:b2:6b:3e:fc:13

# Subject: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN

#

Not Valid Before: Fri Apr 26 08:57:56 2019

# Not Valid After : Tue Apr 26 08:57:56 2044

# Fingerprint (SHA-256):

2E:44:10:2A:B5:8C:B8:54:19:45:1C:8E:19:D9:AC:F3:66:2C:AF:BC:61:4B:6A:53:96:0A:30:F7:D0:E2:EB:41

# Fingerprint (SHA1): CF:E9:70:84:0F:E0:73:0F:9D:F6:0C:7F:2C:4B:EE:20:46:34:9C:BB

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TunTrust Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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\317\351\160\204\017\340\163\017\235\366\014\177\054\113\356\040
\106\064\234\273
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END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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\205\023\271\220\133\066\134\266\136\270\132\370\340\061\127\264
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\141\061\013\060\011\006\003\125\004\006\023\002\124\116\061
\067\060\065\006\003\125\004\012\014\056\101\147\145\156\143\145
```

```
\040\116\141\164\151\157\156\141\154\145\040\144\145\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\105\154\145\143
\164\162\157\156\151\161\165\145\061\031\060\027\006\003\125\004
\003\014\020\124\165\156\124\162\165\163\164\040\122\157\157\164
\040\103\101
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\024\023\002\325\342\100\114\222\106\206\026\147\135\264\273
\273\262\153\076\374\023
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "HARICA TLS RSA Root CA 2021"

#

# Issuer: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Serial Number:39:ca:93:1c:ef:43:f3:c6:8e:93:c7:f4:64:89:38:7e

# Subject: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Not Valid Before: Fri Feb 19 10:55:38 2021

# Not Valid After : Mon Feb 13 10:55:37 2045

# Fingerprint (SHA-256):

D9:5D:0E:8E:DA:79:52:5B:F9:BE:B1:1B:14:D2:10:0D:32:94:98:5F:0C:62:D9:FA:BD:9C:D9:99:EC:CB:7B:1D

# Fingerprint

(SHA1): 02:2D:05:82:FA:88:CE:14:0C:06:79:DE:7F:14:10:E9:45:D7:A5:6D

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "HARICA TLS RSA Root CA 2021"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\122\123
\101\040\122\157\157\164\040\103\101\040\062\060\062\061
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END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
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\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165  
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\003\014\033\110\101\122\111\103\101\040\124\114\123\040\122\123  
\101\040\122\157\157\164\040\103\101\040\062\060\062\061

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\071\312\223\034\357\103\363\306\216\223\307\364\144\211  
\070\176

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\244\060\202\003\214\240\003\002\001\002\002\020\071  
\312\223\034\357\103\363\306\216\223\307\364\144\211\070\176\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\154  
\061\013\060\011\006\003\125\004\006\023\002\107\122\061\067\060  
\065\006\003\125\004\012\014\056\110\145\154\154\145\156\151\143  
\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122\145  
\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164\151  
\157\156\163\040\103\101\061\044\060\042\006\003\125\004\003\014  
\033\110\101\122\111\103\101\040\124\114\123\040\122\123\101\040  
\122\157\157\164\040\103\101\040\062\060\062\061\060\036\027\015  
\062\061\060\062\061\071\061\060\065\065\063\070\132\027\015\064  
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\003\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101  
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\101\122\111\103\101\040\124\114\123\040\122\123\101\040\122\157  
\157\164\040\103\101\040\062\060\062\061\060\202\002\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002  
\017\000\060\202\002\012\002\202\002\001\000\213\302\347\257\145  
\233\005\147\226\311\015\044\271\320\016\144\374\316\342\044\030  
\054\204\177\167\121\313\004\021\066\270\136\355\151\161\247\236  
\344\045\011\227\147\301\107\302\317\221\026\066\142\075\070\004  
\341\121\202\377\254\322\264\151\335\056\354\021\243\105\356\153  
\153\073\114\277\214\215\244\036\235\021\271\351\070\371\172\016  
\014\230\342\043\035\321\116\143\324\347\270\101\104\373\153\257  
\153\332\037\323\305\221\210\133\244\211\222\321\201\346\214\071  
\130\240\326\151\103\251\255\230\122\130\156\333\012\373\153\317  
\150\372\343\244\136\072\105\163\230\007\352\137\002\162\336\014  
\245\263\237\256\251\035\267\035\263\374\212\131\347\156\162\145  
\255\365\060\224\043\007\363\202\026\113\065\230\234\123\273\057  
\312\344\132\331\307\215\035\374\230\231\373\054\244\202\153\360  
\052\037\216\013\137\161\134\134\256\102\173\051\211\201\313\003  
\243\231\312\210\236\013\100\011\101\063\333\346\130\172\375\256  
\231\160\300\132\017\326\023\206\161\057\166\151\374\220\335\333  
\055\156\321\362\233\365\032\153\236\157\025\214\172\360\113\050

\240\042\070\200\044\154\066\244\073\362\060\221\363\170\023\317  
\301\077\065\253\361\035\021\043\265\103\042\236\001\222\267\030  
\002\345\021\321\202\333\025\000\314\141\067\301\052\174\232\341  
\320\272\263\120\106\356\202\254\235\061\370\373\043\342\003\000  
\110\160\243\011\046\171\025\123\140\363\070\134\255\070\352\201  
\000\143\024\271\063\136\335\013\333\240\105\007\032\063\011\370  
\115\264\247\002\246\151\364\302\131\005\210\145\205\126\256\113  
\313\340\336\074\175\055\032\310\351\373\037\243\141\112\326\052  
\023\255\167\114\032\030\233\221\017\130\330\006\124\305\227\370  
\252\077\040\212\246\205\246\167\366\246\374\034\342\356\156\224  
\063\052\203\120\204\012\345\117\206\370\120\105\170\000\201\353  
\133\150\343\046\215\314\173\134\121\364\024\054\100\276\032\140  
\035\172\162\141\035\037\143\055\210\252\316\242\105\220\010\374  
\153\276\263\120\052\132\375\250\110\030\106\326\220\100\222\220  
\012\204\136\150\061\370\353\355\015\323\035\306\175\231\030\125  
\126\047\145\056\215\105\305\044\354\316\343\002\003\001\000\001  
\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024  
\012\110\043\246\140\244\222\012\063\352\223\133\305\127\352\045  
\115\275\022\356\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\206\060\015\006\011\052\206\110\206\367\015\001\001  
\013\005\000\003\202\002\001\000\076\220\110\252\156\142\025\045  
\146\173\014\325\214\213\211\235\327\355\116\007\357\234\320\024  
\137\136\120\275\150\226\220\244\024\021\252\150\155\011\065\071  
\100\011\332\364\011\054\064\245\173\131\204\111\051\227\164\310  
\007\036\107\155\362\316\034\120\046\343\236\075\100\123\077\367  
\177\226\166\020\305\106\245\320\040\113\120\364\065\073\030\364  
\125\152\101\033\107\006\150\074\273\011\010\142\331\137\125\102  
\252\254\123\205\254\225\126\066\126\253\344\005\214\305\250\332  
\037\243\151\275\123\017\304\377\334\312\343\176\362\114\210\206  
\107\106\032\363\000\365\200\221\242\334\103\102\224\233\040\360  
\321\315\262\353\054\123\302\123\170\112\117\004\224\101\232\217  
\047\062\301\345\111\031\277\361\362\302\213\250\012\071\061\050  
\264\175\142\066\054\115\354\037\063\266\176\167\155\176\120\360  
\237\016\327\021\217\317\030\305\343\047\376\046\357\005\235\317  
\317\067\305\320\173\332\073\260\026\204\014\072\223\326\276\027  
\333\017\076\016\031\170\011\307\251\002\162\042\113\367\067\166  
\272\165\304\205\003\132\143\325\261\165\005\302\271\275\224\255  
\214\025\231\247\223\175\366\305\363\252\164\317\004\205\224\230  
\000\364\342\371\312\044\145\277\340\142\257\310\305\372\262\311  
\236\126\110\332\171\375\226\166\025\276\243\216\126\304\263\064  
\374\276\107\364\301\264\250\374\325\060\210\150\356\313\256\311  
\143\304\166\276\254\070\030\341\136\134\317\256\072\042\121\353  
\321\213\263\363\053\063\007\124\207\372\264\262\023\173\272\123  
\004\142\001\235\361\300\117\356\341\072\324\213\040\020\372\002  
\127\346\357\301\013\267\220\106\234\031\051\214\334\157\240\112  
\151\151\224\267\044\145\240\377\254\077\316\001\373\041\056\375  
\150\370\233\362\245\317\061\070\134\025\252\346\227\000\301\337

```
\132\245\247\071\252\351\204\177\074\121\250\072\331\224\133\214
\277\117\010\161\345\333\250\134\324\322\246\376\000\243\306\026
\307\017\350\200\316\034\050\144\164\031\010\323\102\343\316\000
\135\177\261\334\023\260\341\005\313\321\040\252\206\164\236\071
\347\221\375\377\133\326\367\255\246\057\003\013\155\343\127\124
\353\166\123\030\215\021\230\272
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "HARICA TLS RSA Root CA 2021"

# Issuer: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Serial Number:39:ca:93:1c:ef:43:f3:c6:8e:93:c7:f4:64:89:38:7e

# Subject: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Not Valid Before: Fri Feb 19 10:55:38 2021

# Not Valid After : Mon Feb 13 10:55:37 2045

# Fingerprint (SHA-256):

D9:5D:0E:8E:DA:79:52:5B:F9:BE:B1:1B:14:D2:10:0D:32:94:98:5F:0C:62:D9:FA:BD:9C:D9:99:EC:CB:7B:1D

# Fingerprint (SHA1): 02:2D:05:82:FA:88:CE:14:0C:06:79:DE:7F:14:10:E9:45:D7:A5:6D

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "HARICA TLS RSA Root CA 2021"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\002\055\005\202\372\210\316\024\014\006\171\336\177\024\020\351
\105\327\245\155
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\145\107\233\130\206\335\054\360\374\242\204\037\036\226\304\221
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\122\123
\101\040\122\157\157\164\040\103\101\040\062\060\062\061
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\071\312\223\034\357\103\363\306\216\223\307\364\144\211
\070\176
```

END

CKA\_TRUST\_SERVER\_AUTH



```

CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "HARICA TLS ECC Root CA 2021"
#
Issuer: CN=HARICA TLS ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
Serial Number:67:74:9d:8d:77:d8:3b:6a:db:22:f4:ff:59:e2:bf:ce
Subject: CN=HARICA TLS ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
Not Valid Before: Fri Feb 19 11:01:10 2021
Not Valid After : Mon Feb 13 11:01:09 2045
Fingerprint (SHA-256):
3F:99:CC:47:4A:CF:CE:4D:FE:D5:87:94:66:5E:47:8D:15:47:73:9F:2E:78:0F:1B:B4:CA:9B:13:30:97:D4:01
Fingerprint (SHA1): BC:B0:C1:9D:E9:98:92:70:19:38:57:E9:8D:A7:B4:5D:6E:EE:01:48
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA TLS ECC Root
CA 2021"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\105\103
\103\040\122\157\157\164\040\103\101\040\062\060\062\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\105\103
\103\040\122\157\157\164\040\103\101\040\062\060\062\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\147\164\235\215\167\330\073\152\333\042\364\377\131\342
\277\316
END
CKA_VALUE MULTILINE_OCTAL

```

\060\202\002\124\060\202\001\333\240\003\002\001\002\002\020\147  
\164\235\215\167\330\073\152\333\042\364\377\131\342\277\316\060  
\012\006\010\052\206\110\316\075\004\003\003\060\154\061\013\060  
\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006\003  
\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101\143  
\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145\141  
\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156\163  
\040\103\101\061\044\060\042\006\003\125\004\003\014\033\110\101  
\122\111\103\101\040\124\114\123\040\105\103\103\040\122\157\157  
\164\040\103\101\040\062\060\062\061\060\036\027\015\062\061\060  
\062\061\071\061\061\060\061\061\060\132\027\015\064\065\060\062  
\061\063\061\061\060\061\060\071\132\060\154\061\013\060\011\006  
\003\125\004\006\023\002\107\122\061\067\060\065\006\003\125\004  
\012\014\056\110\145\154\154\145\156\151\143\040\101\143\141\144  
\145\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143  
\150\040\111\156\163\164\151\164\165\164\151\157\156\163\040\103  
\101\061\044\060\042\006\003\125\004\003\014\033\110\101\122\111  
\103\101\040\124\114\123\040\105\103\103\040\122\157\157\164\040  
\103\101\040\062\060\062\061\060\166\060\020\006\007\052\206\110  
\316\075\002\001\006\005\053\201\004\000\042\003\142\000\004\070  
\010\376\261\240\226\322\172\254\257\111\072\320\300\340\303\073  
\050\252\361\162\155\145\000\107\210\204\374\232\046\153\252\113  
\272\154\004\012\210\136\027\362\125\207\374\060\260\064\342\064  
\130\127\032\204\123\351\060\331\251\362\226\164\303\121\037\130  
\111\061\314\230\116\140\021\207\165\323\162\224\220\117\233\020  
\045\052\250\170\055\276\220\101\130\220\025\162\247\241\267\243  
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\311  
\033\123\201\022\376\004\325\026\321\252\274\232\157\267\240\225  
\031\156\312\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\206\060\012\006\010\052\206\110\316\075\004\003\003\003  
\147\000\060\144\002\060\021\336\256\370\334\116\210\260\251\360  
\042\255\302\121\100\357\140\161\055\356\217\002\304\135\003\160  
\111\244\222\352\305\024\210\160\246\323\015\260\252\312\054\100  
\234\373\351\202\156\232\002\060\053\107\232\007\306\321\302\201  
\174\312\013\226\030\101\033\243\364\060\011\236\265\043\050\015  
\237\024\266\074\123\242\114\006\151\175\372\154\221\306\052\111  
\105\346\354\267\023\341\072\154

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "HARICA TLS ECC Root CA 2021"

# Issuer: CN=HARICA TLS ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Serial Number:67:74:9d:8d:77:d8:3b:6a:db:22:f4:ff:59:e2:bf:ce

# Subject: CN=HARICA TLS ECC Root CA 2021,O=Hellenic

```
Academic and Research Institutions CA,C=GR
Not Valid Before: Fri Feb 19 11:01:10 2021
Not Valid After : Mon Feb 13 11:01:09 2045
Fingerprint (SHA-256):
3F:99:CC:47:4A:CF:CE:4D:FE:D5:87:94:66:5E:47:8D:15:47:73:9F:2E:78:0F:1B:B4:CA:9B:13:30:97:D4:01
Fingerprint (SHA1): BC:B0:C1:9D:E9:98:92:70:19:38:57:E9:8D:A7:B4:5D:6E:EE:01:48
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA TLS ECC Root CA 2021"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\274\260\301\235\351\230\222\160\031\070\127\351\215\247\264\135
\156\356\001\110
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\256\367\114\345\146\065\321\267\233\214\042\223\164\323\113\260
END
CKA_ISSUER MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\105\103
\103\040\122\157\157\164\040\103\101\040\062\060\062\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\147\164\235\215\167\330\073\152\333\042\364\377\131\342
\277\316
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "HARICA Client RSA Root CA 2021"
#
Issuer: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
Serial Number:55:52:f8:1e:db:1b:24:2c:9e:bb:96:18:cd:02:28:3e
Subject: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
Not Valid Before: Fri Feb 19 10:58:46 2021
Not Valid After : Mon Feb 13 10:58:45 2045
Fingerprint (SHA-256):
1B:E7:AB:E3:06:86:B1:63:48:AF:D1:C6:1B:68:66:A0:EA:7F:48:21:E6:7D:5E:8A:F9:37:CF:80:11:BC:75:0D
#
```

Fingerprint (SHA1): 46:C6:90:0A:77:3A:B6:BC:F4:65:AD:AC:FC:E3:F7:07:00:6E:DE:6E

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA Client RSA Root CA 2021"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062
\061
END
```

```
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062
\061
END
```

```
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\125\122\370\036\333\033\044\054\236\273\226\030\315\002
\050\076
END
```

```
CKA_VALUE MULTILINE_OCTAL
\060\202\005\252\060\202\003\222\240\003\002\001\002\002\020\125
\122\370\036\333\033\044\054\236\273\226\030\315\002\050\076\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\157
\061\013\060\011\006\003\125\004\006\023\002\107\122\061\067\060
\065\006\003\125\004\012\014\056\110\145\154\154\145\156\151\143
\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122\145
\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164\151
\157\156\163\040\103\101\061\047\060\045\006\003\125\004\003\014
\036\110\101\122\111\103\101\040\103\154\151\145\156\164\040\122
\123\101\040\122\157\157\164\040\103\101\040\062\060\062\061\060
\036\027\015\062\061\060\062\061\071\061\060\065\070\064\066\132
\027\015\064\065\060\062\061\063\061\060\065\070\064\065\132\060
\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061\067
\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156\151
```

\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122  
\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164  
\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004\003  
\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164\040  
\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062\061  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\201\333\127\102\220\054\164\065\364\370\270\164\031\115\253  
\011\132\167\105\201\163\142\260\065\237\370\320\267\063\000\207  
\023\266\226\253\016\124\022\060\007\274\233\267\110\327\321\031  
\203\256\216\330\251\361\251\000\204\260\214\136\236\350\014\217  
\124\151\277\366\324\010\117\046\160\376\030\101\143\032\263\062  
\213\100\370\007\253\127\061\360\306\026\166\147\232\264\335\057  
\362\321\153\305\320\222\204\221\161\156\017\056\143\351\037\123  
\244\335\122\023\314\011\203\051\201\014\305\123\165\104\261\016  
\147\123\030\320\303\037\210\113\237\224\044\264\051\274\273\350  
\116\375\157\322\025\035\111\334\215\160\362\021\032\040\121\125  
\021\272\210\157\304\367\120\171\326\252\061\342\204\075\136\062  
\310\167\052\120\161\345\013\057\351\266\352\357\253\012\063\071  
\016\375\217\245\147\103\202\216\230\151\011\011\033\100\315\070  
\147\107\352\311\354\227\161\022\336\044\365\162\074\321\367\103  
\114\046\367\220\262\211\351\105\113\125\075\061\005\172\101\342  
\225\272\103\300\027\305\266\205\075\031\215\144\160\363\133\254  
\315\237\323\051\165\207\113\225\147\152\246\370\321\335\274\220  
\206\211\103\051\251\067\133\365\135\260\046\132\123\102\166\220  
\053\317\236\126\154\053\124\317\134\232\145\337\133\213\110\140  
\070\174\373\305\013\317\166\004\143\002\063\052\175\365\203\147  
\347\372\306\103\375\053\017\324\046\057\167\244\062\301\044\352  
\144\235\277\263\070\161\061\104\362\107\270\242\146\101\241\373  
\233\173\274\307\106\152\165\277\132\242\214\350\152\104\301\270  
\226\265\300\062\010\055\173\164\065\163\262\312\306\376\257\021  
\162\030\366\347\310\302\317\245\052\352\173\326\131\350\174\240  
\262\152\100\011\151\016\245\226\333\321\000\271\361\210\156\066  
\360\210\262\235\361\122\362\303\174\277\060\211\074\012\151\371  
\042\244\145\341\233\340\164\306\261\205\227\226\054\256\224\217  
\120\246\071\022\037\276\107\362\201\170\323\165\066\236\175\132  
\040\227\342\122\256\231\237\306\174\233\146\363\376\330\317\356  
\275\227\006\035\055\205\334\076\066\123\226\173\040\272\350\310  
\341\255\226\142\076\021\174\263\000\204\236\247\114\161\253\112  
\067\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125  
\035\016\004\026\004\024\240\326\007\075\136\044\367\173\240\104  
\056\044\122\015\031\252\053\004\221\247\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\206\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\015\107  
\371\011\146\061\122\354\171\356\302\250\362\150\076\355\226\105  
\313\072\246\230\143\077\352\053\115\116\003\320\034\202\341\313  
\323\345\326\253\133\147\050\274\235\376\014\231\012\200\125\247

\316\033\043\141\015\260\127\360\376\340\312\276\346\220\333\203  
\054\276\203\216\364\171\266\376\320\015\102\247\130\037\151\352  
\201\365\005\245\376\106\150\353\154\170\311\340\352\347\346\336  
\061\305\322\325\054\202\143\050\235\135\250\032\176\210\346\347  
\053\361\054\325\320\005\236\334\055\275\067\146\324\004\242\247  
\255\277\072\302\250\073\255\377\215\235\063\340\271\232\204\241  
\207\037\166\364\202\164\327\016\371\060\110\076\133\210\076\252  
\134\153\326\057\014\350\216\163\302\030\221\203\071\266\146\132  
\320\037\140\047\135\115\343\366\072\015\146\120\234\170\173\253  
\363\023\020\256\017\057\253\350\144\263\030\040\235\106\065\144  
\045\163\352\233\020\134\130\065\211\261\106\110\247\364\254\324  
\035\236\133\314\251\245\032\023\117\044\120\252\331\033\155\261  
\100\373\235\335\130\164\304\302\157\024\162\354\333\065\237\270  
\124\165\105\303\246\310\032\050\065\072\256\145\362\251\230\316  
\257\133\311\070\214\061\073\177\314\334\226\375\342\133\326\320  
\131\364\166\272\013\313\117\203\020\307\100\320\035\140\351\052  
\345\110\130\167\014\105\151\276\031\161\004\044\342\343\044\037  
\112\310\301\076\231\365\226\230\070\110\045\241\025\260\033\327  
\342\204\030\133\366\161\065\232\150\173\100\314\030\134\014\044  
\235\324\225\365\231\252\106\352\256\254\277\364\024\031\044\350  
\214\354\343\365\274\006\150\212\052\014\005\137\012\227\165\247  
\334\176\300\375\327\172\030\337\060\321\070\113\037\260\230\160  
\277\314\174\163\360\156\304\061\245\244\227\035\254\277\316\154  
\041\112\276\047\043\147\363\006\126\201\012\221\216\266\341\003  
\005\063\054\332\064\010\115\116\120\043\255\037\245\305\324\172  
\376\352\011\354\247\050\140\213\106\174\265\352\233\335\117\371  
\347\153\025\306\210\317\103\333\345\047\334\004\126\156\157\106  
\025\361\126\055\350\134\014\163\303\043\201\070\040\313\311\014  
\151\317\054\253\073\204\140\063\031\122\375\151\024\063

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "HARICA Client RSA Root CA 2021"

# Issuer: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Serial Number:55:52:f8:1e:db:1b:24:2c:9e:bb:96:18:cd:02:28:3e

# Subject: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Not Valid Before: Fri Feb 19 10:58:46 2021

# Not Valid After : Mon Feb 13 10:58:45 2045

# Fingerprint (SHA-256):

1B:E7:AB:E3:06:86:B1:63:48:AF:D1:C6:1B:68:66:A0:EA:7F:48:21:E6:7D:5E:8A:F9:37:CF:80:11:BC:75:0D

#

Fingerprint (SHA1): 46:C6:90:0A:77:3A:B6:BC:F4:65:AD:AC:FC:E3:F7:07:00:6E:DE:6E

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

```

CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA Client RSA Root CA 2021"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\106\306\220\012\167\072\266\274\364\145\255\254\374\343\367\007
\000\156\336\156
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\157\355\134\327\210\314\070\251\334\351\335\331\135\333\330\355
END
CKA_ISSUER MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062
\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\125\122\370\036\333\033\044\054\236\273\226\030\315\002
\050\076
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "HARICA Client ECC Root CA 2021"
#
Issuer: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
Serial Number:31:68:d9:d8:e1:62:57:1e:d2:19:44:88:e6:10:7d:f0
Subject: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
Not Valid Before: Fri Feb 19 11:03:34 2021
Not Valid After : Mon Feb 13 11:03:33 2045
Fingerprint (SHA-256):
8D:D4:B5:37:3C:B0:DE:36:76:9C:12:33:92:80:D8:27:46:B3:AA:6C:D4:26:E7:97:A3:1B:AB:E4:27:9C:F0:0B
Fingerprint (SHA1): BE:64:D3:DA:14:4B:D2:6B:CD:AF:8F:DB:A6:A6:72:F8:DE:26:F9:00
CKA_CLASS
CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA Client ECC Root CA 2021"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL

```

\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061  
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156  
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040  
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165  
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004  
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164  
\040\105\103\103\040\122\157\157\164\040\103\101\040\062\060\062  
\061

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061  
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156  
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040  
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165  
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004  
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164  
\040\105\103\103\040\122\157\157\164\040\103\101\040\062\060\062  
\061

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\061\150\331\330\341\142\127\036\322\031\104\210\346\020  
\175\360

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\132\060\202\001\341\240\003\002\001\002\002\020\061  
\150\331\330\341\142\127\036\322\031\104\210\346\020\175\360\060  
\012\006\010\052\206\110\316\075\004\003\003\060\157\061\013\060  
\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006\003  
\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101\143  
\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145\141  
\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156\163  
\040\103\101\061\047\060\045\006\003\125\004\003\014\036\110\101  
\122\111\103\101\040\103\154\151\145\156\164\040\105\103\103\040  
\122\157\157\164\040\103\101\040\062\060\062\061\060\036\027\015  
\062\061\060\062\061\071\061\061\060\063\063\064\132\027\015\064  
\065\060\062\061\063\061\061\060\063\063\063\132\060\157\061\013  
\060\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006  
\003\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101  
\143\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145  
\141\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156  
\163\040\103\101\061\047\060\045\006\003\125\004\003\014\036\110  
\101\122\111\103\101\040\103\154\151\145\156\164\040\105\103\103  
\040\122\157\157\164\040\103\101\040\062\060\062\061\060\166\060  
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000  
\042\003\142\000\004\007\030\255\225\226\224\320\134\017\202\367  
\052\100\372\002\311\311\075\066\246\243\004\152\301\155\225\001



```
\210\140\022\124\154\134\242\053\156\023\072\210\225\014\034\046
\206\066\112\211\031\267\030\336\073\350\250\120\037\312\337\133
\277\111\200\025\333\343\060\341\035\132\307\052\212\001\007\376
\155\054\064\357\050\050\227\274\301\371\127\206\225\213\065\317
\236\132\321\150\225\243\102\060\100\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035
\016\004\026\004\024\122\010\322\276\062\201\045\375\365\032\227
\354\116\137\032\273\123\315\220\255\060\016\006\003\125\035\017
\001\001\377\004\004\003\002\001\206\060\012\006\010\052\206\110
\316\075\004\003\003\003\147\000\060\144\002\060\114\061\105\106
\117\250\346\276\303\167\262\032\030\113\055\210\173\130\346\253
\224\153\104\003\260\027\377\337\202\163\104\121\054\375\223\035
\006\173\024\322\211\354\100\014\357\041\001\056\002\060\057\311
\056\132\154\054\035\331\225\340\236\260\271\134\122\174\366\370
\070\312\056\361\324\035\362\242\111\242\225\370\301\130\136\117
\376\163\012\357\061\260\253\043\130\023\214\213\336\073
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "HARICA

Client ECC Root CA 2021"

# Issuer: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Serial Number:31:68:d9:d8:e1:62:57:1e:d2:19:44:88:e6:10:7d:f0

# Subject: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Not Valid Before: Fri Feb 19 11:03:34 2021

# Not Valid After : Mon Feb 13 11:03:33 2045

# Fingerprint (SHA-256):

8D:D4:B5:37:3C:B0:DE:36:76:9C:12:33:92:80:D8:27:46:B3:AA:6C:D4:26:E7:97:A3:1B:AB:E4:27:9C:F0:0B

# Fingerprint (SHA1): BE:64:D3:DA:14:4B:D2:6B:CD:AF:8F:DB:A6:A6:72:F8:DE:26:F9:00

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "HARICA Client ECC Root CA 2021"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\276\144\323\332\024\113\322\153\315\257\217\333\246\246\162\370
\336\046\371\000
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\255\270\120\246\251\202\172\154\075\032\252\244\322\143\244\104
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
```

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\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\105\103\103\040\122\157\157\164\040\103\101\040\062\060\062
\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\061\150\331\330\341\142\127\036\322\031\104\210\346\020
\175\360
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Autoridad de Certificacion Firmaprofesional CIF A62634068"
#
Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
Serial Number:1b:70:e9:d2:ff:ae:6c:71
#
Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
Not Valid Before: Tue Sep 23 15:22:07 2014
Not Valid After : Mon May 05 15:22:07 2036
Fingerprint (SHA-256):
57:DE:05:83:EF:D2:B2:6E:03:61:DA:99:DA:9D:F4:64:8D:EF:7E:E8:44:1C:3B:72:8A:FA:9B:CD:E0:F9:B2:6A
Fingerprint (SHA1): 0B:BE:C2:27:22:49:CB:39:AA:DB:35:5C:53:E3:8C:AE:78:FF:B6:FE
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Autoridad de Certificacion Firmaprofesional CIF A62634068"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141

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\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163  
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064  
\060\066\070  
END  
CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\010\033\160\351\322\377\256\154\161  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\006\024\060\202\003\374\240\003\002\001\002\002\010\033  
\160\351\322\377\256\154\161\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\060\121\061\013\060\011\006\003\125\004  
\006\023\002\105\123\061\102\060\100\006\003\125\004\003\014\071  
\101\165\164\157\162\151\144\141\144\040\144\145\040\103\145\162  
\164\151\146\151\143\141\143\151\157\156\040\106\151\162\155\141  
\160\162\157\146\145\163\151\157\156\141\154\040\103\111\106\040  
\101\066\062\066\063\064\060\066\070\060\036\027\015\061\064\060  
\071\062\063\061\065\062\062\060\067\132\027\015\063\066\060\065  
\060\065\061\065\062\062\060\067\132\060\121\061\013\060\011\006  
\003\125\004\006\023\002\105\123\061\102\060\100\006\003\125\004  
\003\014\071\101\165\164\157\162\151\144\141\144\040\144\145\040  
\103\145\162\164\151\146\151\143\141\143\151\157\156\040\106\151  
\162\155\141\160\162\157\146\145\163\151\157\156\141\154\040\103  
\111\106\040\101\066\062\066\063\064\060\066\070\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\312\226\153  
\216\352\370\373\361\242\065\340\177\114\332\340\303\122\327\175  
\266\020\310\002\136\263\103\052\304\117\152\262\312\034\135\050  
\232\170\021\032\151\131\127\257\265\040\102\344\213\017\346\337  
\133\246\003\222\057\365\021\344\142\327\062\161\070\331\004\014  
\161\253\075\121\176\017\007\337\143\005\134\351\277\224\157\301  
\051\202\300\264\332\121\260\301\074\273\255\067\112\134\312\361  
\113\066\016\044\253\277\303\204\167\375\250\120\364\261\347\306  
\057\322\055\131\215\172\012\116\226\151\122\002\252\066\230\354  
\374\372\024\203\014\067\037\311\222\067\177\327\201\055\345\304  
\271\340\076\064\376\147\364\076\146\321\323\364\100\317\136\142  
\064\017\160\006\076\040\030\132\316\367\162\033\045\154\223\164  
\024\223\243\163\261\016\252\207\020\043\131\137\040\005\031\107  
\355\150\216\222\022\312\135\374\326\053\262\222\074\040\317\341  
\137\257\040\276\240\166\177\166\345\354\032\206\141\063\076\347  
\173\264\077\240\017\216\242\271\152\157\271\207\046\157\101\154  
\210\246\120\375\152\143\013\365\223\026\033\031\217\262\355\233  
\233\311\220\365\001\014\337\031\075\017\076\070\043\311\057\217  
\014\321\002\376\033\125\326\116\320\215\074\257\117\244\363\376  
\257\052\323\005\235\171\010\241\313\127\061\264\234\310\220\262  
\147\364\030\026\223\072\374\107\330\321\170\226\061\037\272\053  
\014\137\135\231\255\143\211\132\044\040\166\330\337\375\253\116  
\246\042\252\235\136\346\047\212\175\150\051\243\347\212\270\332  
\021\273\027\055\231\235\023\044\106\367\305\342\330\237\216\177

\307\217\164\155\132\262\350\162\365\254\356\044\020\255\057\024  
\332\377\055\232\106\161\107\276\102\337\273\001\333\364\177\323  
\050\217\061\131\133\323\311\002\246\264\122\312\156\227\373\103  
\305\010\046\157\212\364\273\375\237\050\252\015\325\105\363\023  
\072\035\330\300\170\217\101\147\074\036\224\144\256\173\013\305  
\350\331\001\210\071\032\227\206\144\101\325\073\207\014\156\372  
\017\306\275\110\024\277\071\115\324\236\101\266\217\226\035\143  
\226\223\331\225\006\170\061\150\236\067\006\073\200\211\105\141  
\071\043\307\033\104\243\025\345\034\370\222\060\273\002\003\001  
\000\001\243\201\357\060\201\354\060\035\006\003\125\035\016\004  
\026\004\024\145\315\353\253\065\036\000\076\176\325\164\300\034  
\264\163\107\016\032\144\057\060\022\006\003\125\035\023\001\001  
\377\004\010\060\006\001\001\377\002\001\001\060\201\246\006\003  
\125\035\040\004\201\236\060\201\233\060\201\230\006\004\125\035  
\040\000\060\201\217\060\057\006\010\053\006\001\005\005\007\002  
\001\026\043\150\164\164\160\072\057\057\167\167\167\056\146\151  
\162\155\141\160\162\157\146\145\163\151\157\156\141\154\056\143  
\157\155\057\143\160\163\060\134\006\010\053\006\001\005\005\007  
\002\002\060\120\036\116\000\120\000\141\000\163\000\145\000\157  
\000\040\000\144\000\145\000\040\000\154\000\141\000\040\000\102  
\000\157\000\156\000\141\000\156\000\157\000\166\000\141\000\040  
\000\064\000\067\000\040\000\102\000\141\000\162\000\143\000\145  
\000\154\000\157\000\156\000\141\000\040\000\060\000\070\000\060  
\000\061\000\067\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\015\006\011\052\206\110\206\367\015\001\001  
\013\005\000\003\202\002\001\000\164\207\050\002\053\167\037\146  
\211\144\355\217\164\056\106\034\273\250\370\370\013\035\203\266  
\072\247\350\105\212\007\267\340\076\040\313\341\010\333\023\010  
\370\050\241\065\262\200\263\013\121\300\323\126\232\215\063\105  
\111\257\111\360\340\075\007\172\105\023\132\377\310\227\330\323  
\030\054\175\226\370\335\242\145\103\160\223\220\025\272\220\337  
\350\031\260\333\054\212\140\017\267\157\224\007\036\035\246\311  
\205\366\275\064\370\100\170\142\020\160\072\276\175\113\071\201  
\251\020\324\226\101\273\370\137\034\013\035\010\362\261\260\211  
\172\362\367\240\340\304\217\213\170\265\073\130\245\043\216\117  
\125\376\066\073\340\014\267\312\052\060\101\040\264\200\315\256  
\374\166\146\163\250\256\156\341\174\332\003\350\224\040\346\042  
\243\320\037\220\135\040\123\024\046\127\332\124\227\337\026\104  
\020\001\036\210\146\217\162\070\223\335\040\267\064\276\327\361  
\356\143\216\107\171\050\006\374\363\131\105\045\140\042\063\033  
\243\137\250\272\052\332\032\075\315\100\352\214\356\005\025\225  
\325\245\054\040\057\247\230\050\356\105\374\361\270\210\000\054  
\217\102\332\121\325\234\345\023\150\161\105\103\213\236\013\041  
\074\113\134\005\334\032\237\230\216\332\275\042\236\162\315\255  
\012\313\314\243\147\233\050\164\304\233\327\032\074\004\130\246  
\202\235\255\307\173\157\377\200\226\351\370\215\152\275\030\220  
\035\377\111\032\220\122\067\223\057\074\002\135\202\166\013\121  
\347\026\307\127\370\070\371\247\315\233\042\124\357\143\260\025

```
\155\123\145\003\112\136\112\240\262\247\216\111\000\131\070\325
\307\364\200\144\365\156\225\120\270\021\176\025\160\070\112\260
\177\320\304\062\160\300\031\377\311\070\055\024\054\146\364\102
\104\346\125\166\033\200\025\127\377\300\247\247\252\071\252\330
\323\160\320\056\272\353\224\152\372\137\064\206\347\142\265\375
\212\360\060\205\224\311\257\044\002\057\157\326\335\147\376\343
\260\125\117\004\230\117\244\101\126\342\223\320\152\350\326\363
\373\145\340\316\165\304\061\131\014\356\202\310\014\140\063\112
\031\272\204\147\047\017\274\102\135\275\044\124\015\354\035\160
\006\137\244\274\372\040\174\125
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Autoridad de Certificacion

Firmaprofesional CIF A62634068"

# Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES

# Serial Number:1b:70:e9:d2:ff:ae:6c:71

# Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES

# Not Valid Before: Tue Sep 23 15:22:07 2014

# Not Valid After : Mon May 05 15:22:07 2036

# Fingerprint (SHA-256):

57:DE:05:83:EF:D2:B2:6E:03:61:DA:99:DA:9D:F4:64:8D:EF:7E:E8:44:1C:3B:72:8A:FA:9B:CD:E0:F9:B2:6A

# Fingerprint (SHA1): 0B:BE:C2:27:22:49:CB:39:AA:DB:35:5C:53:E3:8C:AE:78:FF:B6:FE

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Autoridad de Certificacion Firmaprofesional CIF A62634068"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\013\276\302\047\042\111\1313\071\252\333\065\134\123\343\214\256
```

```
\170\377\266\376
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\116\156\233\124\114\312\267\372\110\344\220\261\025\113\034\243
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
```

```
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
```

```
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
```

```
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
```

```
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
```

```
\060\066\070
```

END

CKA\_SERIAL\_NUMBER

```

MULTILINE_OCTAL
\002\010\033\160\351\322\377\256\154\161
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "vTrus ECC Root CA"
#
Issuer: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN
Serial Number:6e:6a:bc:59:aa:53:be:98:39:67:a2:d2:6b:a4:3b:e6:6d:1c:d6:da
Subject: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN
Not Valid Before: Tue Jul 31 07:26:44 2018
Not Valid After : Fri Jul 31 07:26:44 2043
Fingerprint (SHA-256):
30:FB:BA:2C:32:23:8E:2A:98:54:7A:F9:79:31:E5:50:42:8B:9B:3F:1C:8E:EB:66:33:DC:FA:86:C5:B2:7D:D3
#
Fingerprint (SHA1): F6:9C:DB:B0:FC:F6:02:13:B6:52:32:A6:A3:91:3F:16:70:DA:C3:E1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "vTrus ECC Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060
\030\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103
\103\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060
\030\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103
\103\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\024\156\152\274\131\252\123\276\230\071\147\242\322\153\244
\073\346\155\034\326\332
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\017\060\202\001\225\240\003\002\001\002\002\024\156

```

\152\274\131\252\123\276\230\071\147\242\322\153\244\073\346\155  
\034\326\332\060\012\006\010\052\206\110\316\075\004\003\003\060  
\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061\034  
\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103\150  
\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060\030  
\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103\103  
\040\122\157\157\164\040\103\101\060\036\027\015\061\070\060\067  
\063\061\060\067\062\066\064\064\132\027\015\064\063\060\067\063  
\061\060\067\062\066\064\064\132\060\107\061\013\060\011\006\003  
\125\004\006\023\002\103\116\061\034\060\032\006\003\125\004\012  
\023\023\151\124\162\165\163\103\150\151\156\141\040\103\157\056  
\054\114\164\144\056\061\032\060\030\006\003\125\004\003\023\021  
\166\124\162\165\163\040\105\103\103\040\122\157\157\164\040\103  
\101\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005  
\053\201\004\000\042\003\142\000\004\145\120\112\256\214\171\226  
\112\252\034\010\303\243\242\315\376\131\126\101\167\375\046\224  
\102\273\035\315\010\333\163\262\133\165\363\317\234\116\202\364  
\277\370\141\046\205\154\326\205\133\162\160\322\375\333\142\264  
\337\123\213\275\261\104\130\142\102\011\307\372\177\133\020\347  
\376\100\375\300\330\303\053\062\347\160\246\267\246\040\125\035  
\173\200\135\113\217\147\114\361\020\243\102\060\100\060\035\006  
\003\125\035\016\004\026\004\024\230\071\315\276\330\262\214\367  
\262\253\341\255\044\257\173\174\241\333\037\317\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\012\006  
\010\052\206\110\316\075\004\003\003\003\150\000\060\145\002\060  
\127\235\335\126\361\307\343\351\270\111\120\153\233\151\303\157  
\354\303\175\045\344\127\225\023\100\233\122\323\073\363\100\031  
\274\046\307\055\006\236\265\173\066\237\365\045\324\143\153\000  
\002\061\000\351\323\306\236\126\232\052\314\241\332\077\310\146  
\053\323\130\234\040\205\372\253\221\212\160\160\021\070\140\144  
\013\142\011\221\130\000\371\115\373\064\150\332\011\255\041\006  
\030\224\316

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "vTrus ECC Root CA"

# Issuer: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN

# Serial Number:6e:6a:bc:59:aa:53:be:98:39:67:a2:d2:6b:a4:3b:e6:6d:1c:d6:da

# Subject: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN

# Not Valid Before: Tue Jul 31 07:26:44 2018

# Not Valid After : Fri Jul 31 07:26:44 2043

# Fingerprint (SHA-256):

30:FB:BA:2C:32:23:8E:2A:98:54:7A:F9:79:31:E5:50:42:8B:9B:3F:1C:8E:EB:66:33:DC:FA:86:C5:B2:7D:D3

# Fingerprint (SHA1): F6:9C:DB:B0:FC:F6:02:13:B6:52:32:A6:A3:91:3F:16:70:DA:C3:E1

```

CKA_CLASS
CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "vTrus ECC Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\366\234\333\260\374\366\002\023\266\122\062\246\243\221\077\026
\160\332\303\341
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\336\113\301\365\122\214\233\103\341\076\217\125\124\027\215\205
END
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060
\030\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103
\103\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\156\152\274\131\252\123\276\230\071\147\242\322\153\244
\073\346\155\034\326\332
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING
CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "vTrus Root CA"
#
Issuer: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN
Serial Number:43:e3:71:13:d8:b3:59:14:5d:b7:ce:8c:fd:35:fd:6f:bc:05:8d:45
Subject: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN
Not Valid Before: Tue Jul 31 07:24:05 2018
Not Valid After : Fri Jul 31 07:24:05 2043
Fingerprint (SHA-256):
8A:71:DE:65:59:33:6F:42:6C:26:E5:38:80:D0:0D:88:A1:8D:A4:C6:A9:1F:0D:CB:61:94:E2:06:C5:C9:63:87
Fingerprint (SHA1): 84:1A:69:FB:F5:CD:1A:25:34:13:3D:E3:F8:FC:B8:99:D0:C9:14:B7
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "vTrus Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL

```



\060\103\061\013\060\011\006\003\125\004\006\023\002\103\116\061  
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103  
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\026\060  
\024\006\003\125\004\003\023\015\166\124\162\165\163\040\122\157  
\157\164\040\103\101

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\103\061\013\060\011\006\003\125\004\006\023\002\103\116\061  
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103  
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\026\060  
\024\006\003\125\004\003\023\015\166\124\162\165\163\040\122\157  
\157\164\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\024\103\343\161\023\330\263\131\024\135\267\316\214\375\065  
\375\157\274\005\215\105

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\126\060\202\003\076\240\003\002\001\002\002\024\103  
\343\161\023\330\263\131\024\135\267\316\214\375\065\375\157\274  
\005\215\105\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\103\061\013\060\011\006\003\125\004\006\023\002\103  
\116\061\034\060\032\006\003\125\004\012\023\023\151\124\162\165  
\163\103\150\151\156\141\040\103\157\056\054\114\164\144\056\061  
\026\060\024\006\003\125\004\003\023\015\166\124\162\165\163\040  
\122\157\157\164\040\103\101\060\036\027\015\061\070\060\067\063  
\061\060\067\062\064\060\065\132\027\015\064\063\060\067\063\061  
\060\067\062\064\060\065\132\060\103\061\013\060\011\006\003\125  
\004\006\023\002\103\116\061\034\060\032\006\003\125\004\012\023  
\023\151\124\162\165\163\103\150\151\156\141\040\103\157\056\054  
\114\164\144\056\061\026\060\024\006\003\125\004\003\023\015\166  
\124\162\165\163\040\122\157\157\164\040\103\101\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\275\125\174  
\141\323\270\035\004\142\005\240\256\154\267\160\264\101\352\113  
\003\136\020\077\220\132\034\213\073\260\146\213\154\110\246\034  
\042\272\325\100\222\356\063\262\043\131\311\216\274\130\332\213  
\236\320\031\362\057\131\306\214\143\132\272\237\243\013\260\263  
\232\134\272\021\270\022\351\014\273\317\156\154\200\207\051\024  
\003\054\215\044\232\310\144\203\265\152\254\023\054\063\361\237  
\334\054\141\074\032\077\160\125\233\255\000\122\177\317\004\271  
\376\066\372\234\300\026\256\142\376\226\114\103\176\125\024\276  
\032\263\322\155\302\257\166\146\225\153\052\260\224\167\205\136  
\004\017\142\035\143\165\367\153\347\313\133\232\160\354\076\147  
\005\360\376\007\010\200\317\050\333\005\306\024\047\057\206\175  
\360\047\336\377\346\176\063\110\347\013\036\130\321\047\053\123

\016\127\112\145\327\373\242\200\140\374\114\274\065\123\001\152  
\227\162\202\257\361\035\160\350\234\365\357\136\302\154\307\107  
\176\132\224\205\046\115\073\272\353\114\350\260\011\302\145\302  
\235\235\011\233\116\265\227\005\254\365\006\240\367\066\005\176  
\364\220\262\153\304\264\371\144\352\351\032\012\310\015\250\355  
\047\311\324\347\263\271\253\202\042\220\047\075\052\350\174\220  
\357\274\117\375\342\012\044\247\336\145\044\244\135\352\300\166  
\060\323\167\120\370\015\004\233\224\066\001\163\312\006\130\246  
\323\073\334\372\004\106\023\125\212\311\104\107\270\121\071\032  
\056\350\064\342\171\313\131\112\012\177\274\246\357\037\003\147  
\152\131\053\045\142\223\331\123\031\146\074\047\142\051\206\115  
\244\153\356\377\324\116\272\325\264\342\216\110\132\000\031\011  
\361\005\331\316\221\261\367\353\351\071\117\366\157\004\103\232  
\125\365\076\005\024\275\277\263\131\264\330\216\063\204\243\220  
\122\252\263\002\225\140\371\014\114\150\371\356\325\027\015\370  
\161\127\265\045\344\051\356\145\135\257\321\356\074\027\013\132  
\103\305\245\206\352\044\236\342\005\007\334\064\102\022\221\326  
\071\164\256\114\101\202\333\362\246\110\321\263\233\363\063\252  
\363\246\300\305\116\365\364\235\166\143\346\002\306\042\113\301  
\225\077\120\144\054\124\345\266\360\074\051\317\127\002\003\001  
\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026\004  
\024\124\142\160\143\361\165\204\103\130\216\321\026\040\261\306  
\254\032\274\366\211\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\015\006\011\052\206\110\206\367\015  
\001\001\013\005\000\003\202\002\001\000\051\272\222\111\247\255  
\360\361\160\303\344\227\360\237\251\045\325\153\236\064\376\346  
\032\144\366\072\153\122\262\020\170\032\237\114\332\212\332\354  
\034\067\122\340\102\113\373\154\166\312\044\013\071\022\025\235  
\237\021\055\374\171\144\334\340\340\365\335\340\127\311\245\262  
\166\160\120\244\376\267\012\160\325\240\064\361\165\327\115\111  
\272\021\321\263\330\354\202\377\353\016\304\277\144\055\175\143  
\156\027\170\354\135\174\210\310\353\216\127\166\331\131\004\372  
\274\122\037\105\254\360\172\200\354\354\157\166\256\221\333\020  
\216\004\334\222\337\240\366\346\256\111\323\301\154\022\033\314  
\051\252\371\010\245\342\067\024\312\261\270\146\357\032\202\344  
\360\370\361\247\026\151\267\333\251\141\074\237\365\061\313\344  
\000\106\302\057\164\261\261\327\201\356\250\046\225\274\210\257  
\114\065\007\052\002\312\170\024\155\107\053\100\126\351\313\052  
\140\241\147\003\240\316\214\274\260\162\147\304\061\316\333\064  
\345\045\003\140\045\173\161\230\344\300\033\053\137\164\102\322  
\113\305\131\010\007\207\276\305\303\177\347\226\331\341\334\050  
\227\326\217\005\343\365\233\116\312\035\120\107\005\123\260\312  
\071\347\205\240\211\301\005\073\001\067\323\077\111\342\167\353  
\043\310\210\146\073\075\071\166\041\106\361\354\137\043\270\353  
\242\146\165\164\301\100\367\330\150\232\223\342\055\251\056\275  
\034\243\036\310\164\306\244\055\172\040\253\073\270\260\106\375  
\157\335\137\122\125\165\142\360\227\240\174\327\070\375\045\337

```
\315\240\233\020\317\213\270\070\136\136\305\264\246\002\066\241
\036\137\034\317\342\226\235\051\252\375\230\256\122\341\363\101
\122\373\251\056\162\226\237\047\343\252\163\175\370\032\043\146
\173\073\253\145\260\062\001\113\025\076\075\242\117\014\053\065
\242\306\331\147\022\065\060\315\166\056\026\263\231\236\115\117
\116\055\073\064\103\341\232\016\015\244\146\227\272\322\034\112
\114\054\052\213\213\201\117\161\032\251\335\134\173\173\010\305
\000\015\067\100\343\174\173\124\137\057\205\137\166\366\367\247
\260\034\127\126\301\162\350\255\242\257\215\063\111\272\037\212
\334\346\164\174\140\206\157\207\227\173
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "vTrus Root CA"

# Issuer: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN

# Serial Number:43:e3:71:13:d8:b3:59:14:5d:b7:ce:8c:fd:35:fd:6f:bc:05:8d:45

# Subject: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN

# Not Valid Before: Tue Jul 31 07:24:05 2018

# Not Valid After : Fri Jul 31 07:24:05 2043

# Fingerprint (SHA-256):

8A:71:DE:65:59:33:6F:42:6C:26:E5:38:80:D0:0D:88:A1:8D:A4:C6:A9:1F:0D:CB:61:94:E2:06:C5:C9:63:87

# Fingerprint (SHA1): 84:1A:69:FB:F5:CD:1A:25:34:13:3D:E3:F8:FC:B8:99:D0:C9:14:B7

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "vTrus Root CA"

CKA\_CERT\_SHA1\_HASH

MULTILINE\_OCTAL

```
\204\032\151\373\365\315\032\045\064\023\075\343\370\374\270\231
\320\311\024\267
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\270\311\067\337\372\153\061\204\144\305\352\021\152\033\165\374
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\103\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\026\060
\024\006\003\125\004\003\023\015\166\124\162\165\163\040\122\157
\157\164\040\103\101
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\024\103\343\161\023\330\263\131\024\135\267\316\214\375\065
\375\157\274\005\215\105
```

```

END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "ISRG Root X2"
#
Issuer: CN=ISRG Root X2,O=Internet Security Research Group,C=US
Serial Number:41:d2:9d:d1:72:ea:ee:a7:80:c1:2c:6c:e9:2f:87:52
#
Subject: CN=ISRG Root X2,O=Internet Security Research Group,C=US
Not Valid Before: Fri Sep 04 00:00:00 2020
Not Valid After : Mon Sep 17 16:00:00 2040
Fingerprint (SHA-256):
69:72:9B:8E:15:A8:6E:FC:17:7A:57:AF:B7:17:1D:FC:64:AD:D2:8C:2F:CA:8C:F1:50:7E:34:45:3C:CB:14:70
Fingerprint (SHA1): BD:B1:B9:3C:D5:97:8D:45:C6:26:14:55:F8:DB:95:C7:5A:D1:53:AF
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ISRG Root X2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\062
END
CKA_ID UTF8 "0"
CKA_ISSUER
MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\101\322\235\321\162\352\356\247\200\301\054\154\351\057
\207\122
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\033\060\202\001\241\240\003\002\001\002\002\020\101

```

\322\235\321\162\352\356\247\200\301\054\154\351\057\207\122\060  
\012\006\010\052\206\110\316\075\004\003\003\060\117\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\051\060\047\006\003  
\125\004\012\023\040\111\156\164\145\162\156\145\164\040\123\145  
\143\165\162\151\164\171\040\122\145\163\145\141\162\143\150\040  
\107\162\157\165\160\061\025\060\023\006\003\125\004\003\023\014  
\111\123\122\107\040\122\157\157\164\040\130\062\060\036\027\015  
\062\060\060\071\060\064\060\060\060\060\060\132\027\015\064  
\060\060\071\061\067\061\066\060\060\060\060\132\060\117\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\051\060\047\006  
\003\125\004\012\023\040\111\156\164\145\162\156\145\164\040\123  
\145\143\165\162\151\164\171\040\122\145\163\145\141\162\143\150  
\040\107\162\157\165\160\061\025\060\023\006\003\125\004\003\023  
\014\111\123\122\107\040\122\157\157\164\040\130\062\060\166\060  
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000  
\042\003\142\000\004\315\233\325\237\200\203\012\354\011\112\363  
\026\112\076\134\317\167\254\336\147\005\015\035\007\266\334\026  
\373\132\213\024\333\342\161\140\304\272\105\225\021\211\216\352  
\006\337\367\052\026\034\244\271\305\305\062\340\003\340\036\202  
\030\070\213\327\105\330\012\152\156\346\000\167\373\002\121\175  
\042\330\012\156\232\133\167\337\360\372\101\354\071\334\165\312  
\150\007\014\037\352\243\102\060\100\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035  
\016\004\026\004\024\174\102\226\256\336\113\110\073\372\222\370  
\236\214\317\155\213\251\162\067\225\060\012\006\010\052\206\110  
\316\075\004\003\003\003\150\000\060\145\002\060\173\171\116\106  
\120\204\302\104\207\106\033\105\160\377\130\231\336\364\375\244  
\322\125\246\040\055\164\326\064\274\101\243\120\137\001\047\126  
\264\276\047\165\006\257\022\056\165\230\215\374\002\061\000\213  
\365\167\154\324\310\145\252\340\013\054\356\024\235\047\067\244  
\371\123\245\121\344\051\203\327\370\220\061\133\102\237\012\365  
\376\256\000\150\347\214\111\017\266\157\133\133\025\362\347

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "ISRG Root X2"

# Issuer: CN=ISRG Root X2,O=Internet Security Research Group,C=US

# Serial Number:41:d2:9d:d1:72:ea:ee:a7:80:c1:2c:6c:e9:2f:87:52

#

Subject: CN=ISRG Root X2,O=Internet Security Research Group,C=US

# Not Valid Before: Fri Sep 04 00:00:00 2020

# Not Valid After : Mon Sep 17 16:00:00 2040

# Fingerprint (SHA-256):

69:72:9B:8E:15:A8:6E:FC:17:7A:57:AF:B7:17:1D:FC:64:AD:D2:8C:2F:CA:8C:F1:50:7E:34:45:3C:CB:14:70

```
Fingerprint (SHA1): BD:B1:B9:3C:D5:97:8D:45:C6:26:14:55:F8:DB:95:C7:5A:D1:53:AF
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ISRG Root X2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\275\261\271\074\325\227\215\105\306\046\024\125\370\333\225\307
\132\321\123\257
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\323\236\304\036\043\074\246\337\317\243\176\155\340\024\346\345
END
CKA_ISSUER MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\101\322\235\321\162\352\356\247\200\301\054\154\351\057
\207\122
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
Certificate "HiPKI Root CA - G1"
#
Issuer: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW
Serial Number:2d:dd:ac:ce:62:97:94:a1:43:e8:b0:cd:76:6a:5e:60
Subject: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW
Not Valid Before: Fri Feb 22 09:46:04 2019
Not Valid After : Thu Dec 31 15:59:59 2037
Fingerprint (SHA-256):
F0:15:CE:3C:C2:39:BF:EF:06:4B:E9:F1:D2:C4:17:E1:A0:26:4A:0A:94:BE:1F:0C:8D:12:18:64:EB:69:49:CC
Fingerprint (SHA1): 6A:92:E4:A8:EE:1B:EC:96:45:37:E3:29:57:49:CD:96:E3:E5:D2:60
CKA_CLASS CK_OBJECT_CLASS
CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HiPKI Root CA - G1"
```

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061  
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150  
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040  
\114\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110  
\151\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107  
\061

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061  
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150  
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040  
\114\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110  
\151\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107  
\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\055\335\254\316\142\227\224\241\103\350\260\315\166\152  
\136\140

END

CKA\_VALUE

MULTILINE\_OCTAL

\060\202\005\152\060\202\003\122\240\003\002\001\002\002\020\055  
\335\254\316\142\227\224\241\103\350\260\315\166\152\136\140\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\117  
\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043\060  
\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167\141  
\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114\164  
\144\056\061\033\060\031\006\003\125\004\003\014\022\110\151\120  
\113\111\040\122\157\157\164\040\103\101\040\055\040\107\061\060  
\036\027\015\061\071\060\062\062\062\060\071\064\066\060\064\132  
\027\015\063\067\061\062\063\061\061\065\065\071\065\071\132\060  
\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043  
\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167  
\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114  
\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110\151  
\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107\061  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\364\036\177\122\163\062\014\163\344\275\023\164\243\324\060  
\250\320\256\113\330\266\337\165\107\146\364\174\347\071\004\036  
\152\160\040\322\132\107\162\147\125\364\245\350\235\325\036\041  
\241\360\147\272\314\041\150\276\104\123\277\215\371\342\334\057  
\125\310\067\077\037\244\300\234\263\344\167\134\240\106\376\167  
\372\032\240\070\352\355\232\162\336\053\275\224\127\072\272\354  
\171\347\137\175\102\144\071\172\046\066\367\044\360\325\057\272

\225\230\021\146\255\227\065\326\165\001\200\340\257\364\204\141  
\214\015\036\137\174\207\226\136\101\257\353\207\352\370\135\361  
\056\210\005\076\114\042\273\332\037\052\335\122\106\144\071\363  
\102\316\331\236\014\263\260\167\227\144\234\300\364\243\056\037  
\225\007\260\027\337\060\333\000\030\226\114\241\201\113\335\004  
\155\123\243\075\374\007\254\324\305\067\202\353\344\225\010\031  
\050\202\322\102\072\243\330\123\354\171\211\140\110\140\310\162  
\222\120\334\003\217\203\077\262\102\127\132\333\152\351\021\227  
\335\205\050\274\060\114\253\343\302\261\105\104\107\037\340\212  
\026\007\226\322\041\017\123\300\355\251\176\324\116\354\233\011  
\354\257\102\254\060\326\277\321\020\105\340\246\026\262\245\305  
\323\117\163\224\063\161\002\241\152\243\326\063\227\117\041\143  
\036\133\217\331\301\136\105\161\167\017\201\135\137\041\232\255  
\203\314\372\136\326\215\043\137\033\075\101\257\040\165\146\132  
\112\366\237\373\253\030\367\161\300\266\035\061\354\073\040\353  
\313\342\270\365\256\222\262\367\341\204\113\362\242\362\223\232  
\042\236\323\024\157\066\124\275\037\136\131\025\271\163\250\301  
\174\157\173\142\351\026\154\107\132\145\363\016\021\233\106\331  
\375\155\334\326\234\300\264\175\245\260\335\077\126\157\241\371  
\366\344\022\110\375\006\177\022\127\266\251\043\117\133\003\303  
\340\161\052\043\267\367\260\261\073\274\230\275\326\230\250\014  
\153\366\216\022\147\246\362\262\130\344\002\011\023\074\251\273  
\020\264\322\060\105\361\354\367\000\021\337\145\370\334\053\103  
\125\277\026\227\304\017\325\054\141\204\252\162\206\376\346\072  
\176\302\077\175\356\374\057\024\076\346\205\335\120\157\267\111  
\355\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125  
\035\016\004\026\004\024\362\167\027\372\136\250\376\366\075\161  
\325\150\272\311\106\014\070\330\257\260\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\206\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\120\121  
\360\165\334\160\004\343\377\252\165\324\161\242\313\236\217\250  
\251\323\257\165\307\124\317\072\034\004\231\042\254\304\021\342  
\357\063\112\246\043\035\016\015\107\330\067\307\157\257\064\177  
\117\201\153\065\117\351\162\245\061\342\170\347\367\116\224\030  
\133\100\175\317\153\041\124\206\346\225\172\373\306\312\352\234  
\110\116\127\011\135\057\254\364\245\264\227\063\130\325\254\171  
\251\314\137\371\205\372\122\305\215\370\221\024\353\072\015\027  
\320\122\302\173\343\302\163\216\106\170\006\070\054\350\134\332  
\146\304\364\244\360\126\031\063\051\132\145\222\005\107\106\112  
\253\204\303\036\047\241\037\021\222\231\047\165\223\017\274\066  
\073\227\127\217\046\133\014\273\234\017\324\156\060\007\324\334  
\137\066\150\146\071\203\226\047\046\212\310\304\071\376\232\041  
\157\325\162\206\351\177\142\345\227\116\320\044\320\100\260\320  
\165\010\216\275\150\356\010\327\156\174\020\160\106\033\174\340  
\210\262\236\162\206\231\001\343\277\237\111\031\264\045\276\126  
\145\256\027\143\345\036\337\350\377\107\245\277\341\046\005\204  
\344\260\300\257\347\010\231\250\014\136\046\200\105\324\370\150



```
\057\226\217\256\342\112\034\234\026\014\023\157\070\207\366\273
\310\064\137\222\003\121\171\160\246\337\313\365\231\115\171\315
\116\274\127\237\103\116\153\056\053\030\370\152\163\214\272\305
\065\357\071\152\101\036\317\161\250\242\262\206\007\133\072\311
\341\357\077\145\004\200\107\062\104\160\225\116\061\147\152\164
\133\020\105\165\352\260\237\320\346\065\376\116\237\213\314\053
\222\105\133\156\045\140\205\106\315\321\252\260\166\146\223\167
\226\276\203\276\070\266\044\116\046\013\314\355\172\126\032\340
\351\132\306\144\255\114\172\000\110\104\057\271\100\273\023\076
\276\025\170\235\205\201\112\052\127\336\325\031\103\332\333\312
\133\107\206\203\013\077\266\015\166\170\163\171\042\136\261\200
\037\317\276\321\077\126\020\230\053\225\207\241\037\235\144\024
\140\071\054\263\000\125\056\344\365\263\016\127\304\221\101\000
\234\077\350\245\337\352\366\377\310\360\255\155\122\250\027\253
\233\141\374\022\121\065\344\045\375\257\252\152\206\071
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "HiPKI Root CA - G1"

# Issuer: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW

# Serial Number:2d:dd:ac:ce:62:97:94:a1:43:e8:b0:cd:76:6a:5e:60

#

Subject: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW

# Not Valid Before: Fri Feb 22 09:46:04 2019

# Not Valid After : Thu Dec 31 15:59:59 2037

# Fingerprint (SHA-256):

F0:15:CE:3C:C2:39:BF:EF:06:4B:E9:F1:D2:C4:17:E1:A0:26:4A:0A:94:BE:1F:0C:8D:12:18:64:EB:69:49:CC

# Fingerprint (SHA1): 6A:92:E4:A8:EE:1B:EC:96:45:37:E3:29:57:49:CD:96:E3:E5:D2:60

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "HiPKI Root CA - G1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\152\222\344\250\356\033\354\226\105\067\343\051\127\111\315\226
\343\345\322\140
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\151\105\337\026\145\113\350\150\232\217\166\137\377\200\236\323
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110
```

```

\151\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107
\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\055\335\254\316\142\227\224\241\103\350\260\315\166\152
\136\140
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GlobalSign ECC Root CA - R4"
#
Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4
Serial Number:02:03:e5:7e:f5:3f:93:fd:a5:09:21:b2:a6
Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4
Not Valid Before: Tue Nov 13 00:00:00 2012
Not Valid After : Tue Jan 19 03:14:07 2038
Fingerprint (SHA-256):
B0:85:D7:0B:96:4F:19:1A:73:E4:AF:0D:54:AE:7A:0E:07:AA:FD:AF:9B:71:DD:08:62:13:8A:B7:32:5A:24:A2
Fingerprint (SHA1): 6B:A0:B0:98:E1:71:EF:5A:AD:FE:48:15:80:77:10:F4:BD:6F:0B:28
CKA_CLASS
CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign ECC Root CA - R4"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\064\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\064\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END

```

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\015\002\003\345\176\365\077\223\375\245\011\041\262\246

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\001\334\060\202\001\203\240\003\002\001\002\002\015\002

\003\345\176\365\077\223\375\245\011\041\262\246\060\012\006\010

\052\206\110\316\075\004\003\002\060\120\061\044\060\042\006\003

\125\004\013\023\033\107\154\157\142\141\154\123\151\147\156\040

\105\103\103\040\122\157\157\164\040\103\101\040\055\040\122\064

\061\023\060\021\006\003\125\004\012\023\012\107\154\157\142\141

\154\123\151\147\156\061\023\060\021\006\003\125\004\003\023\012

\107\154\157\142\141\154\123\151\147\156\060\036\027\015\061\062

\061\061\061\063\060\060\060\060\060\060\132\027\015\063\070\060

\061\061\071\060\063\061\064\060\067\132\060\120\061\044\060\042

\006\003\125\004\013\023\033\107\154\157\142\141\154\123\151\147

\156\040\105\103\103\040\122\157\157\164\040\103\101\040\055\040

\122\064\061\023\060\021\006\003\125\004\012\023\012\107\154\157

\142\141\154\123\151\147\156\061\023\060\021\006\003\125\004\003

\023\012\107\154\157\142\141\154\123\151\147\156\060\131\060\023

\006\007\052\206\110\316\075\002\001\006\010\052\206\110\316\075

\003\001\007\003\102\000\004\270\306\171\323\217\154\045\016\237

\056\071\031\034\003\244\256\232\345\071\007\011\026\312\143\261

\271\206\370\212\127\301\127\316\102\372\163\241\367\145\102\377

\036\301\000\262\156\163\016\377\307\041\345\030\244\252\331\161

\077\250\324\271\316\214\035\243\102\060\100\060\016\006\003\125

\035\017\001\001\377\004\004\003\002\001\206\060\017\006\003\125

\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003

\125\035\016\004\026\004\024\124\260\173\255\105\270\342\100\177

\373\012\156\373\276\063\311\074\243\204\325\060\012\006\010\052

\206\110\316\075\004\003\002\003\107\000\060\104\002\040\042\117

\164\162\271\140\257\361\346\234\240\026\005\120\137\303\136\073

\156\141\164\357\276\001\304\276\030\110\131\141\202\062\002\040

\046\235\124\143\100\336\067\140\120\317\310\330\355\235\202\256

\067\230\274\243\217\114\114\251\064\053\154\357\373\225\233\046

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign ECC Root CA - R4"  
# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4  
# Serial Number:02:03:e5:7e:f5:3f:93:fd:a5:09:21:b2:a6  
# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4  
# Not Valid Before: Tue Nov 13 00:00:00 2012  
# Not Valid After : Tue Jan 19 03:14:07 2038  
# Fingerprint (SHA-256):

```

B0:85:D7:0B:96:4F:19:1A:73:E4:AF:0D:54:AE:7A:0E:07:AA:FD:AF:9B:71:DD:08:62:13:8A:B7:32:5A:24:A2
Fingerprint (SHA1): 6B:A0:B0:98:E1:71:EF:5A:AD:FE:48:15:80:77:10:F4:BD:6F:0B:28
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign ECC Root CA - R4"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\153\240\260\230\341\161\357\132\255\376\110\025\200\167\020\364
\275\157\013\050
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\046\051\370\155\341\210\277\242\145\177\252\304\315\017\177\374
END
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\064\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\002\003\345\176\365\077\223\375\245\011\041\262\246
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GTS Root R1"
#
Issuer: CN=GTS Root R1,O=Google Trust Services LLC,C=US
Serial Number:02:03:e5:93:6f:31:b0:13:49:88:6b:a2:17
Subject: CN=GTS Root R1,O=Google Trust
Services LLC,C=US
Not Valid Before: Wed Jun 22 00:00:00 2016
Not Valid After : Sun Jun 22 00:00:00 2036
Fingerprint (SHA-256):
D9:47:43:2A:BD:E7:B7:FA:90:FC:2E:6B:59:10:1B:12:80:E0:E1:C7:E4:E4:0F:A3:C6:88:7F:FF:57:A7:F4:CF
Fingerprint (SHA1): E5:8C:1C:C4:91:3B:38:63:4B:E9:10:6E:E3:AD:8E:6B:9D:D9:81:4A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R1"

```

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145  
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040  
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124  
\123\040\122\157\157\164\040\122\061

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145  
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040  
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124  
\123\040\122\157\157\164\040\122\061

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\015\002\003\345\223\157\061\260\023\111\210\153\242\027

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\127\060\202\003\077\240\003\002\001\002\002\015\002  
\003\345\223\157\061\260\023\111\210\153\242\027\060\015\006\011  
\052\206\110\206\367\015\001\001\014\005\000\060\107\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\042\060\040\006\003  
\125\004\012\023\031\107\157\157\147\154\145\040\124\162\165\163  
\164\040\123\145\162\166\151\143\145\163\040\114\114\103\061\024  
\060\022\006\003\125\004\003\023\013\107\124\123\040\122\157\157  
\164\040\122\061\060\036\027\015\061\066\060\066\062\062\060\060  
\060\060\060\060\132\027\015\063\066\060\066\062\062\060\060\060  
\060\060\060\132\060\107\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\042\060\040\006\003\125\004\012\023\031\107\157  
\157\147\154\145\040\124\162\165\163\164\040\123\145\162\166\151  
\143\145\163\040\114\114\103\061\024\060\022\006\003\125\004\003  
\023\013\107\124\123\040\122\157\157\164\040\122\061\060\202\002  
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000  
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\266\021  
\002\213\036\343\241\167\233\073\334\277\224\076\267\225\247\100  
\074\241\375\202\371\175\062\006\202\161\366\366\214\177\373\350  
\333\274\152\056\227\227\243\214\113\371\053\366\261\371\316\204  
\035\261\371\305\227\336\357\271\362\243\351\274\022\211\136\247  
\252\122\253\370\043\047\313\244\261\234\143\333\327\231\176\360  
\012\136\353\150\246\364\306\132\107\015\115\020\063\343\116\261  
\023\243\310\030\154\113\354\374\011\220\337\235\144\051\045\043  
\007\241\264\322\075\056\140\340\317\322\011\207\273\315\110\360  
\115\302\302\172\210\212\273\272\317\131\031\326\257\217\260\007  
\260\236\061\361\202\301\300\337\056\246\155\154\031\016\265\330  
\176\046\032\105\003\075\260\171\244\224\050\255\017\177\046\345

\250\010\376\226\350\074\150\224\123\356\203\072\210\053\025\226  
\011\262\340\172\214\056\165\326\234\353\247\126\144\217\226\117  
\150\256\075\227\302\204\217\300\274\100\300\013\134\275\366\207  
\263\065\154\254\030\120\177\204\340\114\315\222\323\040\351\063  
\274\122\231\257\062\265\051\263\045\052\264\110\371\162\341\312  
\144\367\346\202\020\215\350\235\302\212\210\372\070\146\212\374  
\143\371\001\371\170\375\173\134\167\372\166\207\372\354\337\261  
\016\171\225\127\264\275\046\357\326\001\321\353\026\012\273\216  
\013\265\305\305\212\125\253\323\254\352\221\113\051\314\031\244  
\062\045\116\052\361\145\104\320\002\316\252\316\111\264\352\237  
\174\203\260\100\173\347\103\253\247\154\243\217\175\211\201\372  
\114\245\377\325\216\303\316\113\340\265\330\263\216\105\317\166  
\300\355\100\053\375\123\017\260\247\325\073\015\261\212\242\003  
\336\061\255\314\167\352\157\173\076\326\337\221\042\022\346\276  
\372\330\062\374\020\143\024\121\162\336\135\326\026\223\275\051  
\150\063\357\072\146\354\007\212\046\337\023\327\127\145\170\047  
\336\136\111\024\000\242\000\177\232\250\041\266\251\261\225\260  
\245\271\015\026\021\332\307\154\110\074\100\340\176\015\132\315  
\126\074\321\227\005\271\313\113\355\071\113\234\304\077\322\125  
\023\156\044\260\326\161\372\364\301\272\314\355\033\365\376\201  
\101\330\000\230\075\072\310\256\172\230\067\030\005\225\002\003  
\001\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001  
\377\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001  
\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004  
\026\004\024\344\257\053\046\161\032\053\110\047\205\057\122\146  
\054\357\360\211\023\161\076\060\015\006\011\052\206\110\206\367  
\015\001\001\014\005\000\003\202\002\001\000\237\252\102\046\333  
\013\233\276\377\036\226\222\056\076\242\145\112\152\230\272\042  
\313\175\301\072\330\202\012\006\306\366\245\336\300\116\207\146  
\171\241\371\246\130\234\252\371\265\346\140\347\340\350\261\036  
\102\101\063\013\067\075\316\211\160\025\312\265\044\250\317\153  
\265\322\100\041\230\317\042\064\317\073\305\042\204\340\305\016  
\212\174\135\210\344\065\044\316\233\076\032\124\036\156\333\262  
\207\247\374\363\372\201\125\024\142\012\131\251\042\005\061\076  
\202\326\356\333\127\064\274\063\225\323\027\033\350\047\242\213  
\173\116\046\032\172\132\144\266\321\254\067\361\375\240\363\070  
\354\162\360\021\165\235\313\064\122\215\346\166\153\027\306\337  
\206\253\047\216\111\053\165\146\201\020\041\246\352\076\364\256  
\045\377\174\025\336\316\214\045\077\312\142\160\012\367\057\011  
\146\007\310\077\034\374\360\333\105\060\337\142\210\301\265\017  
\235\303\237\112\336\131\131\107\305\207\042\066\346\202\247\355  
\012\271\342\007\240\215\173\172\112\074\161\322\342\003\241\037  
\062\007\335\033\344\102\316\014\000\105\141\200\265\013\040\131  
\051\170\275\371\125\313\143\305\074\114\364\266\377\333\152\137  
\061\153\231\236\054\301\153\120\244\327\346\030\024\275\205\077  
\147\253\106\237\240\377\102\247\072\177\134\313\135\260\160\035  
\053\064\365\324\166\011\014\353\170\114\131\005\363\063\102\303  
\141\025\020\033\167\115\316\042\214\324\205\362\105\175\267\123

```
\352\357\100\132\224\012\134\040\137\116\100\135\142\042\166\337
\377\316\141\275\214\043\170\322\067\002\340\216\336\321\021\067
\211\366\277\355\111\007\142\256\222\354\100\032\257\024\011\331
\320\116\262\242\367\276\356\356\330\377\334\032\055\336\270\066
\161\342\374\171\267\224\045\321\110\163\133\241\065\347\263\231
\147\165\301\031\072\053\107\116\323\102\216\375\061\310\026\146
\332\322\014\074\333\263\216\311\241\015\200\017\173\026\167\024
\277\377\333\011\224\262\223\274\040\130\025\351\333\161\103\363
\336\020\303\000\334\250\052\225\266\302\326\077\220\153\166\333
\154\376\214\274\362\160\065\014\334\231\031\065\334\327\310\106
\143\325\066\161\256\127\373\267\202\155\334
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

# Trust for "GTS Root R1"

# Issuer: CN=GTS Root R1,O=Google Trust Services LLC,C=US

# Serial Number:02:03:e5:93:6f:31:b0:13:49:88:6b:a2:17

# Subject: CN=GTS Root R1,O=Google Trust Services LLC,C=US

# Not Valid Before: Wed Jun 22 00:00:00 2016

# Not Valid After : Sun Jun 22 00:00:00 2036

# Fingerprint (SHA-256):

D9:47:43:2A:BD:E7:B7:FA:90:FC:2E:6B:59:10:1B:12:80:E0:E1:C7:E4:E4:0F:A3:C6:88:7F:FF:57:A7:F4:CF

# Fingerprint (SHA1): E5:8C:1C:C4:91:3B:38:63:4B:E9:10:6E:E3:AD:8E:6B:9D:D9:81:4A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GTS Root R1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\345\214\034\304\221\073\070\143\113\351\020\156\343\255\216\153
\235\331\201\112
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\005\376\320\277\161\250\243\166\143\332\001\340\330\122\334\100
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\061
```

END

CKA\_SERIAL\_NUMBER

```

MULTILINE_OCTAL
\002\015\002\003\345\223\157\061\260\023\111\210\153\242\027
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GTS Root R2"
#
Issuer: CN=GTS Root R2,O=Google Trust Services LLC,C=US
Serial Number:02:03:e5:ae:c5:8d:04:25:1a:ab:11:25:aa
Subject: CN=GTS Root R2,O=Google Trust Services LLC,C=US
Not Valid Before: Wed Jun 22 00:00:00 2016
Not Valid After : Sun Jun 22 00:00:00 2036
Fingerprint (SHA-256):
8D:25:CD:97:22:9D:BF:70:35:6B:DA:4E:B3:CC:73:40:31:E2:4C:F0:0F:AF:CF:D3:2D:C7:6E:B5:84:1C:7E:A8
Fingerprint (SHA1): 9A:44:49:76:32:DB:DE:FA:D0:BC:FB:5A:7B:17:BD:9E:56:09:24:94
CKA_CLASS
CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\002\003\345\256\305\215\004\045\032\253\021\045\252
END
CKA_VALUE
MULTILINE_OCTAL
\060\202\005\127\060\202\003\077\240\003\002\001\002\002\015\002
\003\345\256\305\215\004\045\032\253\021\045\252\060\015\006\011

```



\052\206\110\206\367\015\001\001\014\005\000\060\107\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\042\060\040\006\003  
\125\004\012\023\031\107\157\157\147\154\145\040\124\162\165\163  
\164\040\123\145\162\166\151\143\145\163\040\114\114\103\061\024  
\060\022\006\003\125\004\003\023\013\107\124\123\040\122\157\157  
\164\040\122\062\060\036\027\015\061\066\060\066\062\062\060\060  
\060\060\060\060\132\027\015\063\066\060\066\062\062\060\060\060  
\060\060\060\132\060\107\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\042\060\040\006\003\125\004\012\023\031\107\157  
\157\147\154\145\040\124\162\165\163\164\040\123\145\162\166\151  
\143\145\163\040\114\114\103\061\024\060\022\006\003\125\004\003  
\023\013\107\124\123\040\122\157\157\164\040\122\062\060\202\002  
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000  
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\316\336  
\375\246\373\354\354\024\064\074\007\006\132\154\131\367\031\065  
\335\367\301\235\125\252\323\315\073\244\223\162\357\012\372\155  
\235\366\360\205\200\133\241\110\122\237\071\305\267\356\050\254  
\357\313\166\150\024\271\337\255\001\154\231\037\304\042\035\237  
\376\162\167\340\054\133\257\344\004\277\117\162\240\032\064\230  
\350\071\150\354\225\045\173\166\241\346\151\271\205\031\275\211  
\214\376\255\355\066\352\163\274\377\203\342\313\175\301\322\316  
\112\263\215\005\236\213\111\223\337\301\133\320\156\136\360\056  
\060\056\202\374\372\274\264\027\012\110\345\210\233\305\233\153  
\336\260\312\264\003\360\332\364\220\270\145\144\367\134\114\255  
\350\176\146\136\231\327\270\302\076\310\320\023\235\255\356\344  
\105\173\211\125\367\212\037\142\122\204\022\263\302\100\227\343  
\212\037\107\221\246\164\132\322\370\261\143\050\020\270\263\011  
\270\126\167\100\242\046\230\171\306\376\337\045\356\076\345\240  
\177\324\141\017\121\113\074\077\214\332\341\160\164\330\302\150  
\241\371\301\014\351\241\342\177\273\125\074\166\006\356\152\116  
\314\222\210\060\115\232\275\117\013\110\232\204\265\230\243\325  
\373\163\301\127\141\335\050\126\165\023\256\207\216\347\014\121  
\011\020\165\210\114\274\215\371\173\074\324\042\110\037\052\334  
\353\153\273\104\261\313\063\161\062\106\257\255\112\361\214\350  
\164\072\254\347\032\042\163\200\322\060\367\045\102\307\042\073  
\073\022\255\226\056\306\303\166\007\252\040\267\065\111\127\351  
\222\111\350\166\026\162\061\147\053\226\176\212\243\307\224\126  
\042\277\152\113\176\001\041\262\043\062\337\344\232\104\155\131  
\133\135\365\000\240\034\233\306\170\227\215\220\377\233\310\252  
\264\257\021\121\071\136\331\373\147\255\325\133\021\235\062\232  
\033\275\325\272\133\245\311\313\045\151\123\125\047\134\340\312  
\066\313\210\141\373\036\267\320\313\356\026\373\323\246\114\336  
\222\245\324\342\337\365\006\124\336\056\235\113\264\223\060\252  
\201\316\335\032\334\121\163\015\117\160\351\345\266\026\041\031  
\171\262\346\211\013\165\144\312\325\253\274\011\301\030\241\377  
\324\124\241\205\074\375\024\044\003\262\207\323\244\267\002\003  
\001\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001  
\377\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001

\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004  
\026\004\024\273\377\312\216\043\237\117\231\312\333\342\150\246  
\245\025\047\027\036\331\016\060\015\006\011\052\206\110\206\367  
\015\001\001\014\005\000\003\202\002\001\000\037\312\316\335\307  
\276\241\237\331\047\114\013\334\027\230\021\152\210\336\075\346  
\161\126\162\262\236\032\116\234\325\053\230\044\135\233\153\173  
\260\063\202\011\275\337\045\106\352\230\236\266\033\376\203\074  
\322\142\141\301\004\355\316\340\305\311\310\023\023\125\347\250  
\143\255\214\173\001\376\167\060\341\316\150\233\005\370\022\356  
\171\061\240\101\105\065\050\012\161\244\044\117\214\334\074\202  
\007\137\146\334\175\020\376\014\141\263\005\225\356\341\256\201  
\017\250\370\307\217\115\250\043\002\046\153\035\203\122\125\316  
\265\057\000\312\200\100\340\341\164\254\140\365\207\200\235\256  
\066\144\221\135\260\150\030\352\212\141\311\167\250\227\304\311  
\307\245\374\125\113\363\360\177\271\145\075\047\150\320\314\153  
\372\123\235\341\221\032\311\135\032\226\155\062\207\355\003\040  
\310\002\316\132\276\331\352\375\262\115\304\057\033\337\137\172  
\365\370\213\306\356\061\072\045\121\125\147\215\144\062\173\351  
\236\303\202\272\052\055\351\036\264\340\110\006\242\374\147\257  
\037\042\002\163\373\040\012\257\235\124\113\241\315\377\140\107  
\260\077\135\357\033\126\275\227\041\226\055\012\321\136\235\070  
\002\107\154\271\364\366\043\045\270\240\152\232\053\167\010\372  
\304\261\050\220\046\130\010\074\342\176\252\327\075\157\272\061  
\210\012\005\353\047\265\241\111\356\240\105\124\173\346\047\145  
\231\040\041\250\243\274\373\030\226\273\122\157\014\355\203\121  
\114\351\131\342\040\140\305\302\145\222\202\214\363\020\037\016  
\212\227\276\167\202\155\077\217\035\135\274\111\047\275\314\117  
\017\341\316\166\206\004\043\305\300\214\022\133\375\333\204\240  
\044\361\110\377\144\174\320\276\134\026\321\357\231\255\300\037  
\373\313\256\274\070\042\006\046\144\332\332\227\016\077\050\025  
\104\250\117\000\312\360\232\314\317\164\152\264\076\074\353\225  
\354\265\323\132\330\201\231\351\103\030\067\353\263\273\321\130  
\142\101\363\146\322\217\252\170\225\124\040\303\132\056\164\053  
\325\321\276\030\151\300\254\325\244\317\071\272\121\204\003\145  
\351\142\300\142\376\330\115\125\226\342\320\021\372\110\064\021  
\354\236\355\005\035\344\310\326\035\206\313

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GTS Root R2"

# Issuer: CN=GTS Root R2,O=Google Trust Services LLC,C=US

# Serial Number:02:03:e5:ae:c5:8d:04:25:1a:ab:11:25:aa

# Subject: CN=GTS Root R2,O=Google Trust Services LLC,C=US

# Not Valid Before: Wed

```

Jun 22 00:00:00 2016
Not Valid After : Sun Jun 22 00:00:00 2036
Fingerprint (SHA-256):
8D:25:CD:97:22:9D:BF:70:35:6B:DA:4E:B3:CC:73:40:31:E2:4C:F0:0F:AF:CF:D3:2D:C7:6E:B5:84:1C:7E:A8
Fingerprint (SHA1): 9A:44:49:76:32:DB:DE:FA:D0:BC:FB:5A:7B:17:BD:9E:56:09:24:94
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\232\104\111\166\062\333\336\372\320\274\373\132\173\027\275\236
\126\011\044\224
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\036\071\300\123\346\036\051\202\013\312\122\125\066\135\127\334
END
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\015\002\003\345\256\305\215\004\045\032\253\021\045\252
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GTS Root R3"
#
Issuer: CN=GTS Root R3,O=Google Trust Services LLC,C=US
Serial Number:02:03:e5:b8:82:eb:20:f8:25:27:6d:3d:66
Subject: CN=GTS Root R3,O=Google Trust Services LLC,C=US
Not Valid Before: Wed Jun 22 00:00:00 2016
Not Valid After : Sun Jun 22 00:00:00 2036
Fingerprint (SHA-256):
34:D8:A7:3E:E2:08:D9:BC:DB:0D:95:65:20:93:4B:4E:40:E6:94:82:59:6E:8B:6F:73:C8:42:6B:01:0A:6F:48
Fingerprint (SHA1): ED:E5:71:80:2B:C8:92:B9:5B:83:3C:D2:32:68:3F:09:CD:A0:1E:46
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE

```

```
CKA_LABEL UTF8 "GTS Root R3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE
CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\002\003\345\270\202\353\040\370\045\047\155\075\146
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\011\060\202\001\216\240\003\002\001\002\002\015\002
\003\345\270\202\353\040\370\045\047\155\075\146\060\012\006\010
\052\206\110\316\075\004\003\003\060\107\061\013\060\011\006\003
\125\004\006\023\002\125\123\061\042\060\040\006\003\125\004\012
\023\031\107\157\157\147\154\145\040\124\162\165\163\164\040\123
\145\162\166\151\143\145\163\040\114\114\103\061\024\060\022\006
\003\125\004\003\023\013\107\124\123\040\122\157\157\164\040\122
\063\060\036\027\015\061\066\060\066\062\062\060\060\060\060\060
\060\132\027\015\063\066\060\066\062\062\060\060\060\060\060\060
\132\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154
\145\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163
\040\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107
\124\123\040\122\157\157\164\040\122\063\060\166\060\020\006\007
\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142
\000\004\037\117\063\207\063\051\212\241\204\336\313\307\041\130
\101\211\352\126\235\053\113\205\306\035\114\047\274\177\046\121
\162\157\342\237\326\243\312\314\105\024\106\213\255\357\176\206
\214\354\261\176\057\377\251\161\235\030\204\105\004\101\125\156
\053\352\046\177\273\220\001\343\113\031\272\344\124\226\105\011
\261\325\154\221\104\255\204\023\216\232\214\015\200\014\062\366
\340\047\243\102\060\100\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\301\361\046\272\240\055\256\205\201\317\323\361\052\022
\275\270\012\147\375\274\060\012\006\010\052\206\110\316\075\004
```

```
\003\003\003\151\000\060\146\002\061\000\366\341\040\225\024\173
\124\243\220\026\021\277\204\310\352\157\153\027\236\036\106\230
\040\233\237\323\015\331\254\323\057\315\174\370\133\056\125\273
\277\335\222\367\244\014\334\061\341\242\002\061\000\374\227\146
\146\345\103\026\023\203\335\307\337\057\276\024\070\355\001\316
\261\027\032\021\165\351\275\003\217\046\176\204\345\311\140\246
\225\327\124\131\267\347\021\054\211\324\271\356\027
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GTS Root R3"

# Issuer: CN=GTS Root R3,O=Google Trust Services LLC,C=US

# Serial Number:02:03:e5:b8:82:eb:20:f8:25:27:6d:3d:66

# Subject: CN=GTS Root R3,O=Google Trust Services LLC,C=US

# Not Valid Before: Wed Jun 22 00:00:00 2016

# Not Valid After : Sun Jun 22 00:00:00 2036

# Fingerprint (SHA-256):

34:D8:A7:3E:E2:08:D9:BC:DB:0D:95:65:20:93:4B:4E:40:E6:94:82:59:6E:8B:6F:73:C8:42:6B:01:0A:6F:48

# Fingerprint (SHA1): ED:E5:71:80:2B:C8:92:B9:5B:83:3C:D2:32:68:3F:09:CD:A0:1E:46

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GTS Root R3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\355\345\161\200\053\310\222\271\133\203\074\322\062\150\077\011
\315\240\036\106
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\076\347\235\130\002\224\106\121\224\345\340\042\112\213\347\163
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\063
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\015\002\003\345\270\202\353\040\370\045\047\155\075\146
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "GTS Root R4"

#

# Issuer: CN=GTS Root R4,O=Google Trust Services LLC,C=US

# Serial Number:02:03:e5:c0:68:ef:63:1a:9c:72:90:50:52

# Subject: CN=GTS Root R4,O=Google Trust Services LLC,C=US

# Not Valid Before: Wed Jun 22 00:00:00 2016

# Not Valid After : Sun Jun 22 00:00:00 2036

# Fingerprint (SHA-256):

34:9D:FA:40:58:C5:E2:63:12:3B:39:8A:E7:95:57:3C:4E:13:13:C8:3F:E6:8F:93:55:6C:D5:E8:03:1B:3C:7D

#

Fingerprint (SHA1): 77:D3:03:67:B5:E0:0C:15:F6:0C:38:61:DF:7C:E1:3B:92:46:4D:47

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GTS Root R4"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145  
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040  
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124  
\123\040\122\157\157\164\040\122\064

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145  
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040  
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124  
\123\040\122\157\157\164\040\122\064

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\015\002\003\345\300\150\357\143\032\234\162\220\120\122

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\011\060\202\001\216\240\003\002\001\002\002\015\002  
\003\345\300\150\357\143\032\234\162\220\120\122\060\012\006\010  
\052\206\110\316\075\004\003\003\060\107\061\013\060\011\006\003  
\125\004\006\023\002\125\123\061\042\060\040\006\003\125\004\012  
\023\031\107\157\157\147\154\145\040\124\162\165\163\164\040\123  
\145\162\166\151\143\145\163\040\114\114\103\061\024\060\022\006  
\003\125\004\003\023\013\107\124\123\040\122\157\157\164\040\122

\064\060\036\027\015\061\066\060\066\062\062\060\060\060\060\060  
\060\132\027\015\063\066\060\066\062\062\060\060\060\060\060\060  
\132\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154  
\145\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163  
\040\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107  
\124\123\040\122\157\157\164\040\122\064\060\166\060\020\006\007  
\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142  
\000\004\363\164\163\247\150\213\140\256\103\270\065\305\201\060  
\173\113\111\235\373\301\141\316\346\336\106\275\153\325\141\030  
\065\256\100\335\163\367\211\221\060\132\353\074\356\205\174\242  
\100\166\073\251\306\270\107\330\052\347\222\221\152\163\351\261  
\162\071\237\051\237\242\230\323\137\136\130\206\145\017\241\204  
\145\006\321\334\213\311\307\163\310\214\152\057\345\304\253\321  
\035\212\243\102\060\100\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\200\114\326\353\164\377\111\066\243\325\330\374\265\076  
\305\152\360\224\035\214\060\012\006\010\052\206\110\316\075\004  
\003\003\003\151\000\060\146\002\061\000\350\100\377\203\336\003  
\364\237\256\035\172\247\056\271\257\117\366\203\035\016\055\205  
\001\035\321\331\152\354\017\302\257\307\136\126\136\134\325\034  
\130\042\050\013\367\060\266\057\261\174\002\061\000\360\141\074  
\247\364\240\202\343\041\325\204\035\163\206\234\055\257\312\064  
\233\361\237\271\043\066\342\274\140\003\235\200\263\232\126\310  
\341\342\273\024\171\312\315\041\324\224\265\111\103

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GTS Root R4"

# Issuer: CN=GTS Root R4,O=Google Trust Services LLC,C=US

# Serial Number:02:03:e5:c0:68:ef:63:1a:9c:72:90:50:52

# Subject: CN=GTS Root R4,O=Google Trust Services LLC,C=US

# Not Valid Before: Wed Jun 22 00:00:00 2016

# Not Valid After : Sun Jun 22 00:00:00 2036

# Fingerprint (SHA-256):

34:9D:FA:40:58:C5:E2:63:12:3B:39:8A:E7:95:57:3C:4E:13:13:C8:3F:E6:8F:93:55:6C:D5:E8:03:1B:3C:7D

# Fingerprint (SHA1): 77:D3:03:67:B5:E0:0C:15:F6:0C:38:61:DF:7C:E1:3B:92:46:4D:47

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL

CK\_FALSE

CKA\_LABEL UTF8 "GTS Root R4"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\167\323\003\147\265\340\014\025\366\014\070\141\337\174\341\073

\222\106\115\107

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\103\226\203\167\031\115\166\263\235\145\122\344\035\042\245\350

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145

\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040

\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124

\123\040\122\157\157\164\040\122\064

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\015\002\003\345\300\150\357\143\032\234\162\220\120\122

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Telia Root CA v2"

#

# Issuer: CN=Telia Root CA v2,O=Telia Finland

Oyj,C=FI

# Serial Number:01:67:5f:27:d6:fe:7a:e3:e4:ac:be:09:5b:05:9e

# Subject: CN=Telia Root CA v2,O=Telia Finland Oyj,C=FI

# Not Valid Before: Thu Nov 29 11:55:54 2018

# Not Valid After : Sun Nov 29 11:55:54 2043

# Fingerprint (SHA-256):

24:2B:69:74:2F:CB:1E:5B:2A:BF:98:89:8B:94:57:21:87:54:4E:5B:4D:99:11:78:65:73:62:1F:6A:74:B8:2C

# Fingerprint (SHA1): B9:99:CD:D1:73:50:8A:C4:47:05:08:9C:8C:88:FB:BE:A0:2B:40:CD

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Telia Root CA v2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\104\061\013\060\011\006\003\125\004\006\023\002\106\111\061

\032\060\030\006\003\125\004\012\014\021\124\145\154\151\141\040

\106\151\156\154\141\156\144\040\117\171\152\061\031\060\027\006

\003\125\004\003\014\020\124\145\154\151\141\040\122\157\157\164

\040\103\101\040\166\062

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL



\060\104\061\013\060\011\006\003\125\004\006\023\002\106\111\061  
\032\060\030\006\003\125\004\012\014\021\124\145\154\151\141\040  
\106\151\156\154\141\156\144\040\117\171\152\061\031\060\027\006  
\003\125\004\003\014\020\124\145\154\151\141\040\122\157\157\164  
\040\103\101\040\166\062

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\017\001\147\137\047\326\376\172\343\344\254\276\011\133\005  
\236

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\164\060\202\003\134\240\003\002\001\002\002\017\001  
\147\137\047\326\376\172\343\344\254\276\011\133\005\236\060\015  
\006\011\052\206\110\206\367\015\001\001\013\005\000\060\104\061  
\013\060\011\006\003\125\004\006\023\002\106\111\061\032\060\030  
\006\003\125\004\012\014\021\124\145\154\151\141\040\106\151\156  
\154\141\156\144\040\117\171\152\061\031\060\027\006\003\125\004  
\003\014\020\124\145\154\151\141\040\122\157\157\164\040\103\101  
\040\166\062\060\036\027\015\061\070\061\061\062\071\061\061\065  
\065\065\064\132\027\015\064\063\061\061\062\071\061\061\065\065  
\065\064\132\060\104\061\013\060\011\006\003\125\004\006\023\002  
\106\111\061\032\060\030\006\003\125\004\012\014\021\124\145\154  
\151\141\040\106\151\156\154\141\156\144\040\117\171\152\061\031  
\060\027\006\003\125\004\003\014\020\124\145\154\151\141\040\122  
\157\157\164\040\103\101\040\166\062\060\202\002\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017  
\000\060\202\002\012\002\202\002\001\000\262\320\077\007\274\342  
\173\320\153\231\370\342\167\151\347\316\235\244\003\274\202\155  
\241\376\201\145\037\114\047\254\216\000\272\026\173\353\060\152  
\000\300\263\164\150\176\262\257\307\325\142\263\172\077\120\312  
\214\066\104\044\143\322\066\351\014\205\366\103\166\325\114\241  
\140\162\147\342\050\063\245\313\061\270\072\042\043\064\270\175  
\275\126\042\100\235\352\364\173\003\255\150\374\262\201\117\230  
\320\164\352\215\345\175\315\143\303\243\366\336\222\302\130\031  
\340\226\273\305\304\251\075\245\164\226\376\257\371\211\252\275  
\225\027\124\330\170\104\361\014\167\025\222\340\230\102\247\244  
\326\252\040\222\315\301\240\263\226\262\072\204\102\215\175\325  
\225\344\326\333\351\142\304\130\263\171\305\214\323\065\063\203  
\237\165\241\122\047\141\070\361\131\075\216\120\340\275\171\074  
\347\154\226\376\136\331\002\145\264\216\134\320\021\064\337\135  
\277\122\247\201\000\303\177\231\105\231\025\325\027\310\012\123  
\354\143\363\231\175\314\151\022\206\302\027\360\001\236\277\204  
\274\321\122\313\033\222\146\316\244\123\345\241\277\304\333\011  
\326\346\211\126\053\310\343\174\336\343\377\211\345\065\156\050  
\350\154\013\043\121\251\045\005\353\110\370\335\261\312\372\154  
\010\121\357\267\030\154\104\312\046\341\163\306\211\006\201\345  
\212\254\260\342\051\306\271\044\263\153\104\021\364\245\103\302

\114\103\345\160\066\214\266\063\127\172\225\056\202\240\364\134  
\020\263\141\203\366\002\005\206\056\174\055\154\334\003\106\156  
\065\223\325\172\225\057\336\040\330\133\176\224\220\004\152\272  
\131\075\004\005\165\235\067\242\016\056\075\353\301\244\122\203  
\376\320\153\324\146\216\334\306\351\022\116\035\052\127\252\020  
\274\174\136\202\175\246\246\311\362\055\271\365\027\047\255\321  
\016\211\124\053\225\372\300\255\035\230\024\170\063\102\206\012  
\251\163\265\373\164\015\267\033\060\031\304\132\016\034\047\267  
\332\030\320\377\212\310\005\272\361\252\034\242\067\267\346\110  
\244\106\054\224\352\250\166\142\107\213\020\123\007\110\127\154  
\342\222\115\266\256\005\313\334\301\112\136\217\254\075\031\116  
\302\355\140\165\053\333\301\312\102\325\002\003\001\000\001\243  
\143\060\141\060\037\006\003\125\035\043\004\030\060\026\200\024  
\162\254\344\063\171\252\105\207\366\375\254\035\236\326\307\057  
\206\330\044\071\060\035\006\003\125\035\016\004\026\004\024\162  
\254\344\063\171\252\105\207\366\375\254\035\236\326\307\057\206  
\330\044\071\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001  
\013\005\000\003\202\002\001\000\240\073\131\247\011\224\076\066  
\204\322\176\057\071\245\226\227\372\021\255\374\147\363\161\011  
\362\262\211\204\147\104\257\271\357\355\226\354\234\144\333\062  
\060\157\147\232\254\176\137\262\253\001\066\176\201\372\344\204  
\136\322\254\066\340\153\142\305\175\113\016\202\155\322\166\142  
\321\376\227\370\237\060\174\030\371\264\122\167\202\035\166\333  
\323\035\251\360\301\232\000\275\155\165\330\175\347\372\307\070  
\243\234\160\350\106\171\003\257\056\164\333\165\370\156\123\014  
\003\310\231\032\211\065\031\074\323\311\124\174\250\360\054\346  
\156\007\171\157\152\341\346\352\221\202\151\012\035\303\176\131  
\242\236\153\106\025\230\133\323\257\106\035\142\310\316\200\122  
\111\021\077\311\004\022\303\023\174\077\073\212\226\333\074\240  
\036\012\264\213\124\262\044\147\015\357\202\313\276\074\175\321  
\342\177\256\026\326\126\130\271\332\040\261\203\025\241\357\212  
\115\062\157\101\057\023\122\202\224\327\032\301\170\242\121\335  
\053\160\155\267\032\371\367\260\340\147\227\126\333\174\141\123  
\011\003\050\002\100\307\263\330\375\234\160\152\306\050\303\205  
\351\342\355\032\223\240\336\113\230\242\204\076\005\167\001\226  
\075\373\264\040\017\234\162\002\172\022\057\325\243\272\121\170  
\257\052\053\104\145\116\265\375\012\350\301\315\171\207\141\053  
\336\200\127\105\277\147\361\233\221\136\245\244\354\131\110\020  
\015\070\307\260\372\303\104\155\004\365\170\120\034\222\226\133  
\332\365\270\056\272\133\317\345\360\152\235\113\057\130\163\055  
\117\055\304\034\076\364\263\077\253\025\016\073\031\101\212\244  
\301\127\022\146\161\114\372\123\343\127\353\142\225\011\236\124  
\335\321\302\074\127\074\275\070\255\230\144\267\270\003\232\123  
\126\140\135\263\330\102\033\134\113\022\212\034\353\353\175\306  
\172\151\307\047\177\244\370\213\362\344\224\146\207\113\351\224  
\007\011\022\171\212\262\353\164\004\334\316\364\104\131\340\026

```
\312\305\054\130\327\074\173\317\142\206\152\120\175\065\066\146
\247\373\067\347\050\307\330\320\255\245\151\224\217\350\301\337
\044\370\033\007\061\207\201\330\135\366\350\050\330\112\122\200
\254\023\356\120\024\036\230\307
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Telia Root CA v2"

# Issuer: CN=Telia Root CA v2,O=Telia Finland Oyj,C=FI

# Serial Number:01:67:5f:27:d6:fe:7a:e3:e4:ac:be:09:5b:05:9e

# Subject: CN=Telia Root CA v2,O=Telia Finland Oyj,C=FI

# Not Valid Before: Thu Nov 29 11:55:54 2018

# Not Valid After : Sun Nov 29 11:55:54 2043

# Fingerprint (SHA-256):

24:2B:69:74:2F:CB:1E:5B:2A:BF:98:89:8B:94:57:21:87:54:4E:5B:4D:99:11:78:65:73:62:1F:6A:74:B8:2C

# Fingerprint (SHA1): B9:99:CD:D1:73:50:8A:C4:47:05:08:9C:8C:88:FB:BE:A0:2B:40:CD

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Telia Root CA v2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\271\231\315\321\163\120\212\304\107\005\010\234\214\210\373\276
\240\053\100\315
```

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

```
\016\217\254\252\202\337\205\261\364\334\020\034\374\231\331\110
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\104\061\013\060\011\006\003\125\004\006\023\002\106\111\061
\032\060\030\006\003\125\004\012\014\021\124\145\154\151\141\040
\106\151\156\154\141\156\144\040\117\171\152\061\031\060\027\006
\003\125\004\003\014\020\124\145\154\151\141\040\122\157\157\164
\040\103\101\040\166\062
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\017\001\147\137\047\326\376\172\343\344\254\276\011\133\005
\236
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

```

#
Certificate "D-TRUST BR Root CA 1 2020"
#
Issuer: CN=D-TRUST BR Root CA 1 2020,O=D-Trust GmbH,C=DE
Serial Number:7c:c9:8f:2b:84:d7:df:ea:0f:c9:65:9a:d3:4b:4d:96
Subject: CN=D-TRUST BR Root CA 1 2020,O=D-Trust
 GmbH,C=DE
Not Valid Before: Tue Feb 11 09:45:00 2020
Not Valid After : Sun Feb 11 09:44:59 2035
Fingerprint (SHA-256):
E5:9A:AA:81:60:09:C2:2B:FF:5B:25:BA:D3:7D:F3:06:F0:49:79:7C:1F:81:D8:5A:B0:89:E6:57:BD:8F:00:44
Fingerprint (SHA1): 1F:5B:98:F0:E3:B5:F7:74:3C:ED:E6:B0:36:7D:32:CD:F4:09:41:67
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST BR Root CA 1 2020"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\102\122\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\102\122\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\174\311\217\053\204\327\337\352\017\311\145\232\323\113
\115\226
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\333\060\202\002\140\240\003\002\001\002\002\020\174
\311\217\053\204\327\337\352\017\311\145\232\323\113\115\226\060
\012\006\010\052\206\110\316\075\004\003\003\060\110\061\013\060
\011\006\003\125\004\006\023\002\104\105\061\025\060\023\006\003
\125\004\012\023\014\104\055\124\162\165\163\164\040\107\155\142
\110\061\042\060\040\006\003\125\004\003\023\031\104\055\124\122
\125\123\124\040\102\122\040\122\157\157\164\040\103\101\040\061
\040\062\060\062\060\060\036\027\015\062\060\060\062\061\061\060
\071\064\065\060\060\132\027\015\063\065\060\062\061\061\060\071

```

\064\064\065\071\132\060\110\061\013\060\011\006\003\125\004\006  
\023\002\104\105\061\025\060\023\006\003\125\004\012\023\014\104  
\055\124\162\165\163\164\040\107\155\142\110\061\042\060\040\006  
\003\125\004\003\023\031\104\055\124\122\125\123\124\040\102\122  
\040\122\157\157\164\040\103\101\040\061\040\062\060\062\060\060  
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201  
\004\000\042\003\142\000\004\306\313\307\050\321\373\204\365\232  
\357\102\024\040\341\103\153\156\165\255\374\053\003\204\324\166  
\223\045\327\131\073\101\145\153\036\346\064\052\273\164\366\022  
\316\350\155\347\253\344\074\116\077\104\010\213\315\026\161\313  
\277\222\231\364\244\327\074\120\124\122\220\205\203\170\224\147  
\147\243\034\011\031\075\165\064\205\336\355\140\175\307\014\264  
\101\122\271\156\345\356\102\243\202\001\015\060\202\001\011\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\035\006\003\125\035\016\004\026\004\024\163\221\020\253\377  
\125\263\132\174\011\045\325\262\272\010\240\153\253\037\155\060  
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060  
\201\306\006\003\125\035\037\004\201\276\060\201\273\060\076\240  
\074\240\072\206\070\150\164\164\160\072\057\057\143\162\154\056  
\144\055\164\162\165\163\164\056\156\145\164\057\143\162\154\057  
\144\055\164\162\165\163\164\137\142\162\137\162\157\157\164\137  
\143\141\137\061\137\062\060\062\060\056\143\162\154\060\171\240  
\167\240\165\206\163\154\144\141\160\072\057\057\144\151\162\145  
\143\164\157\162\171\056\144\055\164\162\165\163\164\056\156\145  
\164\057\103\116\075\104\055\124\122\125\123\124\045\062\060\102  
\122\045\062\060\122\157\157\164\045\062\060\103\101\045\062\060  
\061\045\062\060\062\060\062\060\054\117\075\104\055\124\162\165  
\163\164\045\062\060\107\155\142\110\054\103\075\104\105\077\143  
\145\162\164\151\146\151\143\141\164\145\162\145\166\157\143\141  
\164\151\157\156\154\151\163\164\060\012\006\010\052\206\110\316  
\075\004\003\003\003\151\000\060\146\002\061\000\224\220\055\023  
\372\341\143\370\141\143\350\255\205\170\124\221\234\270\223\070  
\076\032\101\332\100\026\123\102\010\312\057\216\361\076\201\126  
\300\252\330\355\030\304\260\256\364\076\372\046\002\061\000\363  
\050\342\306\333\053\231\373\267\121\270\044\243\244\224\172\032  
\077\346\066\342\003\127\063\212\060\313\202\307\326\024\021\325  
\165\143\133\024\225\234\037\001\317\330\325\162\247\017\073

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "D-TRUST BR Root CA 1 2020"

# Issuer: CN=D-TRUST BR Root CA 1 2020,O=D-Trust GmbH,C=DE

# Serial Number:7c:c9:8f:2b:84:d7:df:ea:0f:c9:65:9a:d3:4b:4d:96

# Subject: CN=D-TRUST BR Root CA 1 2020,O=D-Trust GmbH,C=DE

# Not Valid Before: Tue Feb 11 09:45:00 2020

```
Not Valid After : Sun Feb 11 09:44:59 2035
Fingerprint (SHA-256):
E5:9A:AA:81:60:09:C2:2B:FF:5B:25:BA:D3:7D:F3:06:F0:49:79:7C:1F:81:D8:5A:B0:89:E6:57:BD:8F:00:44
Fingerprint (SHA1): 1F:5B:98:F0:E3:B5:F7:74:3C:ED:E6:B0:36:7D:32:CD:F4:09:41:67
CKA_CLASS
CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST BR Root CA 1 2020"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\037\133\230\360\343\265\367\164\074\355\346\260\066\175\062\315
\364\011\101\147
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\265\252\113\325\355\367\343\125\056\217\162\012\363\165\270\355
END
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\102\122\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\174\311\217\053\204\327\337\352\017\311\145\232\323\113
\115\226
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

#
Certificate "D-TRUST EV Root CA 1 2020"
#
Issuer: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE
Serial Number:5f:02:41:d7:7a:87:7c:4c:03:a3:ac:96:8d:fb:ff:d0
Subject: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE
Not Valid Before: Tue Feb 11 10:00:00 2020
Not Valid After : Sun Feb 11 09:59:59 2035
Fingerprint (SHA-256):
08:17:0D:1A:A3:64:53:90:1A:2F:95:92:45:E3:47:DB:0C:8D:37:AB:AA:BC:56:B8:1A:A1:00:DC:95:89:70:DB
Fingerprint (SHA1): 61:DB:8C:21:59:69:03:90:D8:7C:9C:12:86:54:CF:9D:3D:F4:DD:07
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST EV Root CA 1 2020"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\105\126\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\105\126\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\137\002\101\327\172\207\174\114\003\243\254\226\215\373
\377\320
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\333\060\202\002\140\240\003\002\001\002\002\020\137
\002\101\327\172\207\174\114\003\243\254\226\215\373\377\320\060
\012\006\010\052\206\110\316\075\004\003\003\060\110\061\013\060
\011\006\003\125\004\006\023\002\104\105\061\025\060\023\006\003
\125\004\012\023\014\104\055\124\162\165\163\164\040\107\155\142
\110\061\042\060\040\006\003\125\004\003\023\031\104\055\124\122
\125\123\124\040\105\126\040\122\157\157\164\040\103\101\040\061
\040\062\060\062\060\060\036\027\015\062\060\060\062\061\061\061
\060\060\060\060\060\132\027\015\063\065\060\062\061\061\060\071
\065\071\065\071\132\060\110\061\013\060\011\006\003\125\004\006
\023\002\104\105\061\025\060\023\006\003\125\004\012\023\014\104
\055\124\162\165\163\164\040\107\155\142\110\061\042\060\040\006
\003\125\004\003\023\031\104\055\124\122\125\123\124\040\105\126
\040\122\157\157\164\040\103\101\040\061\040\062\060\062\060\060
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201
\004\000\042\003\142\000\004\361\013\335\206\103\040\031\337\227
\205\350\042\112\233\317\235\230\277\264\005\046\311\313\343\246
\322\217\305\236\170\173\061\211\251\211\255\047\074\145\020\202
\374\337\303\235\116\360\063\043\304\322\062\365\034\260\337\063
\027\135\305\360\261\212\371\357\271\267\024\312\051\112\302\017
\251\177\165\145\111\052\060\147\364\144\367\326\032\167\332\303
\302\227\141\102\173\111\255\243\202\001\015\060\202\001\011\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\035\006\003\125\035\016\004\026\004\024\177\020\001\026\067
```

\072\244\050\344\120\370\244\367\354\153\062\266\376\351\213\060  
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060  
\201\306\006\003\125\035\037\004\201\276\060\201\273\060\076\240  
\074\240\072\206\070\150\164\164\160\072\057\057\143\162\154\056  
\144\055\164\162\165\163\164\056\156\145\164\057\143\162\154\057  
\144\055\164\162\165\163\164\137\145\166\137\162\157\157\164\137  
\143\141\137\061\137\062\060\062\060\056\143\162\154\060\171\240  
\167\240\165\206\163\154\144\141\160\072\057\057\144\151\162\145  
\143\164\157\162\171\056\144\055\164\162\165\163\164\056\156\145  
\164\057\103\116\075\104\055\124\122\125\123\124\045\062\060\105  
\126\045\062\060\122\157\157\164\045\062\060\103\101\045\062\060  
\061\045\062\060\062\060\062\060\054\117\075\104\055\124\162\165  
\163\164\045\062\060\107\155\142\110\054\103\075\104\105\077\143  
\145\162\164\151\146\151\143\141\164\145\162\145\166\157\143\141  
\164\151\157\156\154\151\163\164\060\012\006\010\052\206\110\316  
\075\004\003\003\003\151\000\060\146\002\061\000\312\074\306\052  
\165\302\136\165\142\071\066\000\140\132\213\301\223\231\314\331  
\333\101\073\073\207\231\027\073\325\314\117\312\042\367\240\200  
\313\371\264\261\033\126\365\162\322\374\031\321\002\061\000\221  
\367\060\223\077\020\106\053\161\244\320\073\104\233\300\051\002  
\005\262\101\167\121\363\171\132\236\216\024\240\116\102\322\133  
\201\363\064\152\003\347\042\070\120\133\355\031\117\103\026

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "D-TRUST EV Root CA 1 2020"

# Issuer: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE

# Serial Number:5f:02:41:d7:7a:87:7c:4c:03:a3:ac:96:8d:fb:ff:d0

# Subject: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE

# Not Valid Before: Tue

Feb 11 10:00:00 2020

# Not Valid After : Sun Feb 11 09:59:59 2035

# Fingerprint (SHA-256):

08:17:0D:1A:A3:64:53:90:1A:2F:95:92:45:E3:47:DB:0C:8D:37:AB:AA:BC:56:B8:1A:A1:00:DC:95:89:70:DB

# Fingerprint (SHA1): 61:DB:8C:21:59:69:03:90:D8:7C:9C:12:86:54:CF:9D:3D:F4:DD:07

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "D-TRUST EV Root CA 1 2020"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\141\333\214\041\131\151\003\220\330\174\234\022\206\124\317\235  
\075\364\335\007

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL



```

\214\055\235\160\237\110\231\021\006\021\373\351\313\060\300\156
END
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\105\126\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\137\002\101\327\172\207\174\114\003\243\254\226\215\373
\377\320
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DigiCert TLS ECC P384 Root G5"
#
Issuer: CN=DigiCert TLS ECC P384 Root G5,O="DigiCert, Inc.",C=US
Serial Number:09:e0:93:65:ac:f7:d9:c8:b9:3e:1c:0b:04:2a:2e:f3
Subject: CN=DigiCert TLS ECC P384 Root G5,O="DigiCert, Inc.",C=US
Not Valid Before: Fri Jan 15 00:00:00 2021
Not Valid After : Sun Jan 14 23:59:59 2046
Fingerprint (SHA-256):
01:8E:13:F0:77:25:32:CF:80:9B:D1:B1:72:81:86:72:83:FC:48:C6:E1:3B:E9:C6:98:12:85:4A:49:0C:1B:05
Fingerprint (SHA1): 17:F3:DE:5E:9F:0F:19:E9:8E:F6:1F:32:26:6E:20:C4:07:AE:30:EE
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL
CK_FALSE
CKA_LABEL UTF8 "DigiCert TLS ECC P384 Root G5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\046\060\044\006\003\125\004
\003\023\035\104\151\147\151\103\145\162\164\040\124\114\123\040
\105\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145

```

\162\164\054\040\111\156\143\056\061\046\060\044\006\003\125\004  
\003\023\035\104\151\147\151\103\145\162\164\040\124\114\123\040  
\105\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065  
END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\011\340\223\145\254\367\331\310\271\076\034\013\004\052  
\056\363

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\031\060\202\001\237\240\003\002\001\002\002\020\011  
\340\223\145\254\367\331\310\271\076\034\013\004\052\056\363\060  
\012\006\010\052\206\110\316\075\004\003\003\060\116\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003  
\125\004\012\023\016\104\151\147\151\103\145\162\164\054\040\111  
\156\143\056\061\046\060\044\006\003\125\004\003\023\035\104\151  
\147\151\103\145\162\164\040\124\114\123\040\105\103\103\040\120  
\063\070\064\040\122\157\157\164\040\107\065\060\036\027\015\062  
\061\060\061\061\065\060\060\060\060\060\060\132\027\015\064\066  
\060\061\061\064\062\063\065\071\065\071\132\060\116\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003  
\125\004\012\023\016\104\151\147\151\103\145\162\164\054\040\111  
\156\143\056\061\046\060\044\006\003\125\004\003\023\035\104\151  
\147\151\103\145\162\164\040\124\114\123\040\105\103\103\040\120  
\063\070\064\040\122\157\157\164\040\107\065\060\166\060\020\006  
\007\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003  
\142\000\004\301\104\241\317\021\227\120\232\336\043\202\065\007  
\315\320\313\030\235\322\361\177\167\065\117\073\335\224\162\122  
\355\302\073\370\354\372\173\153\130\040\354\231\256\311\374\150  
\263\165\271\333\011\354\310\023\365\116\306\012\035\146\060\114  
\273\037\107\012\074\141\020\102\051\174\245\010\016\340\042\351  
\323\065\150\316\233\143\237\204\265\231\115\130\240\216\365\124  
\347\225\311\243\102\060\100\060\035\006\003\125\035\016\004\026  
\004\024\301\121\105\120\131\253\076\347\054\132\372\040\042\022  
\007\200\210\174\021\152\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\012\006\010\052\206\110\316\075  
\004\003\003\003\150\000\060\145\002\061\000\211\152\215\107\347  
\354\374\156\125\003\331\147\154\046\116\203\306\375\311\373\053  
\023\274\267\172\214\264\145\322\151\151\143\023\143\073\046\120  
\056\001\241\171\006\221\235\110\277\302\276\002\060\107\303\025  
\173\261\240\221\231\111\223\250\074\174\350\106\006\213\054\362  
\061\000\224\235\142\310\211\275\031\204\024\351\245\373\001\270  
\015\166\103\214\056\123\313\174\337\014\027\226\120

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

```

Trust for "DigiCert TLS ECC P384 Root G5"
Issuer: CN=DigiCert TLS ECC P384 Root G5,O="DigiCert, Inc.",C=US
Serial Number:09:e0:93:65:ac:f7:d9:c8:b9:3e:1c:0b:04:2a:2e:f3
Subject: CN=DigiCert TLS ECC P384 Root G5,O="DigiCert, Inc.",C=US
Not Valid Before: Fri Jan 15 00:00:00 2021
Not Valid After : Sun Jan 14 23:59:59 2046
Fingerprint (SHA-256):
01:8E:13:F0:77:25:32:CF:80:9B:D1:B1:72:81:86:72:83:FC:48:C6:E1:3B:E9:C6:98:12:85:4A:49:0C:1B:05
Fingerprint (SHA1): 17:F3:DE:5E:9F:0F:19:E9:8E:F6:1F:32:26:6E:20:C4:07:AE:30:EE
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert
 TLS ECC P384 Root G5"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\027\363\336\136\237\017\031\351\216\366\037\062\046\156\040\304
\007\256\060\356
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\323\161\004\152\103\034\333\246\131\341\250\243\252\305\161\355
END
CKA_ISSUER MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\046\060\044\006\003\125\004
\003\023\035\104\151\147\151\103\145\162\164\040\124\114\123\040
\105\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\011\340\223\145\254\367\331\310\271\076\034\013\004\052
\056\363
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DigiCert TLS RSA4096 Root G5"
#
Issuer:
 CN=DigiCert TLS RSA4096 Root G5,O="DigiCert, Inc.",C=US
Serial Number:08:f9:b4:78:a8:fa:7e:da:6a:33:37:89:de:7c:cf:8a
Subject: CN=DigiCert TLS RSA4096 Root G5,O="DigiCert, Inc.",C=US
Not Valid Before: Fri Jan 15 00:00:00 2021
Not Valid After : Sun Jan 14 23:59:59 2046

```

```
Fingerprint (SHA-256):
37:1A:00:DC:05:33:B3:72:1A:7E:EB:40:E8:41:9E:70:79:9D:2B:0A:0F:2C:1D:80:69:31:65:F7:CE:C4:AD:75
Fingerprint (SHA1): A7:88:49:DC:5D:7C:75:8C:8C:DE:39:98:56:B3:AA:D0:B2:A5:71:35
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert TLS RSA4096 Root G5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\045\060\043\006\003\125\004
\003\023\034\104\151\147\151\103\145\162\164\040\124\114\123\040
\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\045\060\043\006\003\125\004
\003\023\034\104\151\147\151\103\145\162\164\040\124\114\123\040
\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\010\371\264\170\250\372\176\332\152\063\067\211\336\174
\317\212
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\146\060\202\003\116\240\003\002\001\002\002\020\010
\371\264\170\250\372\176\332\152\063\067\211\336\174\317\212\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\115
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060
\025\006\003\125\004\012\023\016\104\151\147\151\103\145\162\164
\054\040\111\156\143\056\061\045\060\043\006\003\125\004\003\023
\034\104\151\147\151\103\145\162\164\040\124\114\123\040\122\123
\101\064\060\071\066\040\122\157\157\164\040\107\065\060\036\027
\015\062\061\060\061\061\065\060\060\060\060\060\060\132\027\015
\064\066\060\061\061\064\062\063\065\071\065\071\132\060\115\061
\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060\025
\006\003\125\004\012\023\016\104\151\147\151\103\145\162\164\054
\040\111\156\143\056\061\045\060\043\006\003\125\004\003\023\034
\104\151\147\151\103\145\162\164\040\124\114\123\040\122\123\101
\064\060\071\066\040\122\157\157\164\040\107\065\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\263\320\364
\311\171\021\235\375\374\146\201\347\314\325\344\274\354\201\076
```

\152\065\216\056\267\347\336\257\371\007\115\317\060\235\352\011  
\013\231\275\154\127\332\030\112\270\170\254\072\071\250\246\110  
\254\056\162\345\275\353\361\032\315\347\244\003\251\077\021\264  
\330\057\211\026\373\224\001\075\273\057\370\023\005\241\170\034  
\216\050\340\105\340\203\364\131\033\225\263\256\176\003\105\345  
\276\302\102\376\356\362\074\266\205\023\230\062\235\026\250\051  
\302\013\034\070\334\237\061\167\134\277\047\243\374\047\254\267  
\053\275\164\233\027\055\362\201\332\135\260\341\043\027\076\210  
\112\022\043\320\352\317\235\336\003\027\261\102\112\240\026\114  
\244\155\223\351\077\072\356\072\174\235\130\235\364\116\217\374  
\073\043\310\155\270\342\005\332\314\353\354\303\061\364\327\247  
\051\124\200\317\104\133\114\157\060\236\363\314\335\037\224\103  
\235\115\177\160\160\015\324\072\321\067\360\154\235\233\300\024  
\223\130\357\315\101\070\165\274\023\003\225\174\177\343\134\351  
\325\015\325\342\174\020\142\252\153\360\075\166\363\077\243\350  
\260\301\375\357\252\127\115\254\206\247\030\264\051\301\054\016  
\277\144\276\051\214\330\002\055\315\134\057\362\177\357\025\364  
\014\025\254\012\260\361\323\015\117\152\115\167\227\001\240\361  
\146\267\267\316\357\316\354\354\245\165\312\254\343\341\143\367  
\270\241\004\310\274\173\077\135\055\026\042\126\355\110\111\376  
\247\057\171\060\045\233\272\153\055\077\235\073\304\027\347\035  
\056\373\362\317\246\374\343\024\054\226\230\041\214\264\221\351  
\031\140\203\362\060\053\006\163\120\325\230\073\006\351\307\212  
\014\140\214\050\370\122\233\156\341\366\115\273\006\044\233\327  
\053\046\077\375\052\057\161\365\326\044\276\177\061\236\017\155  
\350\217\117\115\243\077\377\065\352\337\111\136\101\217\206\371  
\361\167\171\113\033\264\243\136\057\373\106\002\320\146\023\136  
\136\205\117\316\330\160\210\173\316\001\265\226\227\327\315\175  
\375\202\370\302\044\301\312\001\071\117\215\242\301\024\100\037  
\234\146\325\014\011\106\326\362\320\321\110\166\126\072\103\313  
\266\012\021\071\272\214\023\154\006\265\236\317\353\002\003\001  
\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026\004  
\024\121\063\034\355\066\100\257\027\323\045\315\151\150\362\257  
\116\043\076\263\101\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\015\006\011\052\206\110\206\367\015  
\001\001\014\005\000\003\202\002\001\000\140\246\257\133\137\127  
\332\211\333\113\120\251\304\043\065\041\377\320\141\060\204\221  
\267\077\020\317\045\216\311\277\106\064\331\301\041\046\034\160  
\031\162\036\243\311\207\376\251\103\144\226\072\310\123\004\012  
\266\101\273\304\107\000\331\237\030\030\073\262\016\363\064\352  
\044\367\335\257\040\140\256\222\050\137\066\347\135\344\336\307  
\074\333\120\071\255\273\075\050\115\226\174\166\306\133\364\301  
\333\024\245\253\031\142\007\030\100\137\227\221\334\234\307\253  
\265\121\015\346\151\123\125\314\071\175\332\305\021\125\162\305  
\073\213\211\370\064\055\244\027\345\027\346\231\175\060\210\041  
\067\315\060\027\075\270\362\274\250\165\240\103\334\076\211\113  
\220\256\155\003\340\034\243\240\226\011\273\175\243\267\052\020

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\104\113\106\007\064\143\355\061\271\004\356\243\233\232\256\346
\061\170\364\352\044\141\073\253\130\144\377\273\207\047\142\045
\201\337\334\241\057\366\355\247\377\172\217\121\056\060\370\244
\001\322\205\071\137\001\231\226\157\132\133\160\031\106\376\206
\140\076\255\200\020\011\335\071\045\057\130\177\273\322\164\360
\367\106\037\106\071\112\330\123\320\363\056\073\161\245\324\157
\374\363\147\344\007\217\335\046\031\341\215\133\372\243\223\021
\233\351\310\072\303\125\150\232\222\341\122\166\070\350\341\272
\275\373\117\325\357\263\347\110\203\061\360\202\041\343\266\276
\247\253\157\357\237\337\114\317\001\270\142\152\043\075\347\011
\115\200\033\173\060\244\303\335\007\177\064\276\244\046\262\366
\101\350\011\035\343\040\230\252\067\117\377\367\361\342\051\160
\061\107\077\164\320\024\026\372\041\212\002\325\212\011\224\167
\056\362\131\050\213\174\120\222\012\146\170\070\203\165\304\265
\132\250\021\306\345\301\235\146\125\317\123\304\257\327\165\205
\251\102\023\126\354\041\167\201\223\132\014\352\226\331\111\312
\241\010\362\227\073\155\233\004\030\044\104\216\174\001\362\334
\045\330\136\206\232\261\071\333\365\221\062\152\321\246\160\212
\242\367\336\244\105\205\046\250\036\214\135\051\133\310\113\330
\232\152\003\136\160\362\205\117\154\113\150\057\312\124\366\214
\332\062\376\303\153\203\077\070\306\176
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert TLS RSA4096 Root G5"

# Issuer: CN=DigiCert TLS RSA4096 Root G5,O="DigiCert, Inc.",C=US

# Serial Number:08:f9:b4:78:a8:fa:7e:da:6a:33:37:89:de:7c:cf:8a

# Subject: CN=DigiCert TLS RSA4096 Root G5,O="DigiCert, Inc.",C=US

# Not Valid Before: Fri Jan 15 00:00:00 2021

# Not Valid After : Sun Jan 14 23:59:59 2046

# Fingerprint (SHA-256):

37:1A:00:DC:05:33:B3:72:1A:7E:EB:40:E8:41:9E:70:79:9D:2B:0A:0F:2C:1D:80:69:31:65:F7:CE:C4:AD:75

# Fingerprint (SHA1): A7:88:49:DC:5D:7C:75:8C:8C:DE:39:98:56:B3:AA:D0:B2:A5:71:35

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL

UTF8 "DigiCert TLS RSA4096 Root G5"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\247\210\111\334\135\174\165\214\214\336\071\230\126\263\252\320
\262\245\161\065
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\254\376\367\064\226\251\362\263\264\022\113\344\047\101\157\341
```

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145  
\162\164\054\040\111\156\143\056\061\045\060\043\006\003\125\004  
\003\023\034\104\151\147\151\103\145\162\164\040\124\114\123\040  
\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\010\371\264\170\250\372\176\332\152\063\067\211\336\174  
\317\212

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "DigiCert SMIME ECC

P384 Root G5"

#

# Issuer: CN=DigiCert SMIME ECC P384 Root G5,O="DigiCert, Inc.",C=US

# Serial Number:05:3f:6e:a0:06:01:72:7d:ed:3f:c3:a3:b6:a3:d6:ef

# Subject: CN=DigiCert SMIME ECC P384 Root G5,O="DigiCert, Inc.",C=US

# Not Valid Before: Fri Jan 15 00:00:00 2021

# Not Valid After : Sun Jan 14 23:59:59 2046

# Fingerprint (SHA-256):

E8:E8:17:65:36:A6:0C:C2:C4:E1:01:87:C3:BE:FC:A2:0E:F2:63:49:70:18:F5:66:D5:BE:A0:F9:4D:0C:11:1B

# Fingerprint (SHA1): 1C:B8:A7:08:C9:0D:20:79:01:A0:B2:36:7F:F0:95:65:E4:53:24:FE

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert SMIME ECC P384 Root G5"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\120\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145  
\162\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004  
\003\023\037\104\151\147\151\103\145\162\164\040\123\115\111\115  
\105\040\105\103\103\040\120\063\070\064\040\122\157\157\164\040  
\107\065

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\120\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145

\162\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004  
\003\023\037\104\151\147\151\103\145\162\164\040\123\115\111\115  
\105\040\105\103\103\040\120\063\070\064\040\122\157\157\164\040  
\107\065

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\005\077\156\240\006\001\162\175\355\077\303\243\266\243  
\326\357

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\034\060\202\001\243\240\003\002\001\002\002\020\005  
\077\156\240\006\001\162\175\355\077\303\243\266\243\326\357\060  
\012\006\010\052\206\110\316\075\004\003\003\060\120\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003  
\125\004\012\023\016\104\151\147\151\103\145\162\164\054\040\111  
\156\143\056\061\050\060\046\006\003\125\004\003\023\037\104\151  
\147\151\103\145\162\164\040\123\115\111\115\105\040\105\103\103  
\040\120\063\070\064\040\122\157\157\164\040\107\065\060\036\027  
\015\062\061\060\061\061\065\060\060\060\060\060\060\132\027\015  
\064\066\060\061\061\064\062\063\065\071\065\071\132\060\120\061  
\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060\025  
\006\003\125\004\012\023\016\104\151\147\151\103\145\162\164\054  
\040\111\156\143\056\061\050\060\046\006\003\125\004\003\023\037  
\104\151\147\151\103\145\162\164\040\123\115\111\115\105\040\105  
\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065\060  
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201  
\004\000\042\003\142\000\004\026\235\125\345\266\324\373\373\147  
\153\032\324\241\252\322\167\225\076\210\345\007\237\266\160\146  
\040\050\244\210\354\160\065\257\263\062\377\067\023\112\236\274  
\001\003\336\204\301\270\306\346\145\107\211\362\023\125\277\315  
\245\036\010\140\177\255\177\350\141\222\051\317\011\107\136\013  
\034\300\037\244\277\362\133\274\230\357\231\114\314\160\153\266  
\272\320\050\035\277\276\004\243\102\060\100\060\035\006\003\125  
\035\016\004\026\004\024\163\172\153\226\333\102\007\213\122\146  
\302\144\062\027\376\340\147\220\056\255\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\012\006\010\052  
\206\110\316\075\004\003\003\003\147\000\060\144\002\060\067\104  
\365\062\200\343\161\353\364\155\317\174\314\221\232\303\156\161  
\330\322\043\135\222\115\202\102\155\134\141\225\366\221\365\247  
\010\366\152\227\351\234\224\055\230\160\375\063\266\011\002\060  
\007\074\057\271\130\202\136\017\243\142\250\223\147\360\040\303  
\151\277\003\054\073\120\247\073\257\101\070\311\122\110\221\326  
\016\373\274\140\060\174\144\077\022\036\105\177\121\076\364\246

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE



CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert

SMIME ECC P384 Root G5"

# Issuer: CN=DigiCert SMIME ECC P384 Root G5,O="DigiCert, Inc.",C=US

# Serial Number:05:3f:6e:a0:06:01:72:7d:ed:3f:c3:a3:b6:a3:d6:ef

# Subject: CN=DigiCert SMIME ECC P384 Root G5,O="DigiCert, Inc.",C=US

# Not Valid Before: Fri Jan 15 00:00:00 2021

# Not Valid After : Sun Jan 14 23:59:59 2046

# Fingerprint (SHA-256):

E8:E8:17:65:36:A6:0C:C2:C4:E1:01:87:C3:BE:FC:A2:0E:F2:63:49:70:18:F5:66:D5:BE:A0:F9:4D:0C:11:1B

# Fingerprint (SHA1): 1C:B8:A7:08:C9:0D:20:79:01:A0:B2:36:7F:F0:95:65:E4:53:24:FE

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert SMIME ECC P384 Root G5"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\034\270\247\010\311\015\040\171\001\240\262\066\177\360\225\145

\344\123\044\376

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\246\376\364\122\066\104\330\356\015\267\003\013\357\164\263\003

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\120\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145

\162\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004

\003\023\037\104\151\147\151\103\145\162\164\040\123\115\111\115

\105\040\105\103\103\040\120\063\070\064\040\122\157\157\164\040

\107\065

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\005\077\156\240\006\001\162\175\355\077\303\243\266\243

\326\357

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "DigiCert SMIME RSA4096 Root G5"

#

# Issuer: CN=DigiCert SMIME RSA4096 Root G5,O="DigiCert, Inc.",C=US

# Serial Number:05:f6:ba:04:23:83:46:cb:7d:5c:e6:b9:5b:ba:1c:55

# Subject: CN=DigiCert SMIME RSA4096 Root G5,O="DigiCert, Inc.",C=US

```
Not Valid Before: Fri Jan 15 00:00:00 2021
Not Valid After : Sun Jan 14 23:59:59 2046
Fingerprint (SHA-256):
90:37:0D:3E:FA:88:BF:58:C3:01:05:BA:25:10:4A:35:84:60:A7:FA:52:DF:C2:01:1D:F2:33:A0:F4:17:91:2A
#
Fingerprint (SHA1): 5B:C5:AD:E2:9A:A7:54:DA:84:89:53:A5:FE:D7:5B:46:86:D0:57:08
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert SMIME RSA4096 Root G5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\047\060\045\006\003\125\004
\003\023\036\104\151\147\151\103\145\162\164\040\123\115\111\115
\105\040\122\123\101\064\060\071\066\040\122\157\157\164\040\107
\065
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\047\060\045\006\003\125\004
\003\023\036\104\151\147\151\103\145\162\164\040\123\115\111\115
\105\040\122\123\101\064\060\071\066\040\122\157\157\164\040\107
\065
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\005\366\272\004\043\203\106\313\175\134\346\271\133\272
\034\125
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\152\060\202\003\122\240\003\002\001\002\002\020\005
\366\272\004\043\203\106\313\175\134\346\271\133\272\034\125\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\117
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060
\025\006\003\125\004\012\023\016\104\151\147\151\103\145\162\164
\054\040\111\156\143\056\061\047\060\045\006\003\125\004\003\023
\036\104\151\147\151\103\145\162\164\040\123\115\111\115\105\040
\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065\060
\036\027\015\062\061\060\061\061\065\060\060\060\060\060\060\132
\027\015\064\066\060\061\061\064\062\063\065\071\065\071\132\060
\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027
\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145\162
\164\054\040\111\156\143\056\061\047\060\045\006\003\125\004\003
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\023\036\104\151\147\151\103\145\162\164\040\123\115\111\115\105  
\040\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\340\152\133\331\370\371\175\354\265\173\357\137\335\134\064  
\330\332\135\321\313\145\165\253\041\174\133\000\324\202\157\105  
\205\101\212\251\022\002\162\062\360\024\365\003\165\273\143\227  
\111\017\100\231\013\032\036\126\247\322\320\341\253\335\345\004  
\033\343\037\024\022\002\210\365\240\200\011\366\047\232\120\360  
\272\343\242\340\254\152\024\221\265\153\070\020\172\242\061\341  
\221\033\267\271\360\053\133\310\167\011\166\267\121\304\066\012  
\231\123\124\104\045\267\011\065\206\027\005\126\223\075\101\267  
\002\327\142\037\212\222\021\207\352\021\155\352\010\021\334\261  
\170\110\111\222\366\264\121\200\170\043\330\376\341\126\032\072  
\220\023\126\064\211\325\342\225\213\137\336\262\314\373\077\070  
\267\205\367\352\236\277\056\241\056\057\115\175\152\021\056\066  
\240\377\021\010\004\225\125\340\033\073\147\223\251\224\125\352  
\062\355\006\072\177\302\177\343\255\023\047\321\064\101\263\060  
\303\277\264\210\370\003\202\244\337\076\253\170\167\240\131\223  
\161\347\335\353\000\004\173\314\110\071\050\340\036\243\025\151  
\310\066\262\241\013\227\337\125\326\357\221\234\244\366\026\367  
\121\012\356\003\043\221\334\004\377\340\335\070\366\042\003\000  
\302\007\161\032\022\311\327\106\052\224\033\315\326\273\033\356  
\277\276\115\120\130\260\013\315\060\166\051\365\317\345\266\152  
\057\166\260\260\151\152\320\155\145\030\065\176\223\274\162\027  
\301\125\102\315\057\302\045\273\364\375\035\241\144\042\124\135  
\342\236\162\101\204\156\161\226\352\105\007\266\136\172\112\206  
\235\163\144\167\070\003\322\017\123\245\125\040\304\115\377\150  
\157\125\251\352\335\161\344\117\331\205\243\174\116\051\002\236  
\013\011\362\032\123\314\000\246\335\321\064\366\015\301\060\261  
\234\002\144\254\065\355\245\260\051\261\322\225\063\017\322\040  
\063\275\354\043\113\362\031\371\332\230\144\344\054\061\037\056  
\341\215\034\004\225\050\115\214\130\315\113\345\163\202\206\214  
\354\250\326\171\134\373\144\273\334\014\114\050\366\027\257\342  
\150\326\026\206\230\333\374\001\334\061\272\370\234\016\371\050  
\106\112\341\375\226\006\105\171\021\150\027\145\134\213\046\207  
\133\002\003\001\000\001\243\102\060\100\060\035\006\003\125\035  
\016\004\026\004\024\321\243\324\127\035\117\125\333\165\114\134  
\102\236\143\026\316\264\306\073\037\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\015\006\011\052\206  
\110\206\367\015\001\001\014\005\000\003\202\002\001\000\007\247  
\012\336\123\273\232\353\160\277\262\066\220\315\344\247\270\361  
\014\344\135\132\035\170\145\374\311\270\036\043\021\127\174\151  
\065\155\001\377\123\120\277\007\016\272\307\001\077\130\052\224  
\165\003\253\034\013\043\334\033\212\036\067\075\035\130\217\163  
\331\263\052\157\337\020\240\133\014\247\312\260\177\271\044\242  
\001\065\062\345\136\106\101\353\330\177\163\347\102\351\244\121

```
\046\167\201\012\250\353\017\012\120\235\176\212\040\147\374\013
\216\072\021\323\305\214\140\030\331\113\261\374\324\361\264\111
\116\256\207\341\321\373\166\241\137\363\006\317\227\226\014\351
\236\165\201\134\123\015\042\374\066\346\111\156\164\333\000\205
\215\174\042\240\216\373\020\114\324\142\023\133\357\113\162\046
\213\374\116\212\217\376\227\020\123\305\170\213\102\144\033\137
\340\211\375\273\011\177\120\340\124\205\046\021\152\035\145\371
\111\051\334\174\066\337\373\075\367\322\254\356\062\215\156\246
\175\071\234\105\304\312\015\365\073\264\171\123\245\057\126\307
\121\305\212\114\144\135\220\103\043\216\153\114\027\170\314\350
\277\365\073\344\250\110\317\255\233\014\337\062\112\323\331\022
\216\043\170\015\055\257\237\257\236\074\011\302\227\000\355\072
\151\034\161\077\071\337\323\217\304\146\365\357\066\224\017\363
\335\222\266\226\137\220\246\335\163\252\246\040\224\224\045\152
\011\014\162\344\023\043\140\114\243\312\027\056\173\147\000\333
\320\315\352\172\037\071\046\127\211\060\167\313\116\345\225\105
\117\137\373\066\134\075\371\040\265\072\020\045\117\223\062\132
\356\301\226\350\351\126\004\260\111\141\115\354\170\250\235\030
\301\377\330\352\057\126\357\225\053\173\004\136\147\343\125\100
\355\071\004\371\013\171\365\152\214\134\017\211\232\220\307\315
\213\336\333\046\065\241\156\315\263\102\362\242\017\073\014\216
\223\377\024\317\374\367\223\367\344\101\010\156\031\122\021\017
\123\031\163\170\014\317\330\205\201\370\255\125\310\260\236\106
\143\257\234\122\356\134\277\360\300\133\067\036\011\040\322\076
\043\306\241\025\112\016\066\176\060\305\171\152\274\042\210\331
\014\122\100\037\335\116\017\147\046\026\322\255\027\034
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert SMIME RSA4096 Root G5"

# Issuer: CN=DigiCert SMIME RSA4096 Root G5,O="DigiCert, Inc.",C=US

# Serial Number:05:f6:ba:04:23:83:46:cb:7d:5c:e6:b9:5b:ba:1c:55

# Subject: CN=DigiCert SMIME RSA4096 Root G5,O="DigiCert, Inc.",C=US

# Not Valid Before: Fri Jan 15 00:00:00 2021

# Not Valid After : Sun Jan 14 23:59:59 2046

# Fingerprint (SHA-256):

90:37:0D:3E:FA:88:BF:58:C3:01:05:BA:25:10:4A:35:84:60:A7:FA:52:DF:C2:01:1D:F2:33:A0:F4:17:91:2A

# Fingerprint (SHA1): 5B:C5:AD:E2:9A:A7:54:DA:84:89:53:A5:FE:D7:5B:46:86:D0:57:08

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert SMIME RSA4096 Root G5"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\133\305\255\342\232\247\124\332\204\211\123\245\376\327\133\106  
\206\320\127\010

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\321\173\340\265\077\065\162\237\175\276\013\245\244\035\251\156

END

CKA\_ISSUER

MULTILINE\_OCTAL

\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145  
\162\164\054\040\111\156\143\056\061\047\060\045\006\003\125\004  
\003\023\036\104\151\147\151\103\145\162\164\040\123\115\111\115  
\105\040\122\123\101\064\060\071\066\040\122\157\157\164\040\107  
\065

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\005\366\272\004\043\203\106\313\175\134\346\271\133\272  
\034\125

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Certainly Root R1"

#

# Issuer: CN=Certainly Root R1,O=Certainly,C=US

# Serial Number:00:8e:0f:f9:4b:90:71:68:65:33:54:f4:d4:44:39:b7:e0

# Subject: CN=Certainly Root R1,O=Certainly,C=US

# Not Valid Before: Thu Apr 01 00:00:00 2021

# Not Valid After : Sun Apr 01 00:00:00 2046

#

Fingerprint (SHA-256):

77:B8:2C:D8:64:4C:43:05:F7:AC:C5:CB:15:6B:45:67:50:04:03:3D:51:C6:0C:62:02:A8:E0:C3:34:67:D3:A0

# Fingerprint (SHA1): A0:50:EE:0F:28:71:F4:27:B2:12:6D:6F:50:96:25:BA:CC:86:42:AF

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certainly Root R1"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151  
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145  
\162\164\141\151\156\154\171\040\122\157\157\164\040\122\061

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151  
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145  
\162\164\141\151\156\154\171\040\122\157\157\164\040\122\061

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\021\000\216\017\371\113\220\161\150\145\063\124\364\324\104  
\071\267\340

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\107\060\202\003\057\240\003\002\001\002\002\021\000  
\216\017\371\113\220\161\150\145\063\124\364\324\104\071\267\340  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061\022  
\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151\156  
\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145\162  
\164\141\151\156\154\171\040\122\157\157\164\040\122\061\060\036  
\027\015\062\061\060\064\060\061\060\060\060\060\060\132\027  
\015\064\066\060\064\060\061\060\060\060\060\060\132\060\075  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060  
\020\006\003\125\004\012\023\011\103\145\162\164\141\151\156\154  
\171\061\032\060\030\006\003\125\004\003\023\021\103\145\162\164  
\141\151\156\154\171\040\122\157\157\164\040\122\061\060\202\002  
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000  
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\320\066  
\324\037\352\335\253\344\321\266\346\373\042\300\335\023\015\152  
\173\042\023\034\227\074\150\143\146\062\234\003\265\215\244\201  
\203\332\170\060\021\317\334\262\053\276\222\277\216\344\304\023  
\276\244\150\114\332\002\150\026\164\276\262\335\004\344\153\052  
\335\067\037\140\054\333\365\367\241\174\225\267\014\160\206\056  
\361\072\357\122\367\314\323\233\371\213\276\016\337\061\267\235  
\150\134\222\246\365\345\363\012\064\265\377\173\242\344\207\241  
\306\257\027\000\357\003\221\355\251\034\116\161\075\322\213\154  
\211\364\170\206\346\152\111\240\316\265\322\260\253\233\366\364  
\324\056\343\162\371\066\306\353\025\267\045\214\072\374\045\015  
\263\042\163\041\164\310\112\226\141\222\365\057\013\030\245\364  
\255\342\356\101\275\001\171\372\226\214\215\027\002\060\264\371  
\257\170\032\214\264\066\020\020\007\005\160\320\364\061\220\212  
\121\305\206\046\171\262\021\210\136\305\360\012\124\315\111\246  
\277\002\234\322\104\247\355\343\170\357\106\136\155\161\321\171  
\160\034\106\137\121\351\311\067\334\137\176\151\173\101\337\064  
\105\340\073\204\364\241\212\012\066\236\067\314\142\122\341\211  
\015\050\371\172\043\261\015\075\075\232\375\235\201\357\054\220  
\300\173\104\116\273\111\340\016\112\126\222\274\313\265\335\171  
\027\211\221\336\141\211\164\222\250\343\062\205\276\116\205\244

\113\131\313\053\305\170\216\161\124\320\002\067\231\214\345\111  
\352\340\124\162\244\021\006\057\013\214\301\133\276\265\241\260  
\123\156\234\270\140\221\037\131\153\371\055\364\224\012\227\265  
\354\305\166\003\124\033\145\122\272\114\222\126\121\065\240\100  
\330\051\333\256\122\166\073\055\060\100\233\212\320\102\126\264  
\267\210\001\244\207\073\123\226\315\243\026\217\363\146\252\027  
\261\307\140\340\301\103\005\014\356\233\133\140\157\006\134\207  
\133\047\371\100\021\236\234\063\301\267\345\065\127\005\177\047  
\316\027\040\214\034\374\361\373\332\061\051\111\355\365\013\204  
\247\117\301\366\116\302\050\234\372\356\340\257\007\373\063\021  
\172\041\117\013\041\020\266\100\072\253\042\072\004\234\213\233  
\204\206\162\232\322\247\245\304\264\165\221\251\053\043\002\003  
\001\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001  
\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001  
\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004  
\026\004\024\340\252\077\045\215\237\104\134\301\072\350\056\256  
\167\114\204\076\147\014\364\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\003\202\002\001\000\271\127\257\270\022  
\332\127\203\217\150\013\063\035\003\123\125\364\225\160\344\053  
\075\260\071\353\372\211\142\375\367\326\030\004\057\041\064\335  
\361\150\360\325\226\132\336\302\200\243\301\215\306\152\367\131  
\167\256\025\144\317\133\171\005\167\146\352\214\323\153\015\335  
\361\131\054\301\063\245\060\200\025\105\007\105\032\061\042\266  
\222\000\253\231\115\072\217\167\257\251\042\312\057\143\312\025  
\326\307\306\360\075\154\374\034\015\230\020\141\236\021\242\042  
\327\012\362\221\172\153\071\016\057\060\303\066\111\237\340\351  
\017\002\104\120\067\224\125\175\352\237\366\073\272\224\245\114  
\351\274\076\121\264\350\312\222\066\124\155\134\045\050\332\335  
\255\024\375\323\356\342\042\005\353\320\362\267\150\022\327\132  
\212\101\032\306\222\245\132\073\143\105\117\277\341\072\167\042  
\057\134\277\106\371\132\003\205\023\102\137\312\336\123\327\142  
\265\246\065\004\302\107\377\231\375\204\337\134\316\351\136\200  
\050\101\362\175\347\036\220\330\117\166\076\202\074\015\374\245  
\003\372\173\032\331\105\036\140\332\304\216\371\374\053\311\173  
\225\305\052\377\252\211\337\202\061\017\162\377\014\047\327\012  
\036\126\000\120\036\014\220\301\226\265\330\024\205\273\247\015  
\026\301\370\007\044\033\272\205\241\032\005\011\200\272\225\143  
\311\072\354\045\237\177\235\272\244\107\025\233\104\160\361\152  
\113\326\070\136\103\363\030\176\120\156\351\132\050\346\145\346  
\167\033\072\375\035\276\003\046\243\333\324\341\273\176\226\047  
\053\035\356\244\373\332\045\124\023\003\336\071\306\303\037\115  
\220\354\217\033\112\322\034\355\205\225\070\120\171\106\326\301  
\220\120\061\251\134\232\156\035\365\063\126\213\247\231\322\362  
\310\054\063\223\222\060\307\116\214\145\063\020\144\027\375\044  
\027\226\321\215\302\072\152\053\353\023\213\104\362\041\363\112  
\032\267\167\137\327\355\210\244\162\345\071\037\225\235\276\147  
\301\160\021\075\273\364\370\111\267\343\046\227\072\237\322\137  
\174\373\300\231\174\071\051\340\173\035\277\015\247\217\322\051

```

\064\156\044\025\313\336\220\136\277\032\304\146\352\302\346\272
\071\137\212\231\251\101\131\007\260\054\257
END
CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Certainly Root R1"
Issuer: CN=Certainly Root R1,O=Certainly,C=US
Serial Number:00:8e:0f:f9:4b:90:71:68:65:33:54:f4:d4:44:39:b7:e0
Subject: CN=Certainly Root R1,O=Certainly,C=US
Not
Valid Before: Thu Apr 01 00:00:00 2021
Not Valid After : Sun Apr 01 00:00:00 2046
Fingerprint (SHA-256):
77:B8:2C:D8:64:4C:43:05:F7:AC:C5:CB:15:6B:45:67:50:04:03:3D:51:C6:0C:62:02:A8:E0:C3:34:67:D3:A0
Fingerprint (SHA1): A0:50:EE:0F:28:71:F4:27:B2:12:6D:6F:50:96:25:BA:CC:86:42:AF
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certainly Root R1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\240\120\356\017\050\161\364\047\262\022\155\157\120\226\045\272
\314\206\102\257
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\007\160\324\076\202\207\240\372\063\066\023\364\372\063\347\022
END
CKA_ISSUER MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145
\162\164\141\151\156\154\171\040\122\157\157\164\040\122\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\216\017\371\113\220\161\150\145\063\124\364\324\104
\071\267\340
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Certainly Root E1"

```



```
#
Issuer: CN=Certainly Root E1,O=Certainly,C=US
Serial Number:06:25:33:b1:47:03:33:27:5c:f9:8d:9a:b9:bf:cc:f8
Subject: CN=Certainly Root E1,O=Certainly,C=US
Not Valid Before: Thu Apr 01 00:00:00 2021
Not Valid After : Sun Apr 01 00:00:00 2046
Fingerprint (SHA-256):
B4:58:5F:22:E4:AC:75:6A:4E:86:12:A1:36:1C:5D:9D:03:1A:93:FD:84:FE:BB:77:8F:A3:06:8B:0F:C4:2D:C2
Fingerprint (SHA1): F9:E1:6D:DC:01:89:CF:D5:82:45:63:3E:C5:37:7D:C2:EB:93:6F:2B
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certainly Root E1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE
CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145
\162\164\141\151\156\154\171\040\122\157\157\164\040\105\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145
\162\164\141\151\156\154\171\040\122\157\157\164\040\105\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\006\045\063\261\107\003\063\047\134\371\215\232\271\277
\314\370
END
CKA_VALUE MULTILINE_OCTAL
\060\202\001\367\060\202\001\175\240\003\002\001\002\002\020\006
\045\063\261\107\003\063\047\134\371\215\232\271\277\314\370\060
\012\006\010\052\206\110\316\075\004\003\003\060\075\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\022\060\020\006\003
\125\004\012\023\011\103\145\162\164\141\151\156\154\171\061\032
\060\030\006\003\125\004\003\023\021\103\145\162\164\141\151\156
\154\171\040\122\157\157\164\040\105\061\060\036\027\015\062\061
\060\064\060\061\060\060\060\060\060\060\132\027\015\064\066\060
\064\060\061\060\060\060\060\060\060\132\060\075\061\013\060\011
\006\003\125\004\006\023\002\125\123\061\022\060\020\006\003\125
\004\012\023\011\103\145\162\164\141\151\156\154\171\061\032\060
\030\006\003\125\004\003\023\021\103\145\162\164\141\151\156\154
\171\040\122\157\157\164\040\105\061\060\166\060\020\006\007\052
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000
```

```
\004\336\157\370\177\034\337\355\371\107\207\206\261\244\300\212
\370\202\227\200\352\217\310\112\136\052\175\210\150\247\001\142
\024\221\044\172\134\236\243\027\175\212\206\041\064\030\120\033
\020\336\320\067\113\046\307\031\140\200\351\064\275\140\031\066
\100\326\051\207\011\074\221\172\366\274\023\043\335\131\116\004
\136\317\310\002\034\030\123\301\061\330\332\040\351\104\215\344
\166\243\102\060\100\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004
\024\363\050\030\313\144\165\356\051\052\353\355\256\043\130\070
\205\353\310\042\007\060\012\006\010\052\206\110\316\075\004\003
\003\003\150\000\060\145\002\061\000\261\216\132\040\303\262\031
\142\115\336\260\117\337\156\322\160\212\361\237\176\152\214\346
\272\336\203\151\312\151\263\251\005\265\226\222\027\207\302\322
\352\320\173\316\330\101\133\174\256\002\060\106\336\352\313\135
\232\354\062\302\145\026\260\114\060\134\060\363\332\116\163\206
\006\330\316\211\004\110\067\067\370\335\063\121\235\160\257\173
\125\330\001\056\175\005\144\016\206\270\221
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certainly Root E1"

# Issuer: CN=Certainly

Root E1,O=Certainly,C=US

# Serial Number:06:25:33:b1:47:03:33:27:5c:f9:8d:9a:b9:bf:cc:f8

# Subject: CN=Certainly Root E1,O=Certainly,C=US

# Not Valid Before: Thu Apr 01 00:00:00 2021

# Not Valid After : Sun Apr 01 00:00:00 2046

# Fingerprint (SHA-256):

B4:58:5F:22:E4:AC:75:6A:4E:86:12:A1:36:1C:5D:9D:03:1A:93:FD:84:FE:BB:77:8F:A3:06:8B:0F:C4:2D:C2

# Fingerprint (SHA1): F9:E1:6D:DC:01:89:CF:D5:82:45:63:3E:C5:37:7D:C2:EB:93:6F:2B

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certainly Root E1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\371\341\155\334\001\211\317\325\202\105\143\076\305\067\175\302
\353\223\157\053
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\012\236\312\315\076\122\120\306\066\363\113\243\355\247\123\351
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061
```

```
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145
\162\164\141\151\156\154\171\040\122\157\157\164\040\105\061
END
```

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\020\006\045\063\261\107\003\063\047\134\371\215\232\271\277
\314\370
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "E-Tugra Global Root CA RSA v3"

#

# Issuer: CN=E-Tugra Global Root CA RSA v3,OU=E-Tugra Trust Center,O=E-Tugra EBG A.S.,L=Ankara,C=TR

# Serial Number:0d:4d:c5:cd:16:22:95:96:08:7e:b8:0b:7f:15:06:34:fb:79:10:34

# Subject: CN=E-Tugra Global Root CA RSA v3,OU=E-Tugra Trust Center,O=E-Tugra EBG  
A.S.,L=Ankara,C=TR

# Not Valid Before: Wed Mar 18 09:07:17 2020

# Not Valid After : Sun Mar 12 09:07:17 2045

# Fingerprint (SHA-256):

EF:66:B0:B1:0A:3C:DB:9F:2E:36:48:C7:6B:D2:AF:18:EA:D2:BF:E6:F1:17:65:5E:28:C4:06:0D:A1:A3:F4:C2

# Fingerprint (SHA1):

E9:A8:5D:22:14:52:1C:5B:AA:0A:B4:BE:24:6A:23:8A:C9:BA:E2:A9

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "E-Tugra Global Root CA RSA v3"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\122\123\101
\040\166\063
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
```

\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165  
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033  
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124  
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006  
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154  
\157\142\141\154\040\122\157\157\164\040\103\101\040\122\123\101  
\040\166\063

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\024\015\115\305\315\026\042\225\226\010\176\270\013\177\025  
\006\064\373\171\020\064

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\363\060\202\003\333\240\003\002\001\002\002\024\015  
\115\305\315\026\042\225\226\010\176\270\013\177\025\006\064\373  
\171\020\064\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\201\200\061\013\060\011\006\003\125\004\006\023\002  
\124\122\061\017\060\015\006\003\125\004\007\023\006\101\156\153  
\141\162\141\061\031\060\027\006\003\125\004\012\023\020\105\055  
\124\165\147\162\141\040\105\102\107\040\101\056\123\056\061\035  
\060\033\006\003\125\004\013\023\024\105\055\124\165\147\162\141  
\040\124\162\165\163\164\040\103\145\156\164\145\162\061\046\060  
\044\006\003\125\004\003\023\035\105\055\124\165\147\162\141\040  
\107\154\157\142\141\154\040\122\157\157\164\040\103\101\040\122  
\123\101\040\166\063\060\036\027\015\062\060\060\063\061\070\060  
\071\060\067\061\067\132\027\015\064\065\060\063\061\062\060\071  
\060\067\061\067\132\060\201\200\061\013\060\011\006\003\125\004  
\006\023\002\124\122\061\017\060\015\006\003\125\004\007\023\006  
\101\156\153\141\162\141\061\031\060\027\006\003\125\004\012\023  
\020\105\055\124\165\147\162\141\040\105\102\107\040\101\056\123  
\056\061\035\060\033\006\003\125\004\013\023\024\105\055\124\165  
\147\162\141\040\124\162\165\163\164\040\103\145\156\164\145\162  
\061\046\060\044\006\003\125\004\003\023\035\105\055\124\165\147  
\162\141\040\107\154\157\142\141\154\040\122\157\157\164\040\103  
\101\040\122\123\101\040\166\063\060\202\002\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000  
\060\202\002\012\002\202\002\001\000\242\146\360\211\267\162\173  
\356\011\311\143\322\323\103\335\136\303\246\204\070\112\361\215  
\201\273\024\275\107\350\100\027\363\075\303\170\105\162\246\056  
\220\336\232\072\324\040\161\312\274\237\035\113\227\012\307\061  
\272\076\327\376\045\251\052\216\066\364\321\057\307\267\251\135  
\063\334\060\160\370\100\154\113\262\246\061\141\321\064\074\075  
\061\172\307\257\304\247\247\204\341\227\244\350\113\366\027\174  
\356\074\007\355\342\212\127\334\266\373\370\103\045\120\352\047  
\201\250\206\274\217\122\112\226\072\140\032\226\273\375\163\364  
\205\375\203\375\177\204\155\064\154\177\152\267\113\001\003\277  
\255\151\267\327\062\331\365\127\152\351\206\202\076\245\146\061

\263\026\075\302\363\046\140\062\323\122\036\260\154\244\067\076  
\364\365\257\353\341\337\200\006\317\052\101\347\146\011\341\113  
\227\347\167\275\041\155\051\266\147\303\055\176\355\326\171\145  
\321\317\072\266\321\261\136\126\141\120\172\132\316\116\120\061  
\200\003\230\107\347\344\030\174\104\132\306\244\263\073\306\306  
\303\072\360\154\303\213\310\244\221\005\363\365\331\266\252\006  
\241\267\253\344\261\352\041\024\134\203\244\374\377\266\120\323  
\214\022\046\231\166\160\351\300\017\246\164\374\273\320\033\170  
\316\162\222\342\050\234\274\346\351\011\330\072\323\211\346\276  
\056\167\337\001\012\157\226\366\345\215\074\115\122\166\032\126  
\341\163\176\027\254\075\255\154\243\122\022\030\160\346\200\116  
\063\362\176\046\062\254\005\215\070\244\346\166\074\237\020\151  
\016\155\235\322\301\171\040\153\133\317\063\215\321\224\166\065  
\347\135\125\307\267\254\050\253\106\314\347\073\041\265\012\012  
\344\112\131\334\201\065\113\104\225\022\012\147\245\241\377\133  
\000\007\322\300\314\371\077\374\237\063\362\000\370\214\154\207  
\235\006\055\361\357\343\346\006\372\305\146\023\133\374\120\007  
\236\161\206\262\332\157\164\060\317\223\123\350\334\042\326\336  
\040\037\141\215\243\056\243\170\062\220\154\334\254\062\265\005  
\344\365\074\063\015\326\340\207\167\027\114\235\260\330\011\250  
\015\127\367\104\205\360\310\004\276\134\135\132\343\027\216\124  
\143\151\177\111\164\144\005\214\243\002\003\001\000\001\243\143  
\060\141\060\017\006\003\125\035\023\001\001\377\004\005\060\003  
\001\001\377\060\037\006\003\125\035\043\004\030\060\026\200\024  
\262\264\256\346\055\367\046\325\252\165\055\166\113\300\033\123  
\041\320\110\357\060\035\006\003\125\035\016\004\026\004\024\262  
\264\256\346\055\367\046\325\252\165\055\166\113\300\033\123\041  
\320\110\357\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\002\001\000\211\250\162\177\214\353\316\056\030  
\304\020\200\055\020\014\377\373\024\315\004\340\024\074\116\232  
\373\237\051\277\042\236\127\271\202\163\022\143\046\265\314\220  
\351\322\052\051\356\234\055\314\054\231\276\105\047\344\261\161  
\355\344\070\225\061\101\362\175\172\143\170\337\312\066\026\057  
\202\210\237\274\021\107\117\166\115\310\055\216\353\337\055\174  
\116\073\332\256\366\343\332\135\024\246\256\350\205\104\235\006  
\156\216\373\357\172\112\152\055\053\050\030\376\277\220\054\165  
\026\237\017\352\226\175\005\356\233\023\245\104\154\370\003\320  
\335\043\341\375\003\022\022\010\364\030\064\263\340\067\013\167  
\021\001\110\277\141\264\265\370\031\331\313\115\352\243\214\357  
\375\360\006\265\155\222\364\112\141\120\204\355\354\111\323\344  
\276\150\346\056\343\061\013\124\013\032\222\326\202\330\266\242  
\145\074\146\004\371\125\332\154\373\333\265\024\146\115\224\203  
\073\315\036\246\053\262\376\167\100\206\253\347\337\012\311\375  
\366\335\207\126\030\330\260\054\125\140\226\372\010\176\122\220  
\365\113\246\056\207\174\313\040\333\006\076\240\135\003\167\175  
\242\074\023\033\051\242\023\125\240\075\024\042\257\157\270\320  
\232\033\162\335\005\001\215\206\140\277\244\147\356\265\245\015

```
\321\177\346\032\053\142\146\303\007\272\347\240\110\034\070\303
\351\105\373\247\177\374\355\002\150\032\312\167\022\167\246\000
\125\050\024\354\326\307\022\242\033\145\102\351\221\350\313\076
\207\211\124\135\331\257\235\227\234\151\347\012\377\017\132\170
\213\143\052\114\175\107\224\077\336\113\351\123\320\060\361\305
\366\236\111\337\073\240\221\243\243\376\315\130\314\352\337\257
\157\050\073\240\151\233\217\354\254\256\053\124\235\233\004\261
\107\040\257\226\022\076\143\224\035\004\347\056\273\206\307\014
\232\210\277\166\107\357\367\260\013\227\146\322\104\317\140\122
\007\341\325\054\112\072\047\141\167\312\327\217\347\207\016\060
\377\014\273\004\342\141\303\242\310\227\141\216\264\060\152\074
\155\302\007\137\112\163\057\077\371\026\212\001\146\357\272\221
\312\122\127\173\256\324\346\017\335\013\172\177\213\236\046\040
\317\073\357\201\161\203\131
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "E-Tugra Global Root CA RSA v3"

# Issuer: CN=E-Tugra

Global Root CA RSA v3,OU=E-Tugra Trust Center,O=E-Tugra EBG A.S.,L=Ankara,C=TR

# Serial Number:0d:4d:c5:cd:16:22:95:96:08:7e:b8:0b:7f:15:06:34:fb:79:10:34

# Subject: CN=E-Tugra Global Root CA RSA v3,OU=E-Tugra Trust Center,O=E-Tugra EBG A.S.,L=Ankara,C=TR

# Not Valid Before: Wed Mar 18 09:07:17 2020

# Not Valid After : Sun Mar 12 09:07:17 2045

# Fingerprint (SHA-256):

EF:66:B0:B1:0A:3C:DB:9F:2E:36:48:C7:6B:D2:AF:18:EA:D2:BF:E6:F1:17:65:5E:28:C4:06:0D:A1:A3:F4:C2

# Fingerprint (SHA1): E9:A8:5D:22:14:52:1C:5B:AA:0A:B4:BE:24:6A:23:8A:C9:BA:E2:A9

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "E-Tugra Global Root CA RSA v3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\351\250\135\042\024\122\034\133\252\012\264\276\044\152\043\212
\311\272\342\251
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\042\276\020\366\302\370\003\210\163\137\063\051\107\050\107\244
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
```

```
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\122\123\101
\040\166\063
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\024\015\115\305\315\026\042\225\226\010\176\270\013\177\025
\006\064\373\171\020\064
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "E-Tugra Global Root CA ECC v3"

#

# Issuer: CN=E-Tugra Global Root CA ECC v3,OU=E-Tugra Trust Center,O=E-Tugra EBG  
A.S.,L=Ankara,C=TR

# Serial Number:26:46:19:77:31:e1:4f:6f:28:36:de:39:51:86:e6:d4:97:88:22:c1

# Subject: CN=E-Tugra Global Root CA ECC v3,OU=E-Tugra Trust Center,O=E-Tugra EBG  
A.S.,L=Ankara,C=TR

# Not Valid Before: Wed Mar 18 09:46:58 2020

# Not Valid After : Sun Mar 12 09:46:58 2045

# Fingerprint (SHA-256):

87:3F:46:85:FA:7F:56:36:25:25:2E:6D:36:BC:D7:F1:6F:C2:49:51:F2:64:E4:7E:1B:95:4F:49:08:CD:CA:13

# Fingerprint (SHA1): 8A:2F:AF:57:53:B1:B0:E6:A1:04:EC:5B:6A:69:71:6D:F6:1C:E2:84

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "E-Tugra Global Root CA ECC v3"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\105\103\103
\040\166\063
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END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122  
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162  
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165  
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033  
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124  
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006  
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154  
\157\142\141\154\040\122\157\157\164\040\103\101\040\105\103\103  
\040\166\063

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\024\046\106\031\167\061\341\117\157\050\066\336\071\121\206  
\346\324\227\210\042\301

END

CKA\_VALUE

MULTILINE\_OCTAL

\060\202\002\245\060\202\002\052\240\003\002\001\002\002\024\046  
\106\031\167\061\341\117\157\050\066\336\071\121\206\346\324\227  
\210\042\301\060\012\006\010\052\206\110\316\075\004\003\003\060  
\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122\061  
\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162\141  
\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165\147  
\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033\006  
\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124\162  
\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006\003  
\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154\157  
\142\141\154\040\122\157\157\164\040\103\101\040\105\103\103\040  
\166\063\060\036\027\015\062\060\060\063\061\070\060\071\064\066  
\065\070\132\027\015\064\065\060\063\061\062\060\071\064\066\065  
\070\132\060\201\200\061\013\060\011\006\003\125\004\006\023\002  
\124\122\061\017\060\015\006\003\125\004\007\023\006\101\156\153  
\141\162\141\061\031\060\027\006\003\125\004\012\023\020\105\055  
\124\165\147\162\141\040\105\102\107\040\101\056\123\056\061\035  
\060\033\006\003\125\004\013\023\024\105\055\124\165\147\162\141  
\040\124\162\165\163\164\040\103\145\156\164\145\162\061\046\060  
\044\006\003\125\004\003\023\035\105\055\124\165\147\162\141\040  
\107\154\157\142\141\154\040\122\157\157\164\040\103\101\040\105  
\103\103\040\166\063\060\166\060\020\006\007\052\206\110\316\075  
\002\001\006\005\053\201\004\000\042\003\142\000\004\216\230\051  
\277\307\020\036\047\333\253\003\314\050\054\330\136\110\031\020  
\051\314\313\131\201\314\214\270\222\027\211\203\052\222\366\303  
\244\035\114\142\325\237\326\240\106\334\034\274\166\301\343\107  
\320\133\023\332\347\245\263\146\110\347\041\232\112\117\206\012  
\175\154\352\115\062\200\012\262\172\011\233\151\113\230\201\342  
\056\354\002\160\226\037\375\365\106\316\312\334\202\243\143\060  
\141\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001



```
\001\377\060\037\006\003\125\035\043\004\030\060\026\200\024\377
\202\061\162\076\371\304\146\154\255\070\236\321\260\121\210\245
\220\314\365\060\035\006\003\125\035\016\004\026\004\024\377\202
\061\162\076\371\304\146\154\255\070\236\321\260\121\210\245\220
\314\365\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\006\060\012\006\010\052\206\110\316\075\004\003\003\003\151
\000\060\146\002\061\000\346\005\130\151\141\345\055\312\015\313
\361\031\010\275\326\375\121\222\032\176\143\124\004\220\221\232
\065\221\071\231\372\007\251\146\223\272\310\150\324\212\077\372
\355\156\026\002\047\267\002\061\000\335\132\027\053\166\035\145
\102\226\246\254\135\212\171\126\330\212\033\337\232\336\137\307
\120\217\261\133\161\014\046\337\152\100\000\354\063\221\041\161
\276\150\344\043\244\331\255\241\067
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "E-Tugra Global Root CA ECC v3"

# Issuer: CN=E-Tugra Global

Root CA ECC v3,OU=E-Tugra Trust Center,O=E-Tugra EBG A.S.,L=Ankara,C=TR

# Serial Number:26:46:19:77:31:e1:4f:6f:28:36:de:39:51:86:e6:d4:97:88:22:c1

# Subject: CN=E-Tugra Global Root CA ECC v3,OU=E-Tugra Trust Center,O=E-Tugra EBG  
A.S.,L=Ankara,C=TR

# Not Valid Before: Wed Mar 18 09:46:58 2020

# Not Valid After : Sun Mar 12 09:46:58 2045

# Fingerprint (SHA-256):

87:3F:46:85:FA:7F:56:36:25:25:2E:6D:36:BC:D7:F1:6F:C2:49:51:F2:64:E4:7E:1B:95:4F:49:08:CD:CA:13

# Fingerprint (SHA1): 8A:2F:AF:57:53:B1:B0:E6:A1:04:EC:5B:6A:69:71:6D:F6:1C:E2:84

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "E-Tugra Global Root CA ECC v3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\212\057\257\127\123\261\260\346\241\004\354\133\152\151\161\155
\366\034\342\204
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\106\274\201\273\361\265\036\367\113\226\274\024\342\347\047\144
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
```

```
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\105\103\103
\040\166\063
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\024\046\106\031\167\061\341\117\157\050\066\336\071\121\206
\346\324\227\210\042\301
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "DIGITALSIGN GLOBAL ROOT RSA CA"

#

# Issuer: CN=DIGITALSIGN GLOBAL ROOT RSA CA,O=DigitalSign Certificadora Digital,C=PT

# Serial

Number:5d:59:c8:ca:ab:09:57:f5:e6:b5:da:29:94:04:6a:ff:c5:d4:95:87

# Subject: CN=DIGITALSIGN GLOBAL ROOT RSA CA,O=DigitalSign Certificadora Digital,C=PT

# Not Valid Before: Thu Jan 21 10:50:34 2021

# Not Valid After : Mon Jan 15 10:50:34 2046

# Fingerprint (SHA-256):

82:BD:5D:85:1A:CF:7F:6E:1B:A7:BF:CB:C5:30:30:D0:E7:BC:3C:21:DF:77:2D:85:8C:AB:41:D1:99:BD:F5:95

# Fingerprint (SHA1): B9:82:07:97:AE:52:A5:68:6F:46:07:DF:FD:03:72:3D:92:86:88:2D

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DIGITALSIGN GLOBAL ROOT RSA CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\142\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\047\060\045\006
\003\125\004\003\014\036\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\122\123
\101\040\103\101
```

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\142\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
```

\157\162\141\040\104\151\147\151\164\141\154\061\047\060\045\006  
\003\125\004\003\014\036\104\111\107\111\124\101\114\123\111\107  
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\122\123  
\101\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\024\135\131\310\312\253\011\127\365\346\265\332\051\224\004  
\152\377\305\324\225\207

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\265\060\202\003\235\240\003\002\001\002\002\024\135  
\131\310\312\253\011\127\365\346\265\332\051\224\004\152\377\305  
\324\225\207\060\015\006\011\052\206\110\206\367\015\001\001\015  
\005\000\060\142\061\013\060\011\006\003\125\004\006\023\002\120  
\124\061\052\060\050\006\003\125\004\012\014\041\104\151\147\151  
\164\141\154\123\151\147\156\040\103\145\162\164\151\146\151\143  
\141\144\157\162\141\040\104\151\147\151\164\141\154\061\047\060  
\045\006\003\125\004\003\014\036\104\111\107\111\124\101\114\123  
\111\107\116\040\107\114\117\102\101\114\040\122\117\117\124\040  
\122\123\101\040\103\101\060\036\027\015\062\061\060\061\062\061  
\061\060\065\060\063\064\132\027\015\064\066\060\061\061\065\061  
\060\065\060\063\064\132\060\142\061\013\060\011\006\003\125\004  
\006\023\002\120\124\061\052\060\050\006\003\125\004\012\014\041  
\104\151\147\151\164\141\154\123\151\147\156\040\103\145\162\164  
\151\146\151\143\141\144\157\162\141\040\104\151\147\151\164\141  
\154\061\047\060\045\006\003\125\004\003\014\036\104\111\107\111  
\124\101\114\123\111\107\116\040\107\114\117\102\101\114\040\122  
\117\117\124\040\122\123\101\040\103\101\060\202\002\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002  
\017\000\060\202\002\012\002\202\002\001\000\310\207\266\070\323  
\034\360\336\022\370\203\307\304\212\342\211\270\264\042\172\170  
\370\014\146\121\150\166\067\012\325\117\302\132\010\270\026\134  
\367\162\001\011\067\204\201\052\124\153\327\222\320\154\372\250  
\247\103\022\064\353\016\333\067\017\051\376\212\061\121\102\350  
\113\234\220\250\310\054\021\323\375\240\051\176\316\336\224\366  
\202\340\130\264\116\105\045\361\042\362\075\323\017\173\124\032  
\334\062\266\326\121\116\176\101\264\127\270\054\306\271\016\056  
\312\127\361\325\310\323\130\347\245\351\102\021\256\323\040\045  
\224\151\327\217\312\242\015\303\323\237\007\150\077\025\322\147  
\056\123\375\166\202\233\013\163\251\051\015\236\021\223\024\010  
\230\354\236\124\022\112\126\242\006\025\354\153\154\056\222\140  
\056\206\015\256\202\037\121\115\343\262\007\327\020\031\127\042  
\366\251\151\104\204\363\331\075\240\006\277\314\210\176\177\365  
\316\133\245\302\052\152\164\102\352\157\246\377\371\150\261\320  
\137\275\221\322\125\157\063\127\114\036\235\344\342\213\301\205  
\145\240\340\152\234\000\000\210\222\335\130\010\026\362\160\061  
\250\034\341\336\275\116\161\351\326\276\176\265\241\132\303\115  
\367\277\233\275\224\244\375\365\252\123\223\106\311\046\001\004

\160\304\240\161\272\316\045\146\373\221\176\125\160\356\111\012  
\115\142\177\302\120\232\162\362\030\147\235\351\105\250\064\204  
\350\370\201\366\321\132\042\036\007\117\073\263\177\335\021\245  
\163\334\276\251\031\072\151\251\155\033\062\342\211\252\245\047  
\013\132\176\164\342\017\144\071\135\176\134\271\301\027\374\307  
\215\136\311\354\044\355\322\362\077\172\204\105\067\002\276\076  
\153\131\304\346\133\026\155\300\252\236\252\265\131\056\054\160  
\125\234\314\231\226\230\044\124\321\216\332\312\264\021\264\267  
\160\103\037\157\220\013\040\240\250\166\023\145\333\333\043\132  
\165\113\241\013\061\167\012\356\175\150\141\032\023\214\352\121  
\176\134\126\243\127\114\135\241\353\023\145\277\124\024\314\363  
\356\334\327\354\074\227\362\170\126\270\337\162\134\160\374\316  
\006\335\237\322\007\061\357\347\122\221\236\315\272\327\300\030  
\104\007\061\145\111\062\151\023\112\353\217\002\003\001\000\001  
\243\143\060\141\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\037\006\003\125\035\043\004\030\060\026  
\200\024\265\066\274\074\214\032\253\054\366\131\031\055\203\024  
\332\223\045\025\326\206\060\035\006\003\125\035\016\004\026\004  
\024\265\066\274\074\214\032\253\054\366\131\031\055\203\024\332  
\223\045\025\326\206\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\006\060\015\006\011\052\206\110\206\367\015\001  
\001\015\005\000\003\202\002\001\000\024\373\061\045\070\061\370  
\312\010\262\043\166\070\255\370\323\131\365\314\264\127\045\341  
\104\276\176\374\026\354\256\372\046\237\117\147\026\112\126\360  
\375\355\307\031\001\064\216\220\132\055\326\200\134\354\161\322  
\201\045\202\036\000\161\337\232\321\325\035\042\273\321\245\363  
\142\017\264\353\334\044\163\376\246\126\315\232\024\305\004\065  
\026\061\242\007\353\245\000\342\266\370\137\162\375\077\141\111  
\216\336\176\115\070\327\172\036\164\067\154\121\334\276\000\004  
\270\070\024\363\040\301\355\233\247\043\375\015\102\204\035\177  
\362\163\303\320\170\143\361\237\354\327\133\351\361\276\154\240  
\113\003\236\215\151\341\024\332\210\020\201\043\123\377\332\124  
\053\013\306\271\226\225\004\030\106\363\173\250\227\330\133\150  
\244\344\070\034\016\105\345\230\323\011\256\232\136\354\263\171  
\015\071\162\362\364\224\235\016\236\140\042\346\250\366\114\205  
\315\007\202\072\150\071\315\075\137\343\070\364\266\257\073\153  
\112\237\140\121\105\242\100\002\345\252\014\343\076\321\170\324  
\242\164\234\046\272\005\232\050\160\112\076\246\013\320\035\111  
\360\272\370\256\101\020\176\244\007\022\275\250\317\051\075\127  
\273\307\361\103\107\000\076\256\160\030\132\040\173\011\313\072  
\072\160\200\345\114\140\230\301\025\301\035\112\367\310\360\233  
\341\162\255\347\135\150\130\013\004\261\214\274\237\267\373\156  
\213\133\004\125\373\353\043\125\327\170\120\332\045\313\276\047  
\066\273\044\032\171\034\121\321\376\023\273\377\170\054\334\244  
\276\057\366\305\113\123\317\247\114\231\136\160\254\131\210\004  
\256\144\004\277\173\246\172\115\323\350\167\275\241\176\120\025  
\363\357\111\060\205\115\041\127\252\333\054\165\227\255\201\001  
\207\242\261\160\235\036\006\132\003\140\261\077\246\155\202\054

```
\324\024\261\201\245\350\075\210\035\264\162\054\130\067\212\216
\070\224\270\163\335\251\340\270\366\167\242\263\174\130\336\256
\151\072\265\213\245\032\273\362\330\164\006\234\375\142\163\040
\041\166\261\176\160\236\031\324\353\027\142\031\070\231\315\066
\053\107\376\061\313\337\271\344\254\010\323\330\246\353\324\236
\176\113\144\244\125\135\053\027\311
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DIGITALSIGN GLOBAL ROOT RSA CA"

# Issuer: CN=DIGITALSIGN GLOBAL ROOT RSA CA,O=DigitalSign Certificadora Digital,C=PT

# Serial Number:5d:59:c8:ca:ab:09:57:f5:e6:b5:da:29:94:04:6a:ff:c5:d4:95:87

#

Subject: CN=DIGITALSIGN GLOBAL ROOT RSA CA,O=DigitalSign Certificadora Digital,C=PT

# Not Valid Before: Thu Jan 21 10:50:34 2021

# Not Valid After : Mon Jan 15 10:50:34 2046

# Fingerprint (SHA-256):

82:BD:5D:85:1A:CF:7F:6E:1B:A7:BF:CB:C5:30:30:D0:E7:BC:3C:21:DF:77:2D:85:8C:AB:41:D1:99:BD:F5:95

# Fingerprint (SHA1): B9:82:07:97:AE:52:A5:68:6F:46:07:DF:FD:03:72:3D:92:86:88:2D

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DIGITALSIGN GLOBAL ROOT RSA CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\271\202\007\227\256\122\245\150\157\106\007\337\375\003\162\075
\222\206\210\055
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\033\032\275\032\171\306\333\264\355\263\207\314\251\323\116\170
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\142\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\047\060\045\006
\003\125\004\003\014\036\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\122\123
\101\040\103\101
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\024\135\131\310\312\253\011\127\365\346\265\332\051\224\004
\152\377\305\324\225\207
```

END

```

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DIGITALSIGN GLOBAL ROOT ECDSA CA"
#
Issuer: CN=DIGITALSIGN GLOBAL ROOT ECDSA CA,O=DigitalSign Certificadora Digital,C=PT
Serial Number:36:2d:8f:72:88:a2:28:27:e4:00:ff:24:c6:2d:e4:eb:fa:9d:b6:e1
Subject: CN=DIGITALSIGN GLOBAL ROOT ECDSA CA,O=DigitalSign Certificadora Digital,C=PT
Not Valid Before: Thu Jan 21 11:07:50 2021
Not Valid After : Mon Jan 15 11:07:50 2046
Fingerprint
(SHA-256):
26:1D:71:14:AE:5F:8F:F2:D8:C7:20:9A:9D:E4:28:9E:6A:FC:9D:71:70:23:D8:54:50:90:91:99:F1:85:7C:FE
Fingerprint (SHA1): 67:A8:08:EB:8F:88:F5:80:6C:05:45:1B:17:F3:D7:00:2F:D2:4A:8A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DIGITALSIGN GLOBAL ROOT ECDSA CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\144\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\051\060\047\006
\003\125\004\003\014\040\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\105\103
\104\123\101\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\144\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\051\060\047\006
\003\125\004\003\014\040\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\105\103
\104\123\101\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\024\066\055\217\162\210\242\050\047\344\000\377\044\306\055
\344\353\372\235\266\341
END
CKA_VALUE MULTILINE_OCTAL

```

\060\202\002\152\060\202\001\360\240\003\002\001\002\002\024\066  
\055\217\162\210\242\050\047\344\000\377\044\306\055\344\353\372  
\235\266\341\060\012\006\010\052\206\110\316\075\004\003\003\060  
\144\061\013\060\011\006\003\125\004\006\023\002\120\124\061\052  
\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141\154  
\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144\157  
\162\141\040\104\151\147\151\164\141\154\061\051\060\047\006\003  
\125\004\003\014\040\104\111\107\111\124\101\114\123\111\107\116  
\040\107\114\117\102\101\114\040\122\117\117\124\040\105\103\104  
\123\101\040\103\101\060\036\027\015\064\066\060\061\061\065\061\061  
\061\060\067\065\060\132\027\015\064\066\060\061\061\065\061\061  
\060\067\065\060\132\060\144\061\013\060\011\006\003\125\004\006  
\023\002\120\124\061\052\060\050\006\003\125\004\012\014\041\104  
\151\147\151\164\141\154\123\151\147\156\040\103\145\162\164\151  
\146\151\143\141\144\157\162\141\040\104\151\147\151\164\141\154  
\061\051\060\047\006\003\125\004\003\014\040\104\111\107\111\124  
\101\114\123\111\107\116\040\107\114\117\102\101\114\040\122\117  
\117\124\040\105\103\104\123\101\040\103\101\060\166\060\020\006  
\007\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003  
\142\000\004\156\013\243\253\063\115\034\352\112\350\374\004\215  
\024\240\175\360\010\054\137\203\253\223\321\322\173\272\327\111  
\175\217\354\022\120\137\324\271\313\345\360\371\063\143\037\311  
\127\354\100\330\021\013\227\350\122\026\314\051\216\364\006\206  
\036\070\334\075\127\304\356\252\275\310\124\004\046\132\047\023  
\121\107\075\037\037\032\216\250\225\244\063\320\314\107\314\155  
\270\374\110\243\143\060\141\060\017\006\003\125\035\023\001\001  
\377\004\005\060\003\001\001\377\060\037\006\003\125\035\043\004  
\030\060\026\200\024\316\257\112\213\032\165\342\361\070\347\002  
\360\026\255\136\352\144\325\173\264\060\035\006\003\125\035\016  
\004\026\004\024\316\257\112\213\032\165\342\361\070\347\002\360  
\026\255\136\352\144\325\173\264\060\016\006\003\125\035\017\001  
\001\377\004\004\003\002\001\006\060\012\006\010\052\206\110\316  
\075\004\003\003\003\150\000\060\145\002\060\012\210\304\161\234  
\104\003\115\215\264\307\274\250\256\331\060\047\065\152\153\026  
\143\327\374\347\131\341\247\211\033\114\061\232\043\125\104\346  
\363\103\041\325\107\047\157\155\127\001\252\002\061\000\373\262  
\352\342\227\177\121\265\237\110\353\274\157\065\211\250\144\160  
\253\127\166\315\300\306\024\140\312\177\342\202\000\163\367\314  
\065\352\216\044\233\345\010\131\307\004\214\163\170\376

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DIGITALSIGN GLOBAL ROOT ECDSA CA"

# Issuer: CN=DIGITALSIGN GLOBAL ROOT ECDSA CA,O=DigitalSign Certificadora Digital,C=PT

# Serial Number:36:2d:8f:72:88:a2:28:27:e4:00:ff:24:c6:2d:e4:eb:fa:9d:b6:e1

```

Subject: CN=DIGITALSIGN GLOBAL ROOT ECDSA CA,O=DigitalSign Certificadora Digital,C=PT
Not Valid Before: Thu Jan 21 11:07:50 2021
Not Valid After : Mon Jan 15 11:07:50 2046
Fingerprint (SHA-256):
26:1D:71:14:AE:5F:8F:F2:D8:C7:20:9A:9D:E4:28:9E:6A:FC:9D:71:70:23:D8:54:50:90:91:99:F1:85:7C:FE
Fingerprint (SHA1): 67:A8:08:EB:8F:88:F5:80:6C:05:45:1B:17:F3:D7:00:2F:D2:4A:8A
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DIGITALSIGN GLOBAL ROOT ECDSA CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\147\250\010\353\217\210\365\200\154\005\105\033\027\363\327\000
\057\322\112\212
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\252\055\241\316\377\041\302\210\313\132\036\214\341\311\222\217
END
CKA_ISSUER MULTILINE_OCTAL
\060\144\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\051\060\047\006
\003\125\004\003\014\040\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\105\103
\104\123\101\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\066\055\217\162\210\242\050\047\344\000\377\044\306\055
\344\353\372\235\266\341
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Security Communication RootCA3"
#
#
Issuer: CN=Security Communication RootCA3,O="SECOM Trust Systems CO.,LTD.",C=JP
Serial Number:00:e1:7c:37:40:fd:1b:fe:67
Subject: CN=Security Communication RootCA3,O="SECOM Trust Systems CO.,LTD.",C=JP
Not Valid Before: Thu Jun 16 06:17:16 2016
Not Valid After : Mon Jan 18 06:17:16 2038
Fingerprint (SHA-256):
24:A5:5C:2A:B0:51:44:2D:06:17:76:65:41:23:9A:4A:D0:32:D7:C5:51:75:AA:34:FF:DE:2F:BC:4F:5C:52:94

```



# Fingerprint (SHA1): C3:03:C8:22:74:92:E5:61:A2:9C:5F:79:91:2B:1E:44:13:91:30:3A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "Security Communication RootCA3"  
CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509  
CKA\_SUBJECT MULTILINE\_OCTAL  
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061  
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040  
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117  
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\003\023  
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156  
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\063  
END

CKA\_ID  
UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL  
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061  
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040  
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117  
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\003\023  
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156  
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\063  
END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\011\000\341\174\067\100\375\033\376\147  
END

CKA\_VALUE MULTILINE\_OCTAL  
\060\202\005\177\060\202\003\147\240\003\002\001\002\002\011\000  
\341\174\067\100\375\033\376\147\060\015\006\011\052\206\110\206  
\367\015\001\001\014\005\000\060\135\061\013\060\011\006\003\125  
\004\006\023\002\112\120\061\045\060\043\006\003\125\004\012\023  
\034\123\105\103\117\115\040\124\162\165\163\164\040\123\171\163  
\164\145\155\163\040\103\117\056\054\114\124\104\056\061\047\060  
\045\006\003\125\004\003\023\036\123\145\143\165\162\151\164\171  
\040\103\157\155\155\165\156\151\143\141\164\151\157\156\040\122  
\157\157\164\103\101\063\060\036\027\015\061\066\060\066\061\066  
\060\066\061\067\061\066\132\027\015\063\070\060\061\061\070\060  
\066\061\067\061\066\132\060\135\061\013\060\011\006\003\125\004  
\006\023\002\112\120\061\045\060\043\006\003\125\004\012\023\034  
\123\105\103\117\115\040\124\162\165\163\164\040\123\171\163\164  
\145\155\163\040\103\117\056\054\114\124\104\056\061\047\060\045  
\006\003\125\004\003\023\036\123\145\143\165\162\151\164\171\040  
\103\157\155\155\165\156\151\143\141\164\151\157\156\040\122\157  
\157\164\103\101\063\060\202\002\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002  
\012\002\202\002\001\000\343\311\162\111\367\060\336\011\174\251

\100\201\130\323\264\072\335\272\141\017\223\120\156\151\074\065  
\302\356\133\163\220\033\147\114\041\354\137\065\273\071\076\053  
\012\140\357\273\155\053\206\373\161\242\310\254\344\126\224\371  
\311\257\261\162\324\040\254\164\322\270\025\255\121\376\205\164  
\241\271\020\376\005\200\371\122\223\263\100\075\165\020\254\300  
\226\267\247\176\166\274\343\033\122\031\316\021\037\013\004\064  
\365\330\365\151\074\167\363\144\364\015\252\205\336\340\011\120  
\004\027\226\204\267\310\212\274\115\162\374\034\273\317\363\006  
\115\371\237\144\367\176\246\146\206\065\161\310\021\200\114\301  
\161\100\130\036\276\240\163\366\374\076\120\341\340\057\046\075  
\176\134\043\265\171\160\336\372\340\321\245\326\014\101\161\173  
\367\352\214\034\210\307\354\213\365\321\057\125\226\106\174\132  
\073\130\073\373\272\330\055\265\045\332\172\116\317\104\256\041  
\246\236\230\312\040\156\174\273\210\205\133\373\300\020\142\273  
\362\371\047\107\357\321\211\071\103\304\337\336\341\101\277\124  
\163\040\227\055\154\332\363\324\007\243\346\271\330\157\256\374  
\214\031\056\323\147\147\053\225\333\130\134\265\152\002\363\270  
\203\136\264\153\276\101\176\127\011\165\104\120\125\315\132\021  
\141\041\012\141\302\251\210\375\023\274\055\211\057\315\141\340  
\225\276\312\265\173\341\173\064\147\013\037\266\014\307\174\036  
\031\123\312\247\261\112\025\040\126\024\160\075\053\202\054\017  
\235\025\035\107\200\107\377\170\231\016\061\257\157\076\217\355  
\206\151\036\173\030\210\024\262\302\374\202\063\056\234\113\055  
\373\160\073\161\252\053\173\046\047\363\032\302\334\373\027\270  
\241\352\313\240\264\256\323\224\176\172\320\253\303\354\070\055  
\021\056\210\277\324\077\255\022\073\102\254\217\002\156\175\314  
\321\137\141\276\241\274\072\152\110\352\046\125\042\026\135\137  
\015\377\047\063\237\030\003\164\212\133\122\040\107\153\105\115  
\042\167\214\125\047\360\257\036\214\311\203\042\124\267\232\320  
\117\331\316\374\331\056\034\226\050\261\002\323\003\275\045\122  
\034\064\146\117\043\253\364\167\202\226\035\321\127\060\010\021  
\005\375\127\321\331\307\002\003\001\000\001\243\102\060\100\060  
\035\006\003\125\035\016\004\026\004\024\144\024\174\374\130\162  
\026\246\012\051\064\025\157\052\313\274\374\257\250\253\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\003\202  
\002\001\000\334\002\043\010\342\357\041\072\307\015\267\046\322  
\142\223\247\245\043\162\007\040\202\140\337\030\327\124\255\151  
\045\222\236\331\024\317\231\271\122\201\317\256\154\212\073\132  
\071\310\154\001\103\302\042\155\002\360\142\315\116\143\103\300  
\024\332\364\143\360\352\364\161\356\116\207\343\161\251\364\311  
\127\345\056\137\034\171\273\043\252\207\104\127\351\275\065\115  
\101\273\113\050\243\230\262\033\331\013\027\007\345\367\352\235  
\365\166\327\277\304\266\201\130\377\310\377\144\151\142\171\255  
\156\016\037\177\356\035\151\345\267\162\161\263\376\245\001\065  
\224\124\053\300\122\155\217\125\304\311\322\270\313\312\064\010  
\121\205\240\365\274\264\027\130\352\012\134\172\275\143\306\072

\057\377\226\111\031\204\352\147\330\004\261\141\364\000\133\112  
\267\234\161\067\031\205\171\277\201\260\307\023\016\166\161\076  
\072\200\006\256\006\026\247\215\265\302\304\313\377\100\245\134  
\215\245\311\072\355\162\201\312\134\230\074\322\064\003\167\010  
\375\360\051\131\135\041\010\307\140\277\244\161\173\270\331\036  
\202\276\011\257\145\157\050\253\277\113\265\356\076\010\107\047  
\240\017\157\017\213\077\254\225\030\363\271\016\334\147\125\156  
\142\236\106\016\321\004\170\312\162\256\166\331\245\370\262\337  
\210\011\141\213\357\044\116\321\131\077\132\324\075\311\223\074  
\053\144\365\201\015\026\226\367\222\303\376\061\157\350\052\062  
\164\016\364\114\230\112\030\016\060\124\325\305\353\274\305\025  
\236\350\231\041\353\047\053\011\012\333\361\346\160\030\126\273  
\014\344\276\371\350\020\244\023\222\270\034\340\333\147\035\123  
\003\244\042\247\334\135\222\020\074\352\377\374\033\020\032\303  
\330\320\234\235\145\313\320\053\047\061\003\036\066\341\075\166  
\165\014\377\105\046\271\335\121\274\043\307\137\330\330\207\020  
\100\022\015\075\070\067\347\104\074\030\300\123\011\144\217\377  
\325\232\246\174\160\056\163\125\041\350\337\377\203\271\035\076  
\062\036\326\246\175\054\361\146\351\134\035\247\243\316\136\045  
\062\053\343\225\254\052\007\316\264\050\170\206\074\055\246\235  
\115\322\164\060\335\144\121\025\333\203\203\121\327\257\375\063  
\235\115\146

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Security Communication RootCA3"

# Issuer: CN=Security Communication RootCA3,O="SECOM Trust Systems CO.,LTD.",C=JP

# Serial Number:00:e1:7c:37:40:fd:1b:fe:67

# Subject: CN=Security Communication RootCA3,O="SECOM Trust Systems CO.,LTD.",C=JP

# Not Valid Before: Thu Jun 16 06:17:16 2016

# Not Valid After : Mon Jan 18 06:17:16 2038

# Fingerprint (SHA-256):

24:A5:5C:2A:B0:51:44:2D:06:17:76:65:41:23:9A:4A:D0:32:D7:C5:51:75:AA:34:FF:DE:2F:BC:4F:5C:52:94

#

Fingerprint (SHA1): C3:03:C8:22:74:92:E5:61:A2:9C:5F:79:91:2B:1E:44:13:91:30:3A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Security Communication RootCA3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\303\003\310\042\164\222\345\141\242\234\137\171\221\053\036\104  
\023\221\060\072

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```

\034\232\026\377\236\134\340\115\212\024\001\364\065\135\051\046
END
CKA_ISSUER MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\003\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\341\174\067\100\375\033\376\147
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Security Communication ECC RootCA1"
#
Issuer: CN=Security Communication ECC RootCA1,O="SECOM Trust Systems CO.,LTD.",C=JP
Serial Number:00:d6:5d:9b:b3:78:81:2e:eb
Subject: CN=Security Communication ECC RootCA1,O="SECOM Trust Systems CO.,LTD.",C=JP
Not Valid Before: Thu Jun 16 05:15:28 2016
Not Valid After : Mon Jan 18 05:15:28 2038
Fingerprint (SHA-256):
E7:4F:BD:A5:5B:D5:64:C4:73:A3:6B:44:1A:A7:99:C8:A6:8E:07:74:40:E8:28:8B:9F:A1:E5:0E:4B:BA:CA:11
Fingerprint (SHA1): B8:0E:26:A9:BF:D2:B2:3B:C0:EF:46:C9:BA:C7:BB:F6:1D:0D:41:41
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication ECC RootCA1"
CKA_CERTIFICATE_TYPE
CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\053\060\051\006\003\125\004\003\023
\042\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\105\103\103\040\122\157\157\164
\103\101\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL

```

\060\141\061\013\060\011\006\003\125\004\006\023\002\112\120\061  
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040  
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117  
\056\054\114\124\104\056\061\053\060\051\006\003\125\004\003\023  
\042\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156  
\151\143\141\164\151\157\156\040\105\103\103\040\122\157\157\164  
\103\101\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\011\000\326\135\233\263\170\201\056\353

END

CKA\_VALUE

MULTILINE\_OCTAL

\060\202\002\070\060\202\001\276\240\003\002\001\002\002\011\000  
\326\135\233\263\170\201\056\353\060\012\006\010\052\206\110\316  
\075\004\003\003\060\141\061\013\060\011\006\003\125\004\006\023  
\002\112\120\061\045\060\043\006\003\125\004\012\023\034\123\105  
\103\117\115\040\124\162\165\163\164\040\123\171\163\164\145\155  
\163\040\103\117\056\054\114\124\104\056\061\053\060\051\006\003  
\125\004\003\023\042\123\145\143\165\162\151\164\171\040\103\157  
\155\155\165\156\151\143\141\164\151\157\156\040\105\103\103\040  
\122\157\157\164\103\101\061\060\036\027\015\061\066\060\066\061  
\066\060\065\061\065\062\070\132\027\015\063\070\060\061\061\070  
\060\065\061\065\062\070\132\060\141\061\013\060\011\006\003\125  
\004\006\023\002\112\120\061\045\060\043\006\003\125\004\012\023  
\034\123\105\103\117\115\040\124\162\165\163\164\040\123\171\163  
\164\145\155\163\040\103\117\056\054\114\124\104\056\061\053\060  
\051\006\003\125\004\003\023\042\123\145\143\165\162\151\164\171  
\040\103\157\155\155\165\156\151\143\141\164\151\157\156\040\105  
\103\103\040\122\157\157\164\103\101\061\060\166\060\020\006\007  
\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142  
\000\004\244\245\157\140\003\003\303\275\061\364\323\027\234\053  
\204\165\254\345\375\075\127\156\327\143\277\346\004\211\222\216  
\201\234\343\351\107\156\312\220\022\310\023\340\247\235\367\145  
\164\037\154\020\262\350\344\351\357\155\205\062\231\104\261\136  
\375\314\166\020\330\133\275\242\306\371\326\102\344\127\166\334  
\220\302\065\251\113\210\074\022\107\155\134\377\111\117\032\112  
\120\261\243\102\060\100\060\035\006\003\125\035\016\004\026\004  
\024\206\034\347\376\055\245\112\213\010\376\050\021\372\276\243  
\146\370\140\131\057\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\012\006\010\052\206\110\316\075\004  
\003\003\003\150\000\060\145\002\060\025\135\102\075\374\266\356  
\367\073\261\066\350\236\366\304\106\050\111\063\320\130\103\052  
\143\051\314\115\261\264\172\242\271\015\070\245\135\110\052\375  
\313\262\163\135\243\210\010\307\014\002\061\000\300\253\055\016  
\155\355\030\242\333\123\351\045\333\125\010\340\120\314\337\104  
\141\026\202\253\111\260\262\201\354\163\207\170\264\114\262\142

```

\033\022\372\026\115\045\113\143\275\036\067\331
END
CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Security Communication ECC RootCA1"
Issuer: CN=Security Communication ECC RootCA1,O="SECOM Trust Systems CO.,LTD.",C=JP
Serial Number:00:d6:5d:9b:b3:78:81:2e:eb
Subject: CN=Security Communication ECC RootCA1,O="SECOM Trust Systems CO.,LTD.",C=JP
Not Valid Before: Thu Jun 16 05:15:28 2016
Not Valid After : Mon Jan 18 05:15:28 2038
Fingerprint (SHA-256):
E7:4F:BD:A5:5B:D5:64:C4:73:A3:6B:44:1A:A7:99:C8:A6:8E:07:74:40:E8:28:8B:9F:A1:E5:0E:4B:BA:CA:11
Fingerprint (SHA1):
B8:0E:26:A9:BF:D2:B2:3B:C0:EF:46:C9:BA:C7:BB:F6:1D:0D:41:41
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication ECC RootCA1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\270\016\046\251\277\322\262\073\300\357\106\311\272\307\273\366
\035\015\101\101
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\176\103\260\222\150\354\005\103\114\230\253\135\065\056\176\206
END
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\053\060\051\006\003\125\004\003\023
\042\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\105\103\103\040\122\157\157\164
\103\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\326\135\233\263\170\201\056\353
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

```

```
Certificate "BJCA Global Root CA1"
#
Issuer: CN=BJCA Global Root CA1,O=BEIJING CERTIFICATE AUTHORITY,C=CN
Serial Number:55:6f:65:e3:b4:d9:90:6a:1b:09:d1:6c:3e:c0:6c:20
Subject: CN=BJCA Global Root CA1,O=BEIJING CERTIFICATE AUTHORITY,C=CN
Not Valid Before: Thu Dec 19 03:16:17 2019
Not Valid After : Mon Dec 12 03:16:17 2044
Fingerprint (SHA-256):
F3:89:6F:88:FE:7C:0A:88:27:66:A7:FA:6A:D2:74:9F:B5:7A:7F:3E:98:FB:76:9C:1F:A7:B0:9C:2C:44:D5:AE
Fingerprint (SHA1): D5:EC:8D:7B:4C:BA:79:F4:E7:E8:CB:9D:6B:AE:77:83:10:03:21:6A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "BJCA Global Root CA1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\061
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\125\157\145\343\264\331\220\152\033\011\321\154\076\300
\154\040
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\164\060\202\003\134\240\003\002\001\002\002\020\125
\157\145\343\264\331\220\152\033\011\321\154\076\300\154\040\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\124
\061\013\060\011\006\003\125\004\006\023\002\103\116\061\046\060
\044\006\003\125\004\012\014\035\102\105\111\112\111\116\107\040
\103\105\122\124\111\106\111\103\101\124\105\040\101\125\124\110
\117\122\111\124\131\061\035\060\033\006\003\125\004\003\014\024
\102\112\103\101\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101\061\060\036\027\015\061\071\061\062\061\071\060\063
```

\061\066\061\067\132\027\015\064\064\061\062\061\062\060\063\061  
\066\061\067\132\060\124\061\013\060\011\006\003\125\004\006\023  
\002\103\116\061\046\060\044\006\003\125\004\012\014\035\102\105  
\111\112\111\116\107\040\103\105\122\124\111\106\111\103\101\124  
\105\040\101\125\124\110\117\122\111\124\131\061\035\060\033\006  
\003\125\004\003\014\024\102\112\103\101\040\107\154\157\142\141  
\154\040\122\157\157\164\040\103\101\061\060\202\002\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002  
\017\000\060\202\002\012\002\202\002\001\000\361\146\010\275\331  
\305\025\141\313\204\004\101\245\151\067\167\035\301\260\173\372  
\303\167\110\220\023\162\144\321\270\174\220\065\235\030\171\210  
\343\227\001\074\107\201\362\016\242\230\015\236\077\067\340\031  
\262\220\362\106\034\222\261\072\141\316\372\267\106\236\003\206  
\327\063\156\355\367\105\214\166\067\336\156\226\221\367\327\176  
\053\207\027\325\213\065\356\204\221\162\127\334\140\303\303\271  
\347\307\147\044\043\117\143\012\143\366\146\175\113\125\247\077  
\170\144\111\151\022\227\340\114\015\323\011\240\062\060\072\372  
\237\300\362\234\305\022\052\056\034\265\004\063\332\244\070\021  
\152\336\306\030\366\107\072\042\101\207\042\374\304\211\050\124  
\330\214\245\060\012\370\027\026\312\254\067\375\171\247\221\027  
\170\070\231\255\130\355\262\336\314\211\175\003\234\263\211\145  
\347\343\073\261\042\206\217\006\155\170\007\375\221\022\177\260  
\153\034\211\015\371\270\313\164\133\007\302\310\364\065\321\144  
\143\172\351\156\232\050\326\060\275\346\033\335\025\257\204\352  
\234\307\312\365\016\352\362\135\051\207\217\151\163\071\276\056  
\044\157\105\041\254\305\324\151\045\006\203\255\172\110\205\023  
\054\015\006\270\154\171\126\374\243\147\062\201\365\127\245\312  
\127\102\151\351\134\044\141\357\342\060\030\116\104\230\125\157  
\172\302\223\330\031\266\336\174\107\212\021\116\111\107\333\050  
\224\002\013\224\112\054\371\022\320\117\350\061\176\154\172\277  
\246\077\233\071\075\002\026\243\030\263\147\254\133\077\054\203  
\053\147\071\201\134\271\176\224\325\144\335\236\217\156\256\350  
\174\133\264\327\152\107\110\327\176\263\324\055\216\126\166\116  
\317\151\361\156\104\154\324\044\352\215\044\241\030\277\275\127  
\376\251\231\065\265\333\020\167\270\075\110\272\326\301\347\361  
\043\076\327\337\205\235\047\074\324\100\275\012\014\275\365\347  
\215\045\326\201\164\207\106\324\051\165\242\102\154\367\163\211  
\347\175\277\172\112\037\323\042\311\025\125\317\337\157\174\125  
\320\244\213\007\021\067\137\203\246\046\127\246\001\133\176\376  
\130\150\007\251\351\172\331\271\350\377\120\037\253\302\264\300  
\316\350\352\375\017\275\215\115\270\274\161\002\003\001\000\001  
\243\102\060\100\060\035\006\003\125\035\016\004\026\004\024\305  
\357\355\314\330\215\041\306\110\344\343\327\024\056\247\026\223  
\345\230\001\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\015\006\011\052\206\110\206\367\015\001\001  
\013\005\000\003\202\002\001\000\122\202\254\041\064\037\043\362  
\242\330\371\270\257\067\066\040\211\321\067\003\326\151\237\270



\141\020\272\242\061\230\131\107\350\321\015\045\036\025\101\014  
\340\052\125\325\127\122\313\370\344\307\151\243\035\115\161\002  
\136\137\041\105\140\110\134\011\216\111\020\301\004\334\251\142  
\153\002\360\103\310\116\235\070\111\164\311\062\160\124\155\301  
\107\374\216\264\066\236\324\234\275\335\040\326\123\311\030\251  
\265\126\271\166\213\225\147\146\356\275\230\376\256\357\276\156  
\373\140\366\375\131\306\052\033\077\043\112\224\044\060\047\310  
\211\274\353\104\044\232\313\075\276\117\325\172\316\216\027\313  
\142\301\331\336\036\016\172\377\103\206\064\122\274\141\077\074  
\137\273\331\166\264\123\274\227\263\376\212\114\022\056\053\363  
\327\316\341\242\377\335\173\160\373\073\241\115\244\143\002\375  
\070\227\225\077\005\160\240\153\337\142\201\103\213\264\131\015  
\112\214\124\234\305\273\201\237\315\175\245\357\013\045\036\072  
\040\333\034\374\037\230\147\002\012\324\163\104\023\333\121\204  
\032\125\003\126\340\000\176\164\006\377\070\304\162\035\323\250  
\077\150\061\135\323\011\307\056\214\133\143\340\350\334\036\322  
\354\141\036\362\336\345\357\366\231\166\140\055\036\224\162\161  
\306\013\052\062\307\222\116\325\106\327\035\371\251\031\012\310  
\372\225\316\155\043\230\252\013\070\255\232\126\015\157\215\361  
\061\000\210\301\027\234\315\031\066\065\376\125\123\240\340\074  
\063\137\226\136\342\062\351\337\063\273\006\112\251\330\204\163  
\316\167\322\306\254\161\341\134\243\035\014\273\012\337\137\342  
\243\161\330\332\067\132\240\170\053\364\324\175\353\166\355\362  
\141\160\245\145\232\323\211\064\030\253\373\162\076\327\264\075  
\171\134\330\037\241\063\173\331\202\120\014\223\027\252\154\334  
\302\202\273\002\127\066\257\230\047\052\071\120\341\260\211\365  
\045\227\176\107\150\020\264\354\163\312\263\227\321\044\334\366  
\142\240\050\323\265\243\270\144\267\210\142\102\317\235\123\315  
\231\276\144\150\217\117\036\022\110\367\322\051\303\230\050\312  
\362\062\013\223\214\051\117\074\140\062\315\005\226\141\354\362  
\257\376\263\160\054\056\246\362

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "BJCA Global Root CA1"

# Issuer: CN=BJCA Global Root CA1,O=BEIJING CERTIFICATE AUTHORITY,C=CN

# Serial Number:55:6f:65:e3:b4:d9:90:6a:1b:09:d1:6c:3e:c0:6c:20

# Subject: CN=BJCA Global Root CA1,O=BEIJING CERTIFICATE AUTHORITY,C=CN

# Not Valid Before: Thu Dec 19 03:16:17

2019

# Not Valid After : Mon Dec 12 03:16:17 2044

# Fingerprint (SHA-256):

F3:89:6F:88:FE:7C:0A:88:27:66:A7:FA:6A:D2:74:9F:B5:7A:7F:3E:98:FB:76:9C:1F:A7:B0:9C:2C:44:D5:AE

# Fingerprint (SHA1): D5:EC:8D:7B:4C:BA:79:F4:E7:E8:CB:9D:6B:AE:77:83:10:03:21:6A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

```

CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "BJCA Global Root CA1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\325\354\215\173\114\272\171\364\347\350\313\235\153\256\167\203
\020\003\041\152
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\102\062\231\166\103\063\066\044\065\007\202\233\050\371\320\220
END
CKA_ISSUER MULTILINE_OCTAL
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\125\157\145\343\264\331\220\152\033\011\321\154\076\300
\154\040
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "BJCA Global Root CA2"
#
Issuer: CN=BJCA Global Root CA2,O=BEIJING CERTIFICATE AUTHORITY,C=CN
Serial Number:2c:17:08:7d:64:2a:c0:fe:85:18:59:06:cf:b4:4a:eb
Subject: CN=BJCA Global Root CA2,O=BEIJING CERTIFICATE AUTHORITY,C=CN
Not Valid Before: Thu Dec 19 03:18:21 2019
Not Valid After : Mon Dec 12 03:18:21 2044
Fingerprint (SHA-256):
57:4D:F6:93:1E:27:80:39:66:7B:72:0A:FD:C1:60:0F:C2:7E:B6:6D:D3:09:29:79:FB:73:85:64:87:21:28:82
Fingerprint (SHA1): F4:27:86:EB:6E:B8:6D:88:31:67:02:FB:BA:66:A4:53:00:AA:7A:A6
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE
CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "BJCA Global Root CA2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL

```

\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061  
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116  
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125  
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003  
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157  
\157\164\040\103\101\062

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061  
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116  
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125  
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003  
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157  
\157\164\040\103\101\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\054\027\010\175\144\052\300\376\205\030\131\006\317\264  
\112\353

END

CKA\_VALUE

MULTILINE\_OCTAL

\060\202\002\045\060\202\001\253\240\003\002\001\002\002\020\054  
\027\010\175\144\052\300\376\205\030\131\006\317\264\112\353\060  
\012\006\010\052\206\110\316\075\004\003\003\060\124\061\013\060  
\011\006\003\125\004\006\023\002\103\116\061\046\060\044\006\003  
\125\004\012\014\035\102\105\111\112\111\116\107\040\103\105\122  
\124\111\106\111\103\101\124\105\040\101\125\124\110\117\122\111  
\124\131\061\035\060\033\006\003\125\004\003\014\024\102\112\103  
\101\040\107\154\157\142\141\154\040\122\157\157\164\040\103\101  
\062\060\036\027\015\061\071\061\062\061\071\060\063\061\070\062  
\061\132\027\015\064\064\061\062\061\062\060\063\061\070\062\061  
\132\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116  
\061\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111  
\116\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101  
\125\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004  
\003\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122  
\157\157\164\040\103\101\062\060\166\060\020\006\007\052\206\110  
\316\075\002\001\006\005\053\201\004\000\042\003\142\000\004\235  
\313\200\221\215\123\147\265\271\120\261\003\370\345\111\037\101  
\042\011\260\121\122\130\326\053\064\217\305\022\106\024\305\213  
\057\054\204\377\054\156\250\325\361\011\343\003\041\024\304\103  
\075\174\301\054\304\113\152\112\315\351\207\340\175\366\042\276  
\372\112\121\270\060\212\375\341\336\030\022\012\366\107\267\347  
\027\277\047\212\324\101\114\226\074\140\226\301\375\025\034\243  
\102\060\100\060\035\006\003\125\035\016\004\026\004\024\322\112  
\261\121\177\006\360\321\202\037\116\156\137\253\203\374\110\324  
\260\221\060\017\006\003\125\035\023\001\001\377\004\005\060\003

```
\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\012\006\010\052\206\110\316\075\004\003\003\003
\150\000\060\145\002\060\032\274\133\327\376\251\322\124\016\112
\135\322\155\261\100\334\364\103\325\322\112\231\031\022\126\200
\367\203\064\341\065\116\110\155\004\017\127\061\060\060\055\261
\252\235\003\070\333\006\002\061\000\313\314\207\123\313\172\337
\040\121\163\220\300\250\133\141\320\305\120\071\375\205\376\301
\343\170\370\246\326\113\275\233\207\217\017\345\326\123\226\253
\074\310\100\332\141\367\123\243\367
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "BJCA Global Root CA2"

# Issuer: CN=BJCA Global Root CA2,O=BEIJING CERTIFICATE AUTHORITY,C=CN

# Serial Number:2c:17:08:7d:64:2a:c0:fe:85:18:59:06:cf:b4:4a:eb

# Subject: CN=BJCA Global Root CA2,O=BEIJING CERTIFICATE AUTHORITY,C=CN

# Not Valid Before: Thu Dec 19 03:18:21 2019

# Not Valid After : Mon Dec 12 03:18:21 2044

# Fingerprint (SHA-256):

57:4D:F6:93:1E:27:80:39:66:7B:72:0A:FD:C1:60:0F:C2:7E:B6:6D:D3:09:29:79:FB:73:85:64:87:21:28:82

# Fingerprint (SHA1): F4:27:86:EB:6E:B8:6D:88:31:67:02:FB:BA:66:A4:53:00:AA:7A:A6

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN

CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "BJCA Global Root CA2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\364\047\206\353\156\270\155\210\061\147\002\373\272\146\244\123
\000\252\172\246
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\136\012\366\107\137\246\024\350\021\001\225\077\115\001\353\074
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\062
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\054\027\010\175\144\052\300\376\205\030\131\006\317\264
\112\353
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST  
CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

Found in path(s):

\* /opt/cola/permits/1679450782\_1685340861.071418/0/ca-certificates-20230506-tar-bz2/ca-certificates-20230506/certdata.txt

## 1.78 libc-utils 0.7.2-r5

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\*

\* @(#)queue.h 8.5 (Berkeley) 8/20/94

\*/

Found in path(s):

\* /opt/cola/permits/1686513755\_1685082238.691036/0/aports-master-main-libc-dev-  
zip/aports-master-main-libc-dev/main/libc-dev/sys-queue.h

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\* /opt/cola/permits/1686513755\_1685082238.691036/0/aports-master-main-libc-dev-  
zip/aports-master-main-libc-dev/main/libc-dev/sys-tree.h

## 1.79 jackson-annotations 2.15.1

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Jackson is a high-performance, Free/Open Source JSON processing library.

It was originally written by Tatu Saloranta (tatu.saloranta@iki.fi), and has been in development since 2007.

It is currently developed by a community of developers.

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## 1.80 jackson-databind 2.15.1

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## 1.81 jackson 2.15.1

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It was originally written by Tatu Saloranta (tatu.saloranta@iki.fi), and has  
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It is currently developed by a community of developers.

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/\*

\* Create mount directories in fstab

\*

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\* usage: mkmntdirs [fstab]

\*

\*/

Found in path(s):

\* /opt/cola/permits/1690300026\_1684996389.3603017/0/alpine-baselayout-master-zip/alpine-baselayout-master/src/mkmntdirs.c

## 1.84 auto-value-annotations 1.4

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\* /opt/cola/permits/1696278559\_1685059167.8450336/0/auto-value-annotations-1-4-sources-jar/META-INF/maven/com.jakewharton.auto.value/auto-value-annotations/pom.xml

## 1.85 opentelemetry-sdk 1.24.0

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`Gnomovision' (which makes passes at compilers) written by James Hacker.
```

```
<signature of Ty Coon>, 1 April 1989
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```
Ty Coon, President of
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## 1.95 jackson-datatype-jsr310 2.15.2

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### xwd utility

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	GL/wgltext.h	Khronos
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include/GL/gl.h :

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include/GL/glxext.h
include/GL/wglxext.h :
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```

```
<signature of Ty Coon>, 1 April 1989
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Ty Coon, President of
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## 1.102 ssl-client 1.36.1-r2

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jseward@bzip.org

bzip2/libbzip2 version 1.0.4 of 20 December 2006

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```

```
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```
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```

```
<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice
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```
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* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-jar/META-
INF/maven/io.netty/netty-codec-http/pom.xml
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jar/io/netty/handler/codec/http/cors/CorsHandler.java  
\* /opt/cola/permits/1813842742\_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-  
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jar/io/netty/handler/codec/http/cookie/DefaultCookie.java  
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jar/io/netty/handler/codec/http/cookie/CookieEncoder.java  
\*  
/opt/cola/permits/1813842742\_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-  
jar/io/netty/handler/codec/http/cookie/CookieUtil.java  
\* /opt/cola/permits/1813842742\_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-  
jar/io/netty/handler/codec/http/HttpScheme.java  
\* /opt/cola/permits/1813842742\_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-  
jar/io/netty/handler/codec/http/cookie/CookieDecoder.java

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* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/rtsp/RtspEncoder.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/rtsp/RtspDecoder.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/http/CombinedHttpHeaders.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/http/CookieUtil.java
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/opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/http/cookie/CookieHeaderNames.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/http/cookie/ServerCookieEncoder.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/http/cookie/Cookie.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/http/cookie/ClientCookieEncoder.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/http/HttpExpectationFailedEvent.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/http/cookie/ClientCookieDecoder.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/http/cookie/package-info.java
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/opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/http/HttpUtil.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/http/cookie/ServerCookieDecoder.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
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jar/io/netty/handler/codec/spdy/SpdyHeaders.java
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jar/io/netty/handler/codec/spdy/SpdySynStreamFrame.java
*
/opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/http/FullHttpRequest.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/http/ComposedLastHttpContent.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/spdy/SpdyStreamStatus.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/spdy/DefaultSpdyWindowUpdateFrame.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/http/FullHttpMessage.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/http/websocketx/WebSocketProtocolHandler.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/spdy/DefaultSpdySynStreamFrame.java
*
/opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
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* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
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* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
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* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/spdy/DefaultSpdySynReplyFrame.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/http/websocketx/WebSocketFrameAggregator.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/spdy/SpdyHttpCodec.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/http/DefaultFullHttpResponse.java
*
/opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/http/websocketx/WebSocketFrameEncoder.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/spdy/DefaultSpdyRstStreamFrame.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/http/FullHttpResponse.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/spdy/SpdyHeadersFrame.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/spdy/SpdyFrame.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/spdy/SpdySynReplyFrame.java
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* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
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* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/http/cors/package-info.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/spdy/SpdyGoAwayFrame.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/spdy/SpdyRstStreamFrame.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/spdy/SpdySettingsFrame.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/spdy/SpdyVersion.java
*
/opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/spdy/SpdyWindowUpdateFrame.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/spdy/SpdyHeaderBlockJZlibEncoder.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/spdy/DefaultSpdyGoAwayFrame.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/spdy/DefaultSpdyPingFrame.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
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* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/spdy/SpdyStreamFrame.java
*
/opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/spdy/SpdyHeaderBlockRawEncoder.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/spdy/SpdySessionHandler.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/spdy/SpdyCodecUtil.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/spdy/SpdyPingFrame.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/spdy/SpdyHttpDecoder.java
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* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/spdy/SpdySessionStatus.java
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/opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/http/websocketx/WebSocketClientProtocolHandler.java

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jar/io/netty/handler/codec/http/websocketx/WebSocketClientProtocolHandshakeHandler.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
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jar/io/netty/handler/codec/http/HttpHeaderValidationUtil.java
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/opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/http/multipart/AbstractMixedHttpData.java
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* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
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- \* /opt/cola/permits/1813842742\_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-jar/io/netty/handler/codec/http/multipart/InternalAttribute.java
- \*
- /opt/cola/permits/1813842742\_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-jar/io/netty/handler/codec/http/DefaultHttpObject.java
- \* /opt/cola/permits/1813842742\_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-jar/io/netty/handler/codec/http/Cookie.java
- \* /opt/cola/permits/1813842742\_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-jar/io/netty/handler/codec/http/multipart/DefaultHttpDataFactory.java
- \* /opt/cola/permits/1813842742\_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-jar/io/netty/handler/codec/rtsp/RtspRequestDecoder.java
- \* /opt/cola/permits/1813842742\_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-jar/io/netty/handler/codec/http/HttpResponseDecoder.java
- \* /opt/cola/permits/1813842742\_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-jar/io/netty/handler/codec/rtsp/RtspRequestEncoder.java
- \* /opt/cola/permits/1813842742\_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-jar/io/netty/handler/codec/spdy/package-info.java
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/opt/cola/permits/1813842742\_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-jar/io/netty/handler/codec/http/websocketx/extensions/WebSocketClientExtensionHandler.java  
\* /opt/cola/permits/1813842742\_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-jar/io/netty/handler/codec/http/HTTPHeaderValues.java  
\* /opt/cola/permits/1813842742\_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-jar/io/netty/handler/codec/http/websocketx/extensions/compression/PerMessageDeflateServerExtensionHandshaker.java  
\* /opt/cola/permits/1813842742\_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-jar/io/netty/handler/codec/http/websocketx/extensions/compression/PerMessageDeflateEncoder.java  
\* /opt/cola/permits/1813842742\_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-jar/io/netty/handler/codec/http/websocketx/extensions/WebSocketServerExtensionHandshaker.java  
\* /opt/cola/permits/1813842742\_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-jar/io/netty/handler/codec/http/HttpStatusClass.java  
\*  
/opt/cola/permits/1813842742\_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-jar/io/netty/handler/codec/http/websocketx/extensions/compression/DeflateFrameServerExtensionHandshaker.java  
\* /opt/cola/permits/1813842742\_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-jar/io/netty/handler/codec/http/HttpChunkedInput.java  
\* /opt/cola/permits/1813842742\_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-jar/io/netty/handler/codec/http/websocketx/extensions/compression/PerFrameDeflateDecoder.java  
\* /opt/cola/permits/1813842742\_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-jar/io/netty/handler/codec/http/websocketx/extensions/compression/package-info.java  
\* /opt/cola/permits/1813842742\_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-jar/io/netty/handler/codec/spdy/SpdyFrameCodec.java  
\* /opt/cola/permits/1813842742\_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-jar/io/netty/handler/codec/spdy/SpdyProtocolException.java  
\*  
/opt/cola/permits/1813842742\_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-jar/io/netty/handler/codec/spdy/SpdyFrameDecoder.java  
\* /opt/cola/permits/1813842742\_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-jar/io/netty/handler/codec/http/websocketx/extensions/WebSocketServerExtension.java  
\* /opt/cola/permits/1813842742\_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-jar/io/netty/handler/codec/http/websocketx/extensions/package-info.java  
\* /opt/cola/permits/1813842742\_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-jar/io/netty/handler/codec/rtsp/RtspHeaderNames.java  
\* /opt/cola/permits/1813842742\_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-jar/io/netty/handler/codec/http/websocketx/extensions/compression/PerMessageDeflateDecoder.java  
\* /opt/cola/permits/1813842742\_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-jar/io/netty/handler/codec/http/websocketx/extensions/compression/PerMessageDeflateClientExtensionHandshaker.java  
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jar/io/netty/handler/codec/http/HttpServerKeepAliveHandler.java
* /opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/http/websocketx/WebSocketChunkedInput.java
*
/opt/cola/permits/1813842742_1696535021.6582098/0/netty-codec-http-4-1-99-final-sources-
jar/io/netty/handler/codec/http/multipart/FileUploadUtil.java
```

## 1.108 netty-transport-native-unix-common

### 4.1.99.Final

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* /opt/cola/permits/1813842703_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-
jar/io/netty/channel/unix/UnixChannelUtil.java
* /opt/cola/permits/1813842703_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-
jar/netty_unix_jni.h
```



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```
* /opt/cola/permits/1813842703_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-
jar/netty_unix.c
* /opt/cola/permits/1813842703_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-
jar/netty_unix.h
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* /opt/cola/permits/1813842703_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-
jar/io/netty/channel/unix/IntegerUnixChannelOption.java
* /opt/cola/permits/1813842703_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-
jar/io/netty/channel/unix/GenericUnixChannelOption.java
*
```

/opt/cola/permits/1813842703\_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-jar/io/netty/channel/unix/RawUnixChannelOption.java

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\* /opt/cola/permits/1813842703\_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-jar/io/netty/channel/unix/ErrorsStaticallyReferencedJniMethods.java

\*

/opt/cola/permits/1813842703\_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-jar/io/netty/channel/unix/SocketWritableByteChannel.java

\* /opt/cola/permits/1813842703\_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-jar/netty\_unix\_limits.c

\* /opt/cola/permits/1813842703\_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-jar/io/netty/channel/unix/Limits.java

\* /opt/cola/permits/1813842703\_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-jar/netty\_unix\_util.h

\* /opt/cola/permits/1813842703\_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-jar/io/netty/channel/unix/PeerCredentials.java

\* /opt/cola/permits/1813842703\_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-jar/netty\_unix\_util.c

\* /opt/cola/permits/1813842703\_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-jar/netty\_unix\_limits.h

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\* /opt/cola/permits/1813842703\_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-jar/netty\_unix\_socket.h  
\* /opt/cola/permits/1813842703\_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-jar/io/netty/channel/unix/DomainSocketChannel.java  
\*  
/opt/cola/permits/1813842703\_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-jar/io/netty/channel/unix/DomainSocketReadMode.java  
\* /opt/cola/permits/1813842703\_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-jar/io/netty/channel/unix/NativeInetAddress.java  
\* /opt/cola/permits/1813842703\_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-jar/io/netty/channel/unix/Socket.java  
\* /opt/cola/permits/1813842703\_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-jar/io/netty/channel/unix/DomainSocketAddress.java  
\* /opt/cola/permits/1813842703\_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-jar/io/netty/channel/unix/Errors.java  
\* /opt/cola/permits/1813842703\_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-jar/netty\_unix\_filedescriptor.h  
\* /opt/cola/permits/1813842703\_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-jar/netty\_unix\_filedescriptor.c  
\*  
/opt/cola/permits/1813842703\_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-jar/io/netty/channel/unix/DomainSocketChannelConfig.java  
\* /opt/cola/permits/1813842703\_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-jar/netty\_unix\_socket.c  
\* /opt/cola/permits/1813842703\_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-jar/netty\_unix\_errors.c  
\* /opt/cola/permits/1813842703\_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-jar/io/netty/channel/unix/FileDescriptor.java  
\* /opt/cola/permits/1813842703\_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-jar/netty\_unix\_errors.h  
\* /opt/cola/permits/1813842703\_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-jar/io/netty/channel/unix/DatagramSocketAddress.java  
\* /opt/cola/permits/1813842703\_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-jar/io/netty/channel/unix/ServerDomainSocketChannel.java  
\*  
/opt/cola/permits/1813842703\_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-jar/io/netty/channel/unix/UnixChannel.java

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jar/io/netty/channel/unix/Buffer.java
* /opt/cola/permits/1813842703_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-
jar/netty_unix_buffer.c
*
/opt/cola/permits/1813842703_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-
jar/netty_unix_buffer.h
* /opt/cola/permits/1813842703_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-
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jar/META-INF/maven/io.netty/netty-transport-native-unix-common/pom.xml

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\* /opt/cola/permits/1813842703\_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-jar/io/netty/channel/unix/Unix.java

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/opt/cola/permits/1813842703\_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-jar/io/netty/channel/unix/package-info.java

\* /opt/cola/permits/1813842703\_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-jar/io/netty/channel/unix/UnixChannelOption.java

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* /opt/cola/permits/1813842703_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-
jar/io/netty/channel/unix/DomainDatagramPacket.java
*
/opt/cola/permits/1813842703_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-
jar/io/netty/channel/unix/DomainDatagramChannel.java
* /opt/cola/permits/1813842703_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-
jar/io/netty/channel/unix/SegmentedDatagramPacket.java
* /opt/cola/permits/1813842703_1696535018.0704107/0/netty-transport-native-unix-common-4-1-99-final-sources-
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* /opt/cola/permits/1813842734_1696535041.9658682/0/micronaut-http-server-netty-3-10-1-sources-
jar/io/micronaut/http/server/netty/handler/accesslog/element/RequestProtocolElement.java
*
/opt/cola/permits/1813842734_1696535041.9658682/0/micronaut-http-server-netty-3-10-1-sources-
jar/io/micronaut/http/server/netty/ssl/HttpRequestCertificateHandler.java
* /opt/cola/permits/1813842734_1696535041.9658682/0/micronaut-http-server-netty-3-10-1-sources-
jar/io/micronaut/http/server/netty/handler/accesslog/element/RequestMethodElementBuilder.java
* /opt/cola/permits/1813842734_1696535041.9658682/0/micronaut-http-server-netty-3-10-1-sources-
jar/io/micronaut/http/server/netty/jackson/JsonContentProcessor.java
* /opt/cola/permits/1813842734_1696535041.9658682/0/micronaut-http-server-netty-3-10-1-sources-
jar/io/micronaut/http/server/netty/NettyRequestArgumentSatisfier.java
```

\* /opt/cola/permits/1813842734\_1696535041.9658682/0/micronaut-http-server-netty-3-10-1-sources-jar/io/micronaut/http/server/netty/handler/accesslog/element/HeaderElement.java  
\* /opt/cola/permits/1813842734\_1696535041.9658682/0/micronaut-http-server-netty-3-10-1-sources-jar/io/micronaut/http/server/netty/handler/accesslog/element/LogElement.java  
\*  
/opt/cola/permits/1813842734\_1696535041.9658682/0/micronaut-http-server-netty-3-10-1-sources-jar/io/micronaut/http/server/netty/types/files/NettySystemFileCustomizableResponseType.java  
\* /opt/cola/permits/1813842734\_1696535041.9658682/0/micronaut-http-server-netty-3-10-1-sources-jar/io/micronaut/http/server/netty/DelegateHttpResponse.java  
\* /opt/cola/permits/1813842734\_1696535041.9658682/0/micronaut-http-server-netty-3-10-1-sources-jar/io/micronaut/http/server/netty/async/ContextCompletionAwareSubscriber.java  
\* /opt/cola/permits/1813842734\_1696535041.9658682/0/micronaut-http-server-netty-3-10-1-sources-jar/io/micronaut/http/server/netty/handler/ChannelOutboundHandlerFactory.java  
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\* /opt/cola/permits/1813842734\_1696535041.9658682/0/micronaut-http-server-netty-3-10-1-sources-jar/io/micronaut/http/server/netty/multipart/NettyStreamingFileUpload.java  
\*  
/opt/cola/permits/1813842734\_1696535041.9658682/0/micronaut-http-server-netty-3-10-1-sources-jar/io/micronaut/http/server/netty/handler/accesslog/element/RequestLineElementBuilder.java  
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```

Found in path(s):

```
* /opt/cola/permits/1813842734_1696535041.9658682/0/micronaut-http-server-netty-3-10-1-sources-
jar/io/micronaut/http/server/netty/NettyEmbeddedServerFactory.java
* /opt/cola/permits/1813842734_1696535041.9658682/0/micronaut-http-server-netty-3-10-1-sources-
```

```
jar/io/micronaut/http/server/netty/ServerAttributeKeys.java
*
/opt/cola/permits/1813842734_1696535041.9658682/0/micronaut-http-server-netty-3-10-1-sources-
jar/io/micronaut/http/server/netty/handler/accesslog/element/NotImplementedElementBuilder.java
* /opt/cola/permits/1813842734_1696535041.9658682/0/micronaut-http-server-netty-3-10-1-sources-
jar/io/micronaut/http/server/netty/DelegateNettyEmbeddedServices.java
* /opt/cola/permits/1813842734_1696535041.9658682/0/micronaut-http-server-netty-3-10-1-sources-
jar/io/micronaut/http/server/netty/types/stream/NettyStreamedCustomizableResponseType.java
* /opt/cola/permits/1813842734_1696535041.9658682/0/micronaut-http-server-netty-3-10-1-sources-
jar/io/micronaut/http/server/netty/HttpToHttpsRedirectHandler.java
* /opt/cola/permits/1813842734_1696535041.9658682/0/micronaut-http-server-netty-3-10-1-sources-
jar/io/micronaut/http/server/netty/StreamTypeHandler.java
* /opt/cola/permits/1813842734_1696535041.9658682/0/micronaut-http-server-netty-3-10-1-sources-
jar/io/micronaut/http/server/netty/NettyEmbeddedServer.java
*
/opt/cola/permits/1813842734_1696535041.9658682/0/micronaut-http-server-netty-3-10-1-sources-
jar/io/micronaut/http/server/netty/DefaultNettyEmbeddedServerFactory.java
* /opt/cola/permits/1813842734_1696535041.9658682/0/micronaut-http-server-netty-3-10-1-sources-
jar/io/micronaut/http/server/netty/NettyEmbeddedServices.java
```

# 1.110 micronaut-http-netty 3.10.1

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Found in path(s):

```
* /opt/cola/permits/1813842827_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-
jar/io/micronaut/http/netty/AbstractCompositeCustomizer.java
```

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```
/*
```

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\* /opt/cola/permits/1813842827\_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-jar/io/micronaut/http/netty/stream/package-info.java

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jar/io/micronaut/http/netty/stream/StreamedHttpMessage.java

\* /opt/cola/permits/1813842827\_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-  
jar/io/micronaut/http/netty/channel/DefaultEventLoopGroupRegistry.java

\*

/opt/cola/permits/1813842827\_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-  
jar/io/micronaut/http/netty/websocket/NettyWebSocketSession.java

\* /opt/cola/permits/1813842827\_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-  
jar/io/micronaut/http/netty/NettyHttpHeaders.java

\* /opt/cola/permits/1813842827\_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-  
jar/io/micronaut/http/netty/cookies/NettyCookies.java

```

* /opt/cola/permits/1813842827_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-
jar/io/micronaut/http/netty/content/HttpContentUtil.java
* /opt/cola/permits/1813842827_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-
jar/io/micronaut/http/netty/stream/EmptyHttpResponse.java
* /opt/cola/permits/1813842827_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-
jar/io/micronaut/http/netty/websocket/NettyServerWebSocketBroadcaster.java
* /opt/cola/permits/1813842827_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-
jar/io/micronaut/http/netty/stream/DelegateHttpMessage.java
*
/opt/cola/permits/1813842827_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-
jar/io/micronaut/http/netty/NettyHttpResponseBuilder.java
* /opt/cola/permits/1813842827_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-
jar/io/micronaut/http/netty/stream/DelegateStreamedHttpRequest.java
* /opt/cola/permits/1813842827_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-
jar/io/micronaut/http/netty/channel/converters/KQueueChannelOptionFactory.java
* /opt/cola/permits/1813842827_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-
jar/io/micronaut/http/netty/stream/StreamedHttpResponse.java
* /opt/cola/permits/1813842827_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-
jar/io/micronaut/http/netty/stream/DefaultHttp2Content.java
* /opt/cola/permits/1813842827_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-
jar/io/micronaut/http/netty/NettyHttpRequestBuilder.java
* /opt/cola/permits/1813842827_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-
jar/io/micronaut/http/netty/channel/EventLoopGroupConfiguration.java
*
/opt/cola/permits/1813842827_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-
jar/io/micronaut/http/netty/stream/DefaultStreamedHttpRequest.java
* /opt/cola/permits/1813842827_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-
jar/io/micronaut/http/netty/stream/DefaultLastHttp2Content.java
* /opt/cola/permits/1813842827_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-
jar/io/micronaut/http/netty/channel/converters/ChannelOptionFactory.java
* /opt/cola/permits/1813842827_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-
jar/io/micronaut/http/netty/LastHttp2Content.java
* /opt/cola/permits/1813842827_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-
jar/io/micronaut/http/netty/content/package-info.java
* /opt/cola/permits/1813842827_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-
jar/io/micronaut/http/netty/websocket/WebSocketMessageEncoder.java
*
/opt/cola/permits/1813842827_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-
jar/io/micronaut/http/netty/websocket/package-info.java
* /opt/cola/permits/1813842827_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-
jar/io/micronaut/http/netty/reactive/HotObservable.java
* /opt/cola/permits/1813842827_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-
jar/io/micronaut/http/netty/configuration/NettyGlobalConfiguration.java
* /opt/cola/permits/1813842827_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-
jar/io/micronaut/http/netty/channel/ChannelPipelineCustomizer.java
* /opt/cola/permits/1813842827_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-
jar/io/micronaut/http/netty/package-info.java
* /opt/cola/permits/1813842827_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-

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jar/io/micronaut/http/netty/reactive/CancelledSubscriber.java  
\* /opt/cola/permits/1813842827\_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-jar/io/micronaut/http/netty/channel/converters/EpollChannelOptionFactory.java  
\*  
/opt/cola/permits/1813842827\_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-jar/io/micronaut/http/netty/channel/EpollEventLoopGroupFactory.java  
\* /opt/cola/permits/1813842827\_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-jar/io/micronaut/http/netty/channel/EventLoopGroupRegistry.java  
\* /opt/cola/permits/1813842827\_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-jar/io/micronaut/http/netty/stream/DefaultWebSocketHttpResponse.java  
\* /opt/cola/permits/1813842827\_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-jar/io/micronaut/http/netty/NettyHttpParameters.java  
\* /opt/cola/permits/1813842827\_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-jar/io/micronaut/http/netty/graal/MicronautSubstitutions.java  
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\* /opt/cola/permits/1813842827\_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-jar/io/micronaut/http/netty/cookies/package-info.java  
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* /opt/cola/permits/1813842827_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-
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* /opt/cola/permits/1813842827_1696541830.7628217/0/micronaut-http-netty-3-10-1-sources-
jar/io/micronaut/http/netty/stream/Http2Content.java
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## 1.111 netty-codec-socks 4.1.99.Final

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/opt/cola/permits/1813842796\_1696535034.4779835/0/netty-codec-socks-4-1-99-final-sources-jar/io/netty/handler/codec/socksx/SocksPortUnificationServerHandler.java

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\* /opt/cola/permits/1813842796\_1696535034.4779835/0/netty-codec-socks-4-1-99-final-sources-jar/io/netty/handler/codec/socks/SocksAddressType.java  
\* /opt/cola/permits/1813842796\_1696535034.4779835/0/netty-codec-socks-4-1-99-final-sources-jar/io/netty/handler/codec/socks/SocksMessageType.java  
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\* /opt/cola/permits/1813842796\_1696535034.4779835/0/netty-codec-socks-4-1-99-final-sources-jar/io/netty/handler/codec/socksx/SocksVersion.java  
\* /opt/cola/permits/1813842796\_1696535034.4779835/0/netty-codec-socks-4-1-99-final-sources-jar/io/netty/handler/codec/socksx/v5/Socks5CommandType.java  
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/opt/cola/permits/1813842796\_1696535034.4779835/0/netty-codec-socks-4-1-99-final-sources-jar/io/netty/handler/codec/socksx/v5/Socks5CommandResponse.java  
\* /opt/cola/permits/1813842796\_1696535034.4779835/0/netty-codec-socks-4-1-99-final-sources-jar/io/netty/handler/codec/socks/SocksAuthRequest.java  
\* /opt/cola/permits/1813842796\_1696535034.4779835/0/netty-codec-socks-4-1-99-final-sources-jar/io/netty/handler/codec/socksx/v5/DefaultSocks5PasswordAuthRequest.java  
\* /opt/cola/permits/1813842796\_1696535034.4779835/0/netty-codec-socks-4-1-99-final-sources-jar/io/netty/handler/codec/socks/SocksCommonUtils.java  
\* /opt/cola/permits/1813842796\_1696535034.4779835/0/netty-codec-socks-4-1-99-final-sources-jar/io/netty/handler/codec/socksx/v5/DefaultSocks5InitialResponse.java  
\* /opt/cola/permits/1813842796\_1696535034.4779835/0/netty-codec-socks-4-1-99-final-sources-jar/io/netty/handler/codec/socksx/v5/Socks5PasswordAuthResponse.java  
\*  
/opt/cola/permits/1813842796\_1696535034.4779835/0/netty-codec-socks-4-1-99-final-sources-jar/io/netty/handler/codec/socksx/v4/Socks4ServerDecoder.java  
\* /opt/cola/permits/1813842796\_1696535034.4779835/0/netty-codec-socks-4-1-99-final-sources-jar/io/netty/handler/codec/socks/package-info.java  
\* /opt/cola/permits/1813842796\_1696535034.4779835/0/netty-codec-socks-4-1-99-final-sources-jar/io/netty/handler/codec/socksx/v5/Socks5CommandRequest.java  
\* /opt/cola/permits/1813842796\_1696535034.4779835/0/netty-codec-socks-4-1-99-final-sources-

```

jar/io/netty/handler/codec/socksx/v4/Socks4CommandRequest.java
* /opt/cola/permits/1813842796_1696535034.4779835/0/netty-codec-socks-4-1-99-final-sources-
jar/io/netty/handler/codec/socksx/v4/DefaultSocks4CommandRequest.java
* /opt/cola/permits/1813842796_1696535034.4779835/0/netty-codec-socks-4-1-99-final-sources-
jar/io/netty/handler/codec/socks/SocksResponse.java
* /opt/cola/permits/1813842796_1696535034.4779835/0/netty-codec-socks-4-1-99-final-sources-
jar/io/netty/handler/codec/socks/SocksMessageEncoder.java
*
/opt/cola/permits/1813842796_1696535034.4779835/0/netty-codec-socks-4-1-99-final-sources-
jar/io/netty/handler/codec/socksx/SocksMessage.java
* /opt/cola/permits/1813842796_1696535034.4779835/0/netty-codec-socks-4-1-99-final-sources-
jar/io/netty/handler/codec/socksx/v5/DefaultSocks5InitialRequest.java
* /opt/cola/permits/1813842796_1696535034.4779835/0/netty-codec-socks-4-1-99-final-sources-
jar/io/netty/handler/codec/socks/SocksInitRequest.java
* /opt/cola/permits/1813842796_1696535034.4779835/0/netty-codec-socks-4-1-99-final-sources-
jar/io/netty/handler/codec/socks/SocksMessage.java
* /opt/cola/permits/1813842796_1696535034.4779835/0/netty-codec-socks-4-1-99-final-sources-
jar/io/netty/handler/codec/socks/UnknownSocksResponse.java
* /opt/cola/permits/1813842796_1696535034.4779835/0/netty-codec-socks-4-1-99-final-sources-
jar/io/netty/handler/codec/socks/UnknownSocksRequest.java
* /opt/cola/permits/1813842796_1696535034.4779835/0/netty-codec-socks-4-1-99-final-sources-
jar/io/netty/handler/codec/socksx/v4/DefaultSocks4CommandResponse.java

```

## 1.112 micronaut-http-client 3.10.1

### 1.112.1 Available under license :

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```

* /opt/cola/permits/1813842819_1696534985.5686684/0/micronaut-http-client-3-10-1-sources-
jar/io/micronaut/http/client/netty/SimpleChannelInboundHandlerInstrumented.java

```



\* /opt/cola/permits/1813842819\_1696534985.5686684/0/micronaut-http-client-3-10-1-sources-jar/io/micronaut/http/client/netty/CompositeNettyClientCustomizer.java

\*

/opt/cola/permits/1813842819\_1696534985.5686684/0/micronaut-http-client-3-10-1-sources-jar/io/micronaut/http/client/netty/DefaultHttpClient.java

\* /opt/cola/permits/1813842819\_1696534985.5686684/0/micronaut-http-client-3-10-1-sources-jar/io/micronaut/http/client/netty/ForwardingSubscriber.java

\* /opt/cola/permits/1813842819\_1696534985.5686684/0/micronaut-http-client-3-10-1-sources-jar/io/micronaut/http/client/netty/NettyFuturePublisher.java

\* /opt/cola/permits/1813842819\_1696534985.5686684/0/micronaut-http-client-3-10-1-sources-jar/io/micronaut/http/client/netty/NettyClientCustomizer.java

\* /opt/cola/permits/1813842819\_1696534985.5686684/0/micronaut-http-client-3-10-1-sources-jar/io/micronaut/http/client/netty/NettyPromiseSubscriber.java

\* /opt/cola/permits/1813842819\_1696534985.5686684/0/micronaut-http-client-3-10-1-sources-jar/io/micronaut/http/client/netty/ConnectionManager.java

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- \* /opt/cola/permits/1813842819\_1696534985.5686684/0/micronaut-http-client-3-10-1-sources-jar/io/micronaut/http/client/netty/websocket/NettyWebSocketClientHandler.java
- \* /opt/cola/permits/1813842819\_1696534985.5686684/0/micronaut-http-client-3-10-1-sources-jar/io/micronaut/http/client/netty/NettyStreamedHttpResponse.java
- \*
- /opt/cola/permits/1813842819\_1696534985.5686684/0/micronaut-http-client-3-10-1-sources-jar/io/micronaut/http/client/netty/ssl/NettyClientSslBuilder.java
- \* /opt/cola/permits/1813842819\_1696534985.5686684/0/micronaut-http-client-3-10-1-sources-jar/io/micronaut/http/client/netty/websocket/package-info.java
- \* /opt/cola/permits/1813842819\_1696534985.5686684/0/micronaut-http-client-3-10-1-sources-jar/io/micronaut/http/client/netty/FullNettyClientHttpResponse.java
- \* /opt/cola/permits/1813842819\_1696534985.5686684/0/micronaut-http-client-3-10-1-sources-jar/io/micronaut/http/client/netty/IdlingConnectionHandler.java
- \* /opt/cola/permits/1813842819\_1696534985.5686684/0/micronaut-http-client-3-10-1-sources-jar/io/micronaut/http/client/netty/NettyHttpClientFactory.java
- \* /opt/cola/permits/1813842819\_1696534985.5686684/0/micronaut-http-client-3-10-1-sources-jar/io/micronaut/http/client/netty/NettyClientHttpRequestFactory.java
- \* /opt/cola/permits/1813842819\_1696534985.5686684/0/micronaut-http-client-3-10-1-sources-jar/io/micronaut/http/client/netty/converters/package-info.java
- \*
- /opt/cola/permits/1813842819\_1696534985.5686684/0/micronaut-http-client-3-10-1-sources-jar/io/micronaut/http/client/netty/package-info.java
- \* /opt/cola/permits/1813842819\_1696534985.5686684/0/micronaut-http-client-3-10-1-sources-jar/io/micronaut/http/client/netty/DefaultNettyHttpClientRegistry.java
- \* /opt/cola/permits/1813842819\_1696534985.5686684/0/micronaut-http-client-3-10-1-sources-jar/io/micronaut/http/client/netty/NettyClientHttpRequest.java
- \* /opt/cola/permits/1813842819\_1696534985.5686684/0/micronaut-http-client-3-10-1-sources-jar/io/micronaut/http/client/netty/ConnectTTLHandler.java
- \* /opt/cola/permits/1813842819\_1696534985.5686684/0/micronaut-http-client-3-10-1-sources-jar/io/micronaut/http/client/netty/ssl/package-info.java
- \* /opt/cola/permits/1813842819\_1696534985.5686684/0/micronaut-http-client-3-10-1-sources-jar/io/micronaut/http/client/netty/IdleTimeoutHandler.java

## 1.113 micronaut-runtime 3.10.1

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```
* /opt/cola/permits/1813842783_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-
jar/io/micronaut/reactive/reactor/instrument/ReactorInstrumentation.java
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* /opt/cola/permits/1813842783_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-jar/META-INF/native-
image/io.micronaut/micronaut-runtime/native-image.properties
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* /opt/cola/permits/1813842783_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-
jar/io/micronaut/reactive/reactor/instrument/ReactorSubscriber.java
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* /opt/cola/permits/1813842783_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-
jar/io/micronaut/retry/annotation/Recoverable.java
* /opt/cola/permits/1813842783_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-
jar/io/micronaut/discovery/cloud/package-info.java
* /opt/cola/permits/1813842783_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-
jar/io/micronaut/retry/RetryStateBuilder.java
*
/opt/cola/permits/1813842783_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-
jar/io/micronaut/discovery/cloud/digitalocean/DigitalOceanNetworkInterface.java
* /opt/cola/permits/1813842783_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-
jar/io/micronaut/retry/event/RetryEventListener.java
* /opt/cola/permits/1813842783_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-
jar/io/micronaut/health/HealthStatus.java
* /opt/cola/permits/1813842783_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-
jar/io/micronaut/runtime/http/codecs/TextPlainCodec.java
* /opt/cola/permits/1813842783_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-
jar/io/micronaut/discovery/cloud/ComputeInstanceMetadataResolver.java
* /opt/cola/permits/1813842783_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-
jar/io/micronaut/discovery/event/package-info.java
* /opt/cola/permits/1813842783_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-
jar/io/micronaut/discovery/cloud/digitalocean/DigitalOceanMetadataKeys.java
*
/opt/cola/permits/1813842783_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-
jar/io/micronaut/discovery/cloud/AbstractComputeInstanceMetadata.java
* /opt/cola/permits/1813842783_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-
jar/io/micronaut/retry/annotation/RetryPredicate.java
* /opt/cola/permits/1813842783_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-
jar/io/micronaut/health/package-info.java
* /opt/cola/permits/1813842783_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-
```

jar/io/micronaut/discovery/cloud/digitalocean/DigitalOceanInstanceMetadata.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/discovery/ServiceInstance.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/discovery/config/ConfigurationClient.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/logging/PropertiesLoggingLevelsConfigurer.java  
\*  
/opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/retry/intercept/SimpleRetry.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/retry/exception/package-info.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/runtime/http/codecs/package-info.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/discovery/cloud/ComputeInstanceMetadataResolverUtils.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/retry/annotation/CircuitBreaker.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/discovery/event/ServiceReadyEvent.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/discovery/exceptions/DiscoveryException.java  
\*  
/opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/logging/impl/Log4jLoggingSystem.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/health/HeartbeatConfiguration.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/retry/package-info.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/reactive/package-info.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/health/HeartbeatEvent.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/discovery/config/DefaultCompositeConfigurationClient.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/retry/intercept/RecoveryInterceptor.java  
\*  
/opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/discovery/ServiceInstanceIdGenerator.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/retry/annotation/Retryable.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/health/HeartbeatEnabled.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/discovery/registration/RegistrationConfiguration.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/discovery/cloud/digitalocean/DigitalOceanMetadataResolver.java

\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-jar/io/micronaut/discovery/DiscoveryConfiguration.java

\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-jar/io/micronaut/discovery/cloud/digitalocean/DigitalOceanMetadataConfiguration.java

\*

/opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-jar/io/micronaut/discovery/registration/AutoRegistration.java

\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-jar/io/micronaut/discovery/event/AbstractServiceInstanceEvent.java

\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-jar/io/micronaut/retry/annotation/DefaultRetryPredicate.java

\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-jar/io/micronaut/discovery/cloud/ComputeInstanceMetadata.java

\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-jar/io/micronaut/discovery/EmbeddedServerInstance.java

\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-jar/io/micronaut/runtime/http/scope/RequestCustomScope.java

\*

/opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-jar/io/micronaut/retry/exception/CircuitOpenException.java

\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-jar/io/micronaut/health/DefaultCurrentHealthStatus.java

\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-jar/io/micronaut/retry/event/RetryEvent.java

\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-jar/io/micronaut/reactive/flow/converters/FlowConverterRegistrar.java

\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-jar/io/micronaut/discovery/ServiceInstanceList.java

\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-jar/io/micronaut/logging/LogLevel.java

\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-jar/io/micronaut/retry/exception/FallbackException.java

\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-jar/io/micronaut/retry/annotation/Fallback.java

\*

/opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-jar/io/micronaut/discovery/config/ConfigDiscoveryConfiguration.java

\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-jar/io/micronaut/retry/CircuitState.java

\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-jar/io/micronaut/runtime/http/scope/RequestAware.java

\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-jar/io/micronaut/health/CurrentHealthStatus.java

\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-jar/io/micronaut/retry/intercept/MutableRetryState.java

\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-jar/io/micronaut/retry/intercept/CircuitBreakerRetry.java

\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-

jar/io/micronaut/health/HeartbeatTask.java  
\*  
/opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/discovery/registration/RegistrationException.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/discovery/registration/package-info.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/discovery/DiscoveryClient.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/retry/RetryState.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/retry/event/CircuitOpenEvent.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/discovery/package-info.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/runtime/http/codecs/MediaTypeCodecRegistryFactory.java  
\*  
/opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/retry/annotation/package-info.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/discovery/exceptions/NoAvailableServiceException.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/retry/intercept/AnnotationRetryStateBuilder.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/retry/intercept/package-info.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/discovery/metadata/package-info.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/discovery/event/ServiceStoppedEvent.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/logging/LoggingSystem.java  
\*  
/opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/discovery/CompositeDiscoveryClient.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/discovery/DefaultServiceInstanceIdGenerator.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/discovery/DefaultCompositeDiscoveryClient.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/retry/event/CircuitClosedEvent.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/runtime/http/scope/RequestScope.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/discovery/cloud/NetworkInterface.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-  
jar/io/micronaut/health/HeartbeatDiscoveryClientCondition.java  
\*

/opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-jar/io/micronaut/retry/exception/RetryException.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-jar/io/micronaut/discovery/exceptions/package-info.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-jar/io/micronaut/discovery/StaticServiceInstanceList.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-jar/io/micronaut/discovery/config/package-info.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-jar/io/micronaut/retry/intercept/DefaultRetryInterceptor.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-jar/io/micronaut/discovery/DefaultServiceInstance.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-jar/io/micronaut/discovery/metadata/ServiceInstanceMetadataContributor.java  
\*  
/opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-jar/io/micronaut/retry/event/package-info.java  
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\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-jar/io/micronaut/logging/impl/LogbackUtils.java  
\* /opt/cola/permits/1813842783\_1696535030.1098683/0/micronaut-runtime-3-10-1-sources-jar/io/micronaut/logging/impl/LogbackLoggingSystem.java

## 1.114 micronaut-validation 3.10.1

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\* /opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-

jar/io/micronaut/validation/ValidatingInterceptor.java  
\* /opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/validator/constraints/AbstractPatternValidator.java  
\*  
/opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/validator/DefaultValidator.java  
\* /opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/internal/InternalApiTypeElementVisitor.java  
\* /opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/validator/constraints/SizeValidator.java  
\* /opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/executable/ExecutableVisitor.java  
\* /opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/validator/Validator.java  
\* /opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/validator/constraints/ConstraintValidatorContext.java  
\* /opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/validator/extractors/SimpleValueReceiver.java  
\*  
/opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/executable/package-info.java  
\* /opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/package-info.java  
\* /opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/validator/extractors/UnwrapByDefaultValueExtractor.java  
\* /opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/validator/constraints/DefaultConstraintValidators.java  
\* /opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/validator/constraints/DigitsValidator.java  
\* /opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/validator/constraints/DecimalMaxValidator.java  
\*  
/opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/validator/DefaultConstraintDescriptor.java  
\* /opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/validator/constraints/DomainNameUtil.java  
\* /opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/validator/constraints/PatternValidator.java  
\* /opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/Validated.java  
\* /opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/async/package-info.java  
\* /opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/validator/DefaultValidatorFactory.java  
\* /opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/exceptions/package-info.java  
\*

/opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/validator/ExecutableMethodValidator.java  
\* /opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/validator/constraints/DecimalMinValidator.java  
\* /opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/validator/resolver/CompositeTraversableResolver.java  
\* /opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/validator/IntrospectedBeanDescriptor.java  
\* /opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/validator/DefaultAnnotatedElementValidator.java  
\* /opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/validator/constraints/ConstraintValidator.java  
\*  
/opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/validator/messages/DefaultValidationMessages.java  
\* /opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/internal/package-info.java  
\* /opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/exceptions/ConstraintExceptionHandler.java  
\* /opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/validator/extractors/ValueExtractorRegistry.java  
\* /opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/validator/constraints/ConstraintValidatorRegistry.java  
\* /opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/async/AsyncTypeElementVisitor.java  
\* /opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/validator/ValidatorConfiguration.java  
\*  
/opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/validator/extractors/DefaultValueExtractors.java  
\* /opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/validator/ReactiveValidator.java  
\* /opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/validator/DefaultValidatorConfiguration.java  
\* /opt/cola/permits/1813842650\_1696535039.91416/0/micronaut-validation-3-10-1-sources-jar/io/micronaut/validation/validator/DefaultClockProvider.java

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*/opt/cola/permits/1813842650_1696535039.91416/0/micronaut-validation-3-10-1-sources-
jar/io/micronaut/validation/validator/constraints/EmailValidator.java
```

## 1.115 micronaut-http-client-core 3.10.1

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```
*/opt/cola/permits/1813842680_1696535011.8174863/0/micronaut-http-client-core-3-10-1-sources-
jar/io/micronaut/http/client/bind/ClientRequestBinder.java
*/opt/cola/permits/1813842680_1696535011.8174863/0/micronaut-http-client-core-3-10-1-sources-
jar/io/micronaut/http/client/HttpClientFactoryResolver.java
*
/opt/cola/permits/1813842680_1696535011.8174863/0/micronaut-http-client-core-3-10-1-sources-
jar/io/micronaut/http/client/bind/binders/VersionClientRequestBinder.java
*/opt/cola/permits/1813842680_1696535011.8174863/0/micronaut-http-client-core-3-10-1-sources-
jar/io/micronaut/http/client/sse/package-info.java
```

\* /opt/cola/permits/1813842680\_1696535011.8174863/0/micronaut-http-client-core-3-10-1-sources-jar/io/micronaut/http/client/bind/binders/HeaderClientRequestBinder.java  
\* /opt/cola/permits/1813842680\_1696535011.8174863/0/micronaut-http-client-core-3-10-1-sources-jar/io/micronaut/http/client/StreamingHttpClientFactoryResolver.java  
\* /opt/cola/permits/1813842680\_1696535011.8174863/0/micronaut-http-client-core-3-10-1-sources-jar/io/micronaut/http/client/HttpClientFactory.java  
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\* /opt/cola/permits/1813842680\_1696535011.8174863/0/micronaut-http-client-core-3-10-1-sources-jar/io/micronaut/http/client/bind/binders/QueryValueClientArgumentRequestBinder.java  
\*

/opt/cola/permits/1813842680\_1696535011.8174863/0/micronaut-http-client-core-3-10-1-sources-jar/io/micronaut/http/client/sse/SseClientFactory.java  
\* /opt/cola/permits/1813842680\_1696535011.8174863/0/micronaut-http-client-core-3-10-1-sources-jar/io/micronaut/http/client/StreamingHttpClientFactory.java  
\* /opt/cola/permits/1813842680\_1696535011.8174863/0/micronaut-http-client-core-3-10-1-sources-jar/io/micronaut/http/client/bind/binders/AttributeClientRequestBinder.java  
\* /opt/cola/permits/1813842680\_1696535011.8174863/0/micronaut-http-client-core-3-10-1-sources-jar/io/micronaut/http/client/ProxyHttpClientFactory.java  
\* /opt/cola/permits/1813842680\_1696535011.8174863/0/micronaut-http-client-core-3-10-1-sources-jar/io/micronaut/http/client/sse/SseClientFactoryResolver.java  
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\* /opt/cola/permits/1813842680\_1696535011.8174863/0/micronaut-http-client-core-3-10-1-sources-jar/io/micronaut/http/client/BlockingHttpClient.java  
\* /opt/cola/permits/1813842680\_1696535011.8174863/0/micronaut-http-client-core-3-10-1-sources-jar/io/micronaut/http/client/bind/TypedClientArgumentRequestBinder.java  
\*

/opt/cola/permits/1813842680\_1696535011.8174863/0/micronaut-http-client-core-3-10-1-sources-jar/io/micronaut/http/client/exceptions/ReadTimeoutException.java  
\* /opt/cola/permits/1813842680\_1696535011.8174863/0/micronaut-http-client-core-3-10-1-sources-jar/io/micronaut/http/client/annotation/Client.java  
\* /opt/cola/permits/1813842680\_1696535011.8174863/0/micronaut-http-client-core-3-10-1-sources-jar/io/micronaut/http/client/loadbalance/DiscoveryClientRoundRobinLoadBalancer.java  
\* /opt/cola/permits/1813842680\_1696535011.8174863/0/micronaut-http-client-core-3-10-1-sources-jar/io/micronaut/http/client/loadbalance/ServiceInstanceListRoundRobinLoadBalancer.java  
\* /opt/cola/permits/1813842680\_1696535011.8174863/0/micronaut-http-client-core-3-10-1-sources-jar/io/micronaut/http/client/sse/SseClientRegistry.java  
\* /opt/cola/permits/1813842680\_1696535011.8174863/0/micronaut-http-client-core-3-10-1-sources-jar/io/micronaut/http/client/multipart/Part.java  
\*  
/opt/cola/permits/1813842680\_1696535011.8174863/0/micronaut-http-client-core-3-10-1-sources-jar/io/micronaut/http/client/HttpClientConfiguration.java  
\* /opt/cola/permits/1813842680\_1696535011.8174863/0/micronaut-http-client-core-3-10-1-sources-jar/io/micronaut/http/client/interceptor/HttpClientIntroductionAdvice.java  
\* /opt/cola/permits/1813842680\_1696535011.8174863/0/micronaut-http-client-core-3-10-1-sources-jar/io/micronaut/http/client/interceptor/configuration/DefaultClientVersioningConfiguration.java  
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# 1.116 micronaut-core 3.10.1

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# 1.117 micronaut-jackson-databind 3.10.1

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\* /opt/cola/permits/1813842842\_1696535016.010805/0/micronaut-jackson-databind-3-10-1-sources-jar/io/micronaut/jackson/JacksonDatabindFeature.java

\* /opt/cola/permits/1813842842\_1696535016.010805/0/micronaut-jackson-databind-3-10-1-sources-jar/io/micronaut/jackson/ResilientBeanDeserializerFactory.java

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Found in path(s):

```

* /opt/cola/permits/1813842842_1696535016.010805/0/micronaut-jackson-databind-3-10-1-sources-
jar/io/micronaut/jackson/serialize/JsonNodeSerializer.java
* /opt/cola/permits/1813842842_1696535016.010805/0/micronaut-jackson-databind-3-10-1-sources-
jar/io/micronaut/jackson/JacksonConfiguration.java
* /opt/cola/permits/1813842842_1696535016.010805/0/micronaut-jackson-databind-3-10-1-sources-
jar/io/micronaut/jackson/serialize/JsonNodeDeserializer.java
*
/opt/cola/permits/1813842842_1696535016.010805/0/micronaut-jackson-databind-3-10-1-sources-
jar/io/micronaut/jackson/codecs/JacksonMediaTypeCodec.java
* /opt/cola/permits/1813842842_1696535016.010805/0/micronaut-jackson-databind-3-10-1-sources-
jar/io/micronaut/jackson/ObjectMapperFactory.java
* /opt/cola/permits/1813842842_1696535016.010805/0/micronaut-jackson-databind-3-10-1-sources-
jar/io/micronaut/jackson/databind/DatabindPropertyBinderExceptionHandler.java
* /opt/cola/permits/1813842842_1696535016.010805/0/micronaut-jackson-databind-3-10-1-sources-
jar/io/micronaut/jackson/databind/JacksonDatabindMapper.java

```

# 1.118 netty-handler-proxy 4.1.99.Final

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Found in path(s):

```

* /opt/cola/permits/1813842829_1696535025.794817/0/netty-handler-proxy-4-1-99-final-sources-
jar/io/netty/handler/proxy/ProxyConnectionEvent.java
* /opt/cola/permits/1813842829_1696535025.794817/0/netty-handler-proxy-4-1-99-final-sources-
jar/io/netty/handler/proxy/ProxyConnectException.java
*
/opt/cola/permits/1813842829_1696535025.794817/0/netty-handler-proxy-4-1-99-final-sources-
jar/io/netty/handler/proxy/package-info.java
* /opt/cola/permits/1813842829_1696535025.794817/0/netty-handler-proxy-4-1-99-final-sources-
jar/io/netty/handler/proxy/Socks4ProxyHandler.java

```



```
* /opt/cola/permits/1813842829_1696535025.794817/0/netty-handler-proxy-4-1-99-final-sources-
jar/io/netty/handler/proxy/HttpProxyHandler.java
* /opt/cola/permits/1813842829_1696535025.794817/0/netty-handler-proxy-4-1-99-final-sources-
jar/io/netty/handler/proxy/Socks5ProxyHandler.java
* /opt/cola/permits/1813842829_1696535025.794817/0/netty-handler-proxy-4-1-99-final-sources-
jar/io/netty/handler/proxy/ProxyHandler.java
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-->
```

Found in path(s):

```
* /opt/cola/permits/1813842829_1696535025.794817/0/netty-handler-proxy-4-1-99-final-sources-jar/META-
INF/maven/io.netty/netty-handler-proxy/pom.xml
```

## 1.119 micronaut-router 3.10.1

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Found in path(s):

\* /opt/cola/permits/1813842710\_1696535009.80331/0/micronaut-router-3-10-1-sources-jar/io/micronaut/web/router/version/RouteVersionFilter.java

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Found in path(s):

\* /opt/cola/permits/1813842710\_1696535009.80331/0/micronaut-router-3-10-1-sources-jar/io/micronaut/web/router/resource/StaticResourceResolverFactory.java

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Found in path(s):

\* /opt/cola/permits/1813842710\_1696535009.80331/0/micronaut-router-3-10-1-sources-jar/io/micronaut/web/router/naming/ConfigurableUriNamingStrategy.java

\* /opt/cola/permits/1813842710\_1696535009.80331/0/micronaut-router-3-10-1-sources-

jar/io/micronaut/web/router/version/ConfigurationDefaultVersionProvider.java  
\*  
/opt/cola/permits/1813842710\_1696535009.80331/0/micronaut-router-3-10-1-sources-  
jar/io/micronaut/web/router/BeanDefinitionFilterRoute.java  
\* /opt/cola/permits/1813842710\_1696535009.80331/0/micronaut-router-3-10-1-sources-  
jar/io/micronaut/web/router/MethodBasedRouteMatch.java  
\* /opt/cola/permits/1813842710\_1696535009.80331/0/micronaut-router-3-10-1-sources-  
jar/io/micronaut/web/router/StatusRouteMatch.java  
\* /opt/cola/permits/1813842710\_1696535009.80331/0/micronaut-router-3-10-1-sources-  
jar/io/micronaut/web/router/UnresolvedArgument.java  
\* /opt/cola/permits/1813842710\_1696535009.80331/0/micronaut-router-3-10-1-sources-  
jar/io/micronaut/web/router/FilterRoute.java  
\* /opt/cola/permits/1813842710\_1696535009.80331/0/micronaut-router-3-10-1-sources-  
jar/io/micronaut/web/router/RouteInfo.java  
\* /opt/cola/permits/1813842710\_1696535009.80331/0/micronaut-router-3-10-1-sources-  
jar/io/micronaut/web/router/RouteMatchUtils.java  
\* /opt/cola/permits/1813842710\_1696535009.80331/0/micronaut-router-3-10-1-sources-  
jar/io/micronaut/web/router/exceptions/UnsatisfiedPartRouteException.java  
\*  
/opt/cola/permits/1813842710\_1696535009.80331/0/micronaut-router-3-10-1-sources-  
jar/io/micronaut/web/router/ErrorRouteMatch.java  
\* /opt/cola/permits/1813842710\_1696535009.80331/0/micronaut-router-3-10-1-sources-  
jar/io/micronaut/web/router/AnnotatedMethodRouteBuilder.java  
\* /opt/cola/permits/1813842710\_1696535009.80331/0/micronaut-router-3-10-1-sources-  
jar/io/micronaut/web/router/exceptions/UnsatisfiedRouteException.java  
\* /opt/cola/permits/1813842710\_1696535009.80331/0/micronaut-router-3-10-1-sources-  
jar/io/micronaut/web/router/exceptions/UnsatisfiedPathVariableRouteException.java  
\* /opt/cola/permits/1813842710\_1696535009.80331/0/micronaut-router-3-10-1-sources-  
jar/io/micronaut/web/router/filter/FilteredRouter.java  
\* /opt/cola/permits/1813842710\_1696535009.80331/0/micronaut-router-3-10-1-sources-  
jar/io/micronaut/web/router/naming/HyphenatedUriNamingStrategy.java  
\* /opt/cola/permits/1813842710\_1696535009.80331/0/micronaut-router-3-10-1-sources-  
jar/io/micronaut/web/router/exceptions/DuplicateRouteException.java  
\*  
/opt/cola/permits/1813842710\_1696535009.80331/0/micronaut-router-3-10-1-sources-  
jar/io/micronaut/web/router/filter/RouteMatchFilter.java  
\* /opt/cola/permits/1813842710\_1696535009.80331/0/micronaut-router-3-10-1-sources-  
jar/io/micronaut/web/router/NullArgument.java  
\* /opt/cola/permits/1813842710\_1696535009.80331/0/micronaut-router-3-10-1-sources-  
jar/io/micronaut/web/router/exceptions/UnsatisfiedBodyRouteException.java  
\* /opt/cola/permits/1813842710\_1696535009.80331/0/micronaut-router-3-10-1-sources-  
jar/io/micronaut/web/router/UriRoute.java  
\* /opt/cola/permits/1813842710\_1696535009.80331/0/micronaut-router-3-10-1-sources-  
jar/io/micronaut/web/router/DefaultFilterRoute.java  
\* /opt/cola/permits/1813842710\_1696535009.80331/0/micronaut-router-3-10-1-sources-  
jar/io/micronaut/web/router/version/DefaultVersionProvider.java  
\* /opt/cola/permits/1813842710\_1696535009.80331/0/micronaut-router-3-10-1-sources-  
jar/io/micronaut/web/router/DefaultRouteBuilder.java

```

*
/opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/version/VersionRouteMatchFilter.java
* /opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/MethodBasedRoute.java
* /opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/version/resolution/VersionResolver.java
* /opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/naming/package-info.java
* /opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/ResourceRoute.java
* /opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/qualifier/ConsumesMediaTypeQualifier.java
* /opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/exceptions/UnsatisfiedCookieValueRouteException.java
*
/opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/version/VersionAwareRouterListener.java
* /opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/version/resolution/RequestVersionResolver.java
* /opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/version/resolution/package-info.java
* /opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/AbstractRouteMatch.java
* /opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/resource/StaticResourceResolver.java
* /opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/version/resolution/ParameterVersionResolver.java
* /opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/ErrorResponse.java
*
/opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/GroovyRouteBuilder.groovy
* /opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/package-info.java
* /opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/RouteBuilder.java
* /opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/StatusRoute.java
* /opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/DefaultUriRouteMatch.java
* /opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/qualifier/package-info.java
* /opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/resource/StaticResourceConfiguration.java
*
/opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/exceptions/package-info.java

```

```

* /opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/resource/package-info.java
* /opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/exceptions/UnsatisfiedRequestAttributeRouteException.java
* /opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/version/RoutesVersioningConfiguration.java
* /opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/qualifier/ProducesMediaTypeQualifier.java
* /opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/version/resolution/HeaderVersionResolver.java
* /opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/exceptions/RoutingException.java
*
/opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/exceptions/UnsatisfiedQueryValueRouteException.java
* /opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/BasicObjectRouteMatch.java
* /opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/Router.java
* /opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/exceptions/UnsatisfiedHeaderRouteException.java
* /opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/Route.java
* /opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/version/package-info.java
* /opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/RouteMatch.java
*
/opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/UriRouteMatch.java
* /opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/DefaultRouter.java
* /opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/version/resolution/ParameterVersionResolverConfiguration.java
* /opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/AnnotatedFilterRouteBuilder.java
* /opt/cola/permits/1813842710_1696535009.80331/0/micronaut-router-3-10-1-sources-
jar/io/micronaut/web/router/version/resolution/HeaderVersionResolverConfiguration.java

```

# 1.120 netty-codec 4.1.99.Final

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Found in path(s):

\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-  
jar/io/netty/handler/codec/EmptyHeaders.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-  
jar/io/netty/handler/codec/DefaultHeaders.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-  
jar/io/netty/handler/codec/Headers.java

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Found in path(s):

\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-  
jar/io/netty/handler/codec/compression/Lz4XXHash32.java

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Found in path(s):

\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-  
jar/io/netty/handler/codec/CharSequenceValueConverter.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-  
jar/io/netty/handler/codec/DefaultHeadersImpl.java  
\*  
/opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-  
jar/io/netty/handler/codec/ValueConverter.java

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/\*\*

\* Utility class for { @link ByteBuf } that encodes and decodes to and from

\* [Base64](https://en.wikipedia.org/wiki/Base64) notation.

\* <p>

\* The encoding and decoding algorithm in this class has been derived from

\* <http://iharder.sourceforge.net/current/java/base64/> Robert Harder's Public Domain

\* Base64 Encoder/Decoder</a>.

\*/

Found in path(s):

\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/base64/Base64.java

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Found in path(s):

\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/ProtocolDetectionState.java

\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/protobuf/ProtobufEncoder.java

\*

/opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/protobuf/ProtobufDecoderNano.java

\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/protobuf/ProtobufVarint32FrameDecoder.java

\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/protobuf/ProtobufEncoderNano.java

\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/protobuf/ProtobufVarint32LengthFieldPrepender.java

\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/protobuf/ProtobufDecoder.java

\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/HeadersUtils.java

\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/UnsupportedValueConverter.java

\*

/opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/ProtocolDetectionResult.java

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/*
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*/
/**
* Enumeration of supported Base64 dialects.
* <p>
* The internal lookup tables in this class has been derived from
* Robert
 Harder's Public Domain
* Base64 Encoder/Decoder.
*/
```

Found in path(s):

```
* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/base64/Base64Dialect.java
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\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/ZstdEncoder.java

\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/ZstdOptions.java

\*

/opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/DeflateOptions.java

\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/BrotliDecoder.java

\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/BrotliOptions.java

\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/Brotli.java

\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/StandardCompressionOptions.java

\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/Zstd.java

\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/GzipOptions.java

\*

/opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/CompressionOptions.java

\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/ZstdConstants.java

\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/BrotliEncoder.java

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/\*\*

\* A decoder that splits the received { @link ByteBuf}s dynamically by the

\* value of the length field in the message. It is particularly useful when you

\* decode a binary message which has an integer header field that represents the

\* length of the message body or the whole message.  
 \*  
 <p>  
 \* { @link LengthFieldBasedFrameDecoder } has many configuration parameters so  
 \* that it can decode any message with a length field, which is often seen in  
 \* proprietary client-server protocols. Here are some example that will give  
 \* you the basic idea on which option does what.

\* <h3>2 bytes length field at offset 0, do not strip header</h3>

\* The value of the length field in this example is <tt>12 (0x0C)</tt> which  
 \* represents the length of "HELLO, WORLD". By default, the decoder assumes  
 \* that the length field represents the number of the bytes that follows the  
 \* length field. Therefore, it can be decoded with the simplistic parameter  
 \* combination.

\* <pre>

```
* lengthFieldOffset = 0
* lengthFieldLength = 2
* lengthAdjustment = 0
* initialBytesToStrip = 0 (= do not strip header)
```

\* BEFORE DECODE (14 bytes)      AFTER DECODE (14 bytes)

```
* +-----+-----+ +-----+-----+
* | Length | Actual Content
* |---->| Length | Actual Content |
* | 0x000C | "HELLO, WORLD" | | 0x000C | "HELLO, WORLD" |
```

\* </pre>

\* <h3>2 bytes length field at offset 0, strip header</h3>

\* Because we can get the length of the content by calling  
 \* { @link ByteBuf#readableBytes() }, you might want to strip the length  
 \* field by specifying <tt>initialBytesToStrip</tt>. In this example, we  
 \* specified <tt>2</tt>, that is same with the length of the length field, to  
 \* strip the first two bytes.

\* <pre>

```
* lengthFieldOffset = 0
* lengthFieldLength = 2
* lengthAdjustment = 0
* initialBytesToStrip = 2 (= the length of the Length field)
```

\* BEFORE DECODE (14 bytes)      AFTER DECODE (12 bytes)

```
* +-----+-----+ +-----+
* | Length | Actual Content |---->| Actual Content |
* | 0x000C | "HELLO, WORLD" | | "HELLO, WORLD" |
```

```

* </pre>
*
* <h3>2 bytes length field at offset 0, do not strip header, the length field
* represents the length of the whole message</h3>
*
* In most cases, the length field represents the length of the message body
* only, as shown in the previous examples. However, in some protocols, the
* length field represents the length of the whole message, including the
* message header. In such a case, we specify a non-zero
* <tt>lengthAdjustment</tt>. Because the length value in this example message
* is always greater than the body length by <tt>2</tt>, we specify <tt>-2</tt>
* as <tt>lengthAdjustment</tt> for compensation.
* <pre>
* lengthFieldOffset = 0
* lengthFieldLength = 2
* lengthAdjustment = -2 (= the length of the Length field)
* initialBytesToStrip = 0
*
* BEFORE DECODE (14 bytes) AFTER DECODE (14 bytes)
* +-----+-----+-----+-----+ +-----+-----+-----+-----+
* | Length | Actual Content |---->| Length | Actual
* Content |
* | 0x000E | "HELLO, WORLD" | | 0x000E | "HELLO, WORLD" |
* +-----+-----+-----+-----+ +-----+-----+-----+-----+
* </pre>
*
* <h3>3 bytes length field at the end of 5 bytes header, do not strip header</h3>
*
* The following message is a simple variation of the first example. An extra
* header value is prepended to the message. <tt>lengthAdjustment</tt> is zero
* again because the decoder always takes the length of the prepended data into
* account during frame length calculation.
* <pre>
* lengthFieldOffset = 2 (= the length of Header 1)
* lengthFieldLength = 3
* lengthAdjustment = 0
* initialBytesToStrip = 0
*
* BEFORE DECODE (17 bytes) AFTER DECODE (17 bytes)
* +-----+-----+-----+-----+ +-----+-----+-----+-----+
* | Header 1 | Length | Actual Content |---->| Header 1 | Length | Actual Content |
* | 0xCAFE | 0x00000C | "HELLO, WORLD" | | 0xCAFE | 0x00000C | "HELLO, WORLD" |
* | 0xCAFE | 0x00000C | "HELLO, WORLD" |
* +-----+-----+-----+-----+ +-----+-----+-----+-----+
* </pre>
*
* <h3>3 bytes length field at the beginning of 5 bytes header, do not strip header</h3>
*

```

\* This is an advanced example that shows the case where there is an extra header between the length field and the message body. You have to specify a positive `<tt>lengthAdjustment</tt>` so that the decoder counts the extra header into the frame length calculation.

```
* <pre>
* lengthFieldOffset = 0
* lengthFieldLength = 3
* lengthAdjustment = 2 (= the length of Header 1)
* initialBytesToStrip = 0
*
* BEFORE DECODE (17 bytes) AFTER DECODE (17 bytes)
* +-----+-----+-----+-----+ +-----+-----+-----+-----+
* | Length | Header 1 | Actual Content |---->| Length | Header 1 | Actual Content |
* | 0x00000C | 0xCAFE | "HELLO, WORLD" | | 0x00000C | 0xCAFE | "HELLO,
* WORLD" |
* +-----+-----+-----+-----+ +-----+-----+-----+-----+
* </pre>
```

\* `<h3>`2 bytes length field at offset 1 in the middle of 4 bytes header,  
 \* strip the first header field and the length field`</h3>`

\* This is a combination of all the examples above. There are the prepended header before the length field and the extra header after the length field. The prepended header affects the `<tt>lengthFieldOffset</tt>` and the extra header affects the `<tt>lengthAdjustment</tt>`. We also specified a non-zero `<tt>initialBytesToStrip</tt>` to strip the length field and the prepended header from the frame. If you don't want to strip the prepended header, you could specify `<tt>0</tt>` for `<tt>initialBytesToSkip</tt>`.

```
* <pre>
* lengthFieldOffset = 1 (= the length of HDR1)
* lengthFieldLength = 2
* lengthAdjustment = 1 (= the length of HDR2)
* initialBytesToStrip = 3 (= the length of HDR1 +
* LEN)
*
* BEFORE DECODE (16 bytes) AFTER DECODE (13 bytes)
* +-----+-----+-----+-----+ +-----+-----+-----+-----+
* | HDR1 | Length | HDR2 | Actual Content |---->| HDR2 | Actual Content |
* | 0xCA | 0x000C | 0xFE | "HELLO, WORLD" | | 0xFE | "HELLO, WORLD" |
* +-----+-----+-----+-----+ +-----+-----+-----+-----+
* </pre>
```

\* `<h3>`2 bytes length field at offset 1 in the middle of 4 bytes header,  
 \* strip the first header field and the length field, the length field  
 \* represents the length of the whole message`</h3>`

\* Let's give another twist to the previous example. The only difference from the previous example is that the length field represents the length of the

```

* whole message instead of the message body, just like the third example.
* We have to count the length of HDR1 and Length into <tt>lengthAdjustment</tt>.
* Please note that we don't need to take the length of HDR2 into account
* because
the length field already includes the whole header length.
* <pre>
* lengthFieldOffset = 1
* lengthFieldLength = 2
* lengthAdjustment = -3 (= the length of HDR1 + LEN, negative)
* initialBytesToStrip = 3
*
* BEFORE DECODE (16 bytes) AFTER DECODE (13 bytes)
* +-----+-----+-----+-----+ +-----+-----+
* | HDR1 | Length | HDR2 | Actual Content |---->| HDR2 | Actual Content |
* | 0xCA | 0x0010 | 0xFE | "HELLO, WORLD" | | 0xFE | "HELLO, WORLD" |
* +-----+-----+-----+-----+ +-----+-----+
* </pre>
* @see LengthFieldPrepender
*/

```

Found in path(s):

```

* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/LengthFieldBasedFrameDecoder.java

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```

*/

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* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/compression/Bzip2BlockDecompressor.java

```

```

* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/compression/Bzip2BitWriter.java

```

```

*

```

/opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/json/JsonObjectDecoder.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/Bzip2HuffmanStageDecoder.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/json/package-info.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/MessageAggregationException.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/SnappyFramedDecoder.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/Bzip2BitReader.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/Bzip2Decoder.java  
\*  
/opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/Bzip2HuffmanAllocator.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/LzfEncoder.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/SnappyFramedEncoder.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/FastLzFrameEncoder.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/AsciiHeadersEncoder.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/Bzip2Constants.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/Bzip2HuffmanStageEncoder.java  
\*  
/opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/Bzip2BlockCompressor.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/Bzip2MTFAndRLE2StageEncoder.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/Bzip2DivSufSort.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/Lz4FrameDecoder.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/Bzip2Rand.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/FastLz.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/Lz4Constants.java  
\*  
/opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/LzmaFrameEncoder.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-

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jar/io/netty/handler/codec/DecoderResultProvider.java
* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/compression/Bzip2MoveToFrontTable.java
* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/compression/LzfDecoder.java
* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/compression/FastLzFrameDecoder.java
* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/compression/Crc32.java
* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/compression/Bzip2Encoder.java
*
/opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/compression/Lz4FrameEncoder.java
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image/io.netty.netty-codec/native-image.properties
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* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/string/LineEncoder.java
* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/CodecOutputList.java
* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
```



jar/io/netty/handler/codec/DateFormatter.java

\*

/opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-

jar/io/netty/handler/codec/compression/CompressionUtil.java

\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-

jar/io/netty/handler/codec/string/LineSeparator.java

\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-

jar/io/netty/handler/codec/compression/ByteBufChecksum.java

\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-

jar/io/netty/handler/codec/DatagramPacketEncoder.java

\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-

jar/io/netty/handler/codec/DatagramPacketDecoder.java

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\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-  
jar/io/netty/handler/codec/compression/ZlibDecoder.java

\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-  
jar/io/netty/handler/codec/serialization/package-info.java

\*

/opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-  
jar/io/netty/handler/codec/LengthFieldPrepender.java

\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-  
jar/io/netty/handler/codec/LineBasedFrameDecoder.java

\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-  
jar/io/netty/handler/codec/base64/package-info.java

\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-  
jar/io/netty/handler/codec/serialization/CachingClassResolver.java

\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-  
jar/io/netty/handler/codec/serialization/ObjectEncoder.java

\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-  
jar/io/netty/handler/codec/xml/package-info.java

\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/JZlibEncoder.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/ZlibCodecFactory.java  
\*  
/opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/protobuf/package-info.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/serialization/CompatibleObjectEncoder.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/serialization/ReferenceMap.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/serialization/ClassResolver.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/JZlibDecoder.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/marshalling/ThreadLocalMarshallerProvider.java  
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/opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/marshalling/ChannelBufferByteOutput.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/Delimiters.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/FixedLengthFrameDecoder.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/serialization/ObjectEncoderOutputStream.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/marshalling/MarshallingDecoder.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/SnappyFrameEncoder.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/ZlibWrapper.java  
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/opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/marshalling/package-info.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/serialization/ObjectDecoderInputStream.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/DecoderException.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/CorruptedFrameException.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/marshalling/MarshallingEncoder.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/ReplayingDecoder.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/marshalling/DefaultMarshallerProvider.java  
\*

/opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/TooLongFrameException.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/MessageToByteEncoder.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/string/StringEncoder.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/CodecException.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/marshalling/MarshallerProvider.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/serialization/ObjectDecoder.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/string/StringDecoder.java  
\*  
/opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/serialization/ClassLoaderClassResolver.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/ZlibUtil.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/marshalling/ThreadLocalUnmarshallerProvider.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/bytes/ByteArrayDecoder.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/marshalling/ContextBoundUnmarshallerProvider.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/marshalling/CompatibleMarshallingDecoder.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/bytes/ByteArrayEncoder.java  
\*  
/opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/DecompressionException.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/string/package-info.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/marshalling/DefaultUnmarshallerProvider.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/compression/Snappy.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/serialization/CompactObjectInputStream.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/MessageToMessageCodec.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/UnsupportedMessageTypeException.java  
\*  
/opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-jar/io/netty/handler/codec/base64/Base64Decoder.java  
\* /opt/cola/permits/1813842641\_1696535014.3961658/0/netty-codec-4-1-99-final-sources-

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jar/io/netty/handler/codec/marshalling/ChannelBufferByteInput.java
* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/DelimiterBasedFrameDecoder.java
* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/compression/CompressionException.java
* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/ByteToMessageCodec.java
* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/compression/package-info.java
* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/package-info.java
*
/opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/marshalling/UnmarshallerProvider.java
* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/marshalling/LimitingByteInput.java
* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/bytes/package-info.java
* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/ByteToMessageDecoder.java
* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/MessageToMessageDecoder.java
* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/ReplayingDecoderByteBuf.java
* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/MessageToMessageEncoder.java
*
/opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/serialization/CompactObjectOutputStream.java
* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/compression/JdkZlibEncoder.java
* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/MessageAggregator.java
* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/PrematureChannelClosureException.java
* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/serialization/ClassResolvers.java
* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/EncoderException.java
* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/compression/ZlibEncoder.java
*
/opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/marshalling/CompatibleMarshallingEncoder.java
* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/compression/SnappyFrameDecoder.java
* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/base64/Base64Encoder.java

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* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/serialization/SoftReferenceMap.java
* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/DecoderResult.java
* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/serialization/WeakReferenceMap.java
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jar/io/netty/handler/codec/xml/XmlFrameDecoder.java
* /opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
jar/io/netty/handler/codec/compression/JdkZlibDecoder.java
*
/opt/cola/permits/1813842641_1696535014.3961658/0/netty-codec-4-1-99-final-sources-
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\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/concurrent/FastThreadLocalThread.java

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\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/collection/CharCollections.java  
\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/collection/IntObjectMap.java  
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/opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/collection/IntCollections.java  
\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/collection/ByteCollections.java  
\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/collection/CharObjectMap.java  
\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/collection/LongCollections.java  
\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/collection/LongObjectHashMap.java  
\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/collection/LongObjectMap.java  
\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/collection/ShortCollections.java  
\*  
/opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/ObjectUtil.java  
\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/collection/ByteObjectHashMap.java  
\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/collection/ByteObjectMap.java  
\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/collection/IntObjectHashMap.java  
\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/collection/ShortObjectHashMap.java  
\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/collection/CharObjectHashMap.java  
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- \* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/concurrent/PromiseCombiner.java
- \*
- /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/UnstableApi.java
- \* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/SocketUtils.java
- \* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/concurrent/EventExecutorChooserFactory.java
- \* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/DomainNameMappingBuilder.java
- \* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/concurrent/RejectedExecutionHandler.java
- \* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/ThrowableUtil.java
- \* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/BooleanSupplier.java
- \* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/logging/Log4J2LoggerFactory.java
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- /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/ResourceLeakTracker.java
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- \* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/concurrent/DefaultEventExecutorChooserFactory.java
- \* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/OutOfDirectMemoryError.java
- \* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/IntSupplier.java
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- \* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/ConstantTimeUtils.java

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\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/concurrent/NonStickyEventExecutorGroup.java

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\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/logging/JdkLogger.java

\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/logging/InternalLogger.java

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</scm>

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 </developer>
 <developer>
 <url>https://github.com/mjpt777</url>
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 <url>https://github.com/RichardWarburton</url>
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<junit.version>4.12</junit.version>
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</project>
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in path(s):

\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/META-INF/maven/org.jctools/jctools-core/pom.xml

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\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/SupportsIterator.java

\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/atomic/MpscAtomicArrayQueue.java

\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/MpscArrayQueue.java

\*

/opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/package-info.java

\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/IndexedQueueSizeUtil.java

\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/shaded/org/jctools/util/UnsafeAccess.java

\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/ConcurrentSequencedCircularArrayQueue.java

\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/MpscChunkedArrayQueue.java

\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/shaded/org/jctools/util/InternalAPI.java

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/opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/MpscUnboundedXaddArrayQueue.java

\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/MessagePassingQueue.java

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\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/SpMCArrayQueue.java

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/opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/shaded/org/jctools/maps/NonBlockingHashMap.java

\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/LinkedQueueNode.java

\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/shaded/org/jctools/maps/ConcurrentAutoTable.java

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\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/atomic/AtomicReferenceArrayQueue.java

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/opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/atomic/LinkedQueueAtomicNode.java

\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/spec/Ordering.java

\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/shaded/org/jctools/maps/NonBlockingSetInt.java  
\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/atomic/BaseSpscLinkedAtomicArrayQueue.java  
\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/atomic/MpscLinkedAtomicQueue.java  
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\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/MpscLinkedQueue.java  
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/opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/UnpaddedInternalThreadLocalMap.java  
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jar/io/netty/util/internal/logging/FormattingTuple.java

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jar/io/netty/util/internal/logging/MessageFormatter.java

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* /opt/cola/permits/1813842694_1696535004.5436351/0/netty-common-4-1-99-final-sources-
jar/io/netty/util/internal/logging/Slf4JLogger.java
* /opt/cola/permits/1813842694_1696535004.5436351/0/netty-common-4-1-99-final-sources-
jar/io/netty/util/Attribute.java
* /opt/cola/permits/1813842694_1696535004.5436351/0/netty-common-4-1-99-final-sources-
jar/io/netty/util/concurrent/BlockingOperationException.java
*
/opt/cola/permits/1813842694_1696535004.5436351/0/netty-common-4-1-99-final-sources-
jar/io/netty/util/internal/logging/InternalLogLevel.java
* /opt/cola/permits/1813842694_1696535004.5436351/0/netty-common-4-1-99-final-sources-
jar/io/netty/util/internal/logging/AbstractInternalLogger.java
* /opt/cola/permits/1813842694_1696535004.5436351/0/netty-common-4-1-99-final-sources-
jar/io/netty/util/internal/logging/InternalLoggerFactory.java
* /opt/cola/permits/1813842694_1696535004.5436351/0/netty-common-4-1-99-final-sources-
jar/io/netty/util/CharsetUtil.java
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* /opt/cola/permits/1813842694_1696535004.5436351/0/netty-common-4-1-99-final-sources-
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* /opt/cola/permits/1813842694_1696535004.5436351/0/netty-common-4-1-99-final-sources-
jar/io/netty/util/internal/logging/package-info.java
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\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/EmptyArrays.java

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\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/concurrent/DefaultThreadFactory.java

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\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/concurrent/ProgressivePromise.java

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\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/concurrent/DefaultPromise.java

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\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/ConcurrentSet.java

\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/ResourceLeak.java

\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/ReferenceCounted.java

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\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/ResourceLeakDetector.java  
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\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/AbstractReferenceCounted.java  
\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/concurrent/CompleteFuture.java  
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\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/concurrent/ScheduledFutureTask.java  
\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/concurrent/FutureListener.java  
\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/PendingWrite.java  
\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/concurrent/GenericFutureListener.java  
\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/concurrent/package-info.java  
\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/concurrent/GenericProgressiveFutureListener.java  
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/opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/concurrent/ImmediateExecutor.java  
\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/concurrent/PromiseTask.java  
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\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/NetUtilSubstitutions.java  
\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/DomainWildcardMappingBuilder.java

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io.netty.util.internal.Hidden\$NettyBlockHoundIntegration

Found in path(s):

\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/META-INF/services/reactor.blockhound.integration.BlockHoundIntegration

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\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/ResourcesUtil.java

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\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/CleanerJava9.java

\* /opt/cola/permits/1813842694\_1696535004.5436351/0/netty-common-4-1-99-final-sources-jar/io/netty/util/internal/Cleaner.java

## 1.122 micronaut-inject 3.10.1

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- \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/AbstractExecutableMethod.java
- \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/condition/ConditionContext.java
- \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/annotation/Requirements.java
- \*
- /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/DefaultConstructorInjectionPoint.java
- \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/Qualifier.java
- \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/annotation/Configuration.java
- \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/BeanFactory.java
- \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/env/yaml/package-info.java
- \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/MethodInjectionPoint.java
- \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/ReflectionFieldInjectionPoint.java
- \*
- /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/visitor/VisitorConfiguration.java
- \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/configuration/package-info.java
- \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/ast/TypedElement.java
- \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/annotation/internal/KotlinNullableMapper.java
- \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/RequiresCondition.java
- \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/ast/PropertyElement.java
- \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/ApplicationContextConfiguration.java
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- /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/LifeCycle.java
- \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/writer/ExecutableMethodWriter.java

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\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
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/opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
jar/io/micronaut/inject/InitializingBeanDefinition.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
jar/io/micronaut/inject/annotation/AnnotationMetadataException.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
jar/io/micronaut/context/AbstractBeanContextConditional.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
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\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
jar/io/micronaut/inject/qualifiers/TypeArgumentQualifier.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
jar/io/micronaut/inject/ExecutableMethod.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
jar/io/micronaut/inject/annotation/TypedAnnotationTransformer.java  
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/opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
jar/io/micronaut/context/BeanLocator.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
jar/io/micronaut/context/annotation/Requires.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
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\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/ast/ConstructorElement.java

\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/annotation/Provided.java

\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/env/DefaultEnvironment.java

\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/AnnotationProcessorListener.java

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/opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/annotation/EnvironmentAnnotationValue.java

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\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/BeanResolutionContext.java

\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/exceptions/DisabledBeanException.java

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\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/writer/AbstractClassFileWriter.java  
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\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/writer/BeanDefinitionVisitor.java  
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\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
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\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
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\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
jar/io/micronaut/inject/provider/package-info.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
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\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/InitializableBeanContext.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/visitor/BeanImportVisitor.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/scope/CreatedBean.java  
\*  
/opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/ast/DefaultElementQuery.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/BeanProvider.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/annotation/NonBinding.java

\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/annotation/internal/JakartaPostConstructTransformer.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/annotation/internal/JakartaPreDestroyTransformer.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/ast/SimplePackageElement.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/event/BeanPreDestroyEvent.java  
\*  
/opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/writer/ArrayAwareSignatureWriter.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/provider/AbstractProviderDefinition.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/visitor/BeanElementVisitorLoader.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/annotation/Import.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/event/BeanDestroyedEventListener.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/scope/AbstractConcurrentCustomScope.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/DefaultFieldConstructorInjectionPoint.java  
\*  
/opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/annotation/internal/JakartaRemapper.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/writer/DispatchWriter.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/ast/beans/BeanConstructorElement.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/provider/BeanProviderDefinition.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/env/KubernetesEnvironmentPropertySource.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/scope/BeanCreationContext.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/qualifiers/InterceptorBindingQualifier.java  
\*  
/opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/visitor/BeanElementVisitorContext.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/provider/JakartaProviderBeanDefinition.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/ast/beans/BeanElement.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/writer/StringSwitchWriter.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-

jar/io/micronaut/inject/ExecutableMethodsDefinition.java  
 \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
 jar/io/micronaut/inject/ast/GenericPlaceholderElement.java  
 \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
 jar/io/micronaut/context/AbstractConstructorInjectionPoint.java  
 \*  
 /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
 jar/io/micronaut/inject/ast/ReflectWildcardElement.java  
 \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
 jar/io/micronaut/inject/provider/ProviderTypeInfoProvider.java  
 \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
 jar/io/micronaut/inject/qualifiers/ExactTypeArgumentNameQualifier.java  
 \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
 jar/io/micronaut/inject/ast/PackageElement.java  
 \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
 jar/io/micronaut/inject/qualifiers/PrimaryQualifier.java  
 \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
 jar/io/micronaut/inject/ast/AnnotationElement.java  
 \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
 jar/io/micronaut/inject/qualifiers/RepeatableAnnotationQualifier.java  
 \*  
 /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
 jar/io/micronaut/context/AbstractExecutableMethodsDefinition.java  
 \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
 jar/io/micronaut/context/visitor/BeanImportHandler.java  
 \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
 jar/io/micronaut/inject/qualifiers/AnyQualifier.java  
 \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
 jar/io/micronaut/inject/ast/beans/InjectableElement.java  
 \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
 jar/io/micronaut/inject/annotation/internal/CoreNullableTransformer.java  
 \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
 jar/io/micronaut/inject/ast/SimpleClassElement.java  
 \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
 jar/io/micronaut/inject/beans/visitor/EntityReflectiveAccessAnnotationMapper.java  
 \*  
 /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
 jar/io/micronaut/context/annotation/InjectScope.java  
 \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
 jar/io/micronaut/inject/ast/beans/ConfigurableElement.java  
 \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
 jar/io/micronaut/inject/ast/ReflectTypeElement.java  
 \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
 jar/io/micronaut/inject/qualifiers/NoneQualifier.java  
 \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
 jar/io/micronaut/inject/writer/AbstractBeanDefinitionBuilder.java  
 \* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-  
 jar/io/micronaut/context/visitor/ContextConfigurerVisitor.java

\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/annotation/ContextConfigurer.java  
\*  
/opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/env/CachedEnvironment.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/env/ConstantPropertySources.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/ast/beans/BeanParameterElement.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/event/BeanPreDestroyEventListener.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/annotation/Any.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/annotation/internal/CoreNonNullTransformer.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/visitor/package-info.java  
\*  
/opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/ast/beans/BeanFieldElement.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/event/ApplicationEventPublisherFactory.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/event/BeanDestroyedEvent.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/ast/beans/BeanMethodElement.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/ApplicationContextConfigurer.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/context/exceptions/BeanDestructionException.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/ast/beans/BeanElementBuilder.java  
\*  
/opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/beans/AbstractInitializableBeanIntrospection.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/provider/JavaxProviderBeanDefinition.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/ast/ReflectGenericPlaceholderElement.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/qualifiers/NamedAnnotationStereotypeQualifier.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/visitor/BeanElementVisitor.java  
\* /opt/cola/permits/1813842756\_1696534991.633246/0/micronaut-inject-3-10-1-sources-jar/io/micronaut/inject/ast/WildcardElement.java



# 1.123 netty-resolver 4.1.99.Final

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Found in path(s):

```
* /opt/cola/permits/1813842688_1696534989.467266/0/netty-resolver-4-1-99-final-sources-jar/META-INF/maven/io.netty/netty-resolver/pom.xml
```

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Found in path(s):

```
* /opt/cola/permits/1813842688_1696534989.467266/0/netty-resolver-4-1-99-final-sources-jar/io/netty/resolver/DefaultHostsFileEntriesResolver.java
```

```
* /opt/cola/permits/1813842688_1696534989.467266/0/netty-resolver-4-1-99-final-sources-jar/io/netty/resolver/DefaultAddressResolverGroup.java
```

\*  
/opt/cola/permits/1813842688\_1696534989.467266/0/netty-resolver-4-1-99-final-sources-jar/io/netty/resolver/HostsFileParser.java  
\* /opt/cola/permits/1813842688\_1696534989.467266/0/netty-resolver-4-1-99-final-sources-jar/io/netty/resolver/AbstractAddressResolver.java  
\* /opt/cola/permits/1813842688\_1696534989.467266/0/netty-resolver-4-1-99-final-sources-jar/io/netty/resolver/DefaultNameResolver.java  
\* /opt/cola/permits/1813842688\_1696534989.467266/0/netty-resolver-4-1-99-final-sources-jar/io/netty/resolver/CompositeNameResolver.java  
\* /opt/cola/permits/1813842688\_1696534989.467266/0/netty-resolver-4-1-99-final-sources-jar/io/netty/resolver/AddressResolver.java  
\* /opt/cola/permits/1813842688\_1696534989.467266/0/netty-resolver-4-1-99-final-sources-jar/io/netty/resolver/InetAddressResolver.java  
\* /opt/cola/permits/1813842688\_1696534989.467266/0/netty-resolver-4-1-99-final-sources-jar/io/netty/resolver/InetSocketAddressResolver.java  
\* /opt/cola/permits/1813842688\_1696534989.467266/0/netty-resolver-4-1-99-final-sources-jar/io/netty/resolver/HostsFileEntriesResolver.java  
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\* /opt/cola/permits/1813842688\_1696534989.467266/0/netty-resolver-4-1-99-final-sources-jar/io/netty/resolver/ResolvedAddressTypes.java  
\* /opt/cola/permits/1813842688\_1696534989.467266/0/netty-resolver-4-1-99-final-sources-jar/io/netty/resolver/HostsFileEntries.java  
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\* /opt/cola/permits/1813842688\_1696534989.467266/0/netty-resolver-4-1-99-final-sources-  
jar/io/netty/resolver/HostsFileEntriesProvider.java  
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\* /opt/cola/permits/1813842688\_1696534989.467266/0/netty-resolver-4-1-99-final-sources-  
jar/io/netty/resolver/NameResolver.java  
\* /opt/cola/permits/1813842688\_1696534989.467266/0/netty-resolver-4-1-99-final-sources-  
jar/io/netty/resolver/NoopAddressResolver.java  
\* /opt/cola/permits/1813842688\_1696534989.467266/0/netty-resolver-4-1-99-final-sources-  
jar/io/netty/resolver/NoopAddressResolverGroup.java  
\*  
/opt/cola/permits/1813842688\_1696534989.467266/0/netty-resolver-4-1-99-final-sources-  
jar/io/netty/resolver/package-info.java  
\* /opt/cola/permits/1813842688\_1696534989.467266/0/netty-resolver-4-1-99-final-sources-  
jar/io/netty/resolver/SimpleNameResolver.java  
\* /opt/cola/permits/1813842688\_1696534989.467266/0/netty-resolver-4-1-99-final-sources-  
jar/io/netty/resolver/AddressResolverGroup.java  
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Found in path(s):

```
* /opt/cola/permits/1813842688_1696534989.467266/0/netty-resolver-4-1-99-final-sources-
jar/io/netty/resolver/RoundRobinInetAddressResolver.java
```

# 1.124 netty-transport 4.1.99.Final

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* distributed under the License is distributed on an "AS IS" BASIS, WITHOUT
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* under the License.
*/
/**
* Handles an I/O event or intercepts an I/O operation, and forwards it to its next handler in
* its { @link ChannelPipeline }.
*
* <h3>Sub-types</h3>
* <p>
* { @link ChannelHandler } itself does not provide many methods, but you usually have to implement one of its
* subtypes:

```

```

*
* { @link
ChannelInboundHandler } to handle inbound I/O events, and
* { @link ChannelOutboundHandler } to handle outbound I/O operations.
*
* </p>
* <p>
* Alternatively, the following adapter classes are provided for your convenience:
*
* { @link ChannelInboundHandlerAdapter } to handle inbound I/O events,
* { @link ChannelOutboundHandlerAdapter } to handle outbound I/O operations, and
* { @link ChannelDuplexHandler } to handle both inbound and outbound events
*
* </p>
* <p>
* For more information, please refer to the documentation of each subtype.
* </p>
*
* <h3>The context object</h3>
* <p>
* A { @link ChannelHandler } is provided with a { @link ChannelHandlerContext }
* object. A { @link ChannelHandler } is supposed to interact with the
* { @link ChannelPipeline } it belongs to via a context object. Using the
* context object, the { @link ChannelHandler } can pass events upstream or
* downstream, modify the pipeline dynamically,
* or store the information
* (using { @link AttributeKey }s) which is specific to the handler.
*
* <h3>State management</h3>
*
* A { @link ChannelHandler } often needs to store some stateful information.
* The simplest and recommended approach is to use member variables:
* <pre>
* public interface Message {
* // your methods here
* }
*
* public class DataServerHandler extends { @link SimpleChannelInboundHandler }<Message> {
*
* private boolean loggedIn;
*
* { @code @Override }
* public void channelRead0({ @link ChannelHandlerContext } ctx, Message message) {
* if (message instanceof LoginMessage) {
* authenticate((LoginMessage) message);
* loggedIn = true;
* } else (message instanceof GetDataMessage) {
* if (loggedIn) {

```

```

* ctx.writeAndFlush(fetchSecret((GetDataMessage) message));
* } else {
* fail();
* }
*
* }
* }
* ...
* }
* </pre>

```

\* Because the handler instance has a state variable which is dedicated to one connection, you have to create a new handler instance for each new channel to avoid a race condition where an unauthenticated client can get the confidential information:

```

* <pre>
* // Create a new handler instance per channel.
* // See {@link ChannelInitializer#initChannel(Channel)}.
* public class DataServerInitializer extends {@link ChannelInitializer}<{@link Channel}> {
* {@code @Override}
* public void initChannel({@link Channel} channel) {
* channel.pipeline().addLast("handler", new DataServerHandler());
* }
* }
*
* </pre>

```

\* <h4>Using {@link AttributeKey}s</h4>

\* Although it's recommended to use member variables to store the state of a handler, for some reason you might not want to create many handler instances. In such a case, you can use {@link AttributeKey}s which is provided by {@link ChannelHandlerContext}:

```

* <pre>
* public interface Message {
* // your methods here
* }
*
* {@code @Sharable}
* public class DataServerHandler extends {@link SimpleChannelInboundHandler}<Message> {
* private final {@link AttributeKey}<{@link Boolean}> auth =
* {@link AttributeKey#valueOf(String) AttributeKey.valueOf("auth")};
*
* {@code @Override}
* public void channelRead({@link ChannelHandlerContext} ctx, Message message) {
* {@link Attribute}<{@link Boolean}> attr = ctx.attr(auth);
* if (message instanceof LoginMessage) {
* authenticate((LoginMessage) o);
* attr.set(true);

```

```

* } else (message instanceof GetDataMessage) {
* if (Boolean.TRUE.equals(attr.get())) {
* ctx.writeAndFlush(fetchSecret((GetDataMessage) o));
* } else {
* fail();
* }
* }
* }
* }
* ...
* }
* </pre>

```

\* Now that the

state of the handler is attached to the { @link ChannelHandlerContext}, you can add the

\* same handler instance to different pipelines:

```

* <pre>

```

```

* public class DataServerInitializer extends { @link ChannelInitializer}<&{ @link Channel}> {
*
* private static final DataServerHandler SHARED = new DataServerHandler();
*
* { @code @Override}
* public void initChannel({ @link Channel} channel) {
* channel.pipeline().addLast("handler", SHARED);
* }
* }
* </pre>

```

\*

\*

\* <h4>The { @code @Sharable} annotation</h4>

\* <p>

\* In the example above which used an { @link AttributeKey},

\* you might have noticed the { @code @Sharable} annotation.

\* <p>

\* If a { @link ChannelHandler} is annotated with the { @code @Sharable}

\* annotation, it means you can create an instance of the handler just once and

\* add it to one or more { @link ChannelPipeline}s multiple times without

\* a race condition.

\* <p>

\* If this annotation is not specified, you have to create

a new handler

\* instance every time you add it to a pipeline because it has unshared state

\* such as member variables.

\* <p>

\* This annotation is provided for documentation purpose, just like

\* <a href="http://www.javaconcurrencyinpractice.com/annotations/doc/">the JCIP annotations</a>.

\*

\* <h3>Additional resources worth reading</h3>

\* <p>

\* Please refer to the { @link ChannelHandler}, and

\* { @link ChannelPipeline } to find out more about inbound and outbound operations,  
\* what fundamental differences they have, how they flow in a pipeline, and how to handle  
\* the operation in your application.  
\*/

Found in path(s):

\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-  
jar/io/netty/channel/ChannelHandler.java

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jar/io/netty/channel/AbstractCoalescingBufferQueue.java

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\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/META-INF/maven/io.netty/netty-transport/pom.xml

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\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/oio/OioByteStreamChannel.java

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\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/AbstractEventLoopGroup.java

\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/ConnectTimeoutException.java

\*

/opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/socket/oio/OioServerSocketChannelConfig.java  
\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/socket/oio/OioSocketChannelConfig.java  
\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/group/DefaultChannelGroup.java  
\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/ChannelHandlerAdapter.java  
\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/ChannelProgressiveFuture.java  
\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/socket/oio/DefaultOioServerSocketChannelConfig.java  
\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/ChannelOutboundBuffer.java  
\*  
/opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/SimpleChannelInboundHandler.java  
\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/DefaultChannelId.java  
\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/bootstrap/ChannelFactory.java  
\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/DefaultChannelProgressivePromise.java  
\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/ChannelProgressiveFutureListener.java  
\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/group/ChannelGroup.java  
\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/group/ChannelGroupException.java  
\*  
/opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/DefaultMessageSizeEstimator.java  
\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/MessageSizeEstimator.java  
\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/group/ChannelMatcher.java  
\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/nio/SelectedSelectionKeySet.java  
\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/group/ChannelMatchers.java  
\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/ChannelProgressivePromise.java  
\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/socket/oio/DefaultOioSocketChannelConfig.java  
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\*

/opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/ChannelId.java

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\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/socket/nio/NioChannelOption.java

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* /opt/cola/permits/1813842743_1696535032.7543929/0/netty-transport-4-1-99-final-sources-
jar/io/netty/channel/pool/FixedChannelPool.java
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jar/io/netty/channel/pool/ChannelPool.java
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jar/io/netty/channel/pool/ChannelPoolMap.java
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jar/io/netty/channel/pool/SimpleChannelPool.java
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jar/io/netty/channel/MaxBytesRecvByteBufAllocator.java
* /opt/cola/permits/1813842743_1696535032.7543929/0/netty-transport-4-1-99-final-sources-
jar/io/netty/channel/DefaultMaxMessagesRecvByteBufAllocator.java
*
/opt/cola/permits/1813842743_1696535032.7543929/0/netty-transport-4-1-99-final-sources-
jar/io/netty/channel/DefaultMaxBytesRecvByteBufAllocator.java
* /opt/cola/permits/1813842743_1696535032.7543929/0/netty-transport-4-1-99-final-sources-
jar/io/netty/channel/pool/AbstractChannelPoolMap.java
* /opt/cola/permits/1813842743_1696535032.7543929/0/netty-transport-4-1-99-final-sources-
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\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/nio/NioEventLoop.java

\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/socket/ServerSocketChannelConfig.java

\*

/opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/DefaultEventLoopGroup.java

\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/FileRegion.java

\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/embedded/EmbeddedSocketAddress.java

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\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/bootstrap/ServerBootstrap.java

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jar/io/netty/channel/nio/AbstractNioByteChannel.java  
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jar/io/netty/channel/group/DefaultChannelGroupFuture.java  
\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-  
jar/io/netty/channel/socket/DefaultDatagramChannelConfig.java  
\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-  
jar/io/netty/channel/ThreadPerChannelEventLoopGroup.java  
\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-  
jar/io/netty/channel/ChannelPromise.java  
\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-  
jar/io/netty/channel/ChannelFlushPromiseNotifier.java  
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jar/io/netty/channel/EventLoop.java  
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jar/io/netty/channel/AbstractServerChannel.java  
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jar/io/netty/channel/ChannelInboundHandlerAdapter.java  
\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-  
jar/io/netty/channel/ChannelOutboundHandler.java  
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jar/io/netty/channel/local/LocalChannelRegistry.java  
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jar/io/netty/channel/nio/NioTask.java  
\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-  
jar/io/netty/channel/socket/oio/OioDatagramChannel.java

\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/embedded/EmbeddedEventLoop.java  
 \* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/SucceededChannelFuture.java  
 \* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/AbstractChannelHandlerContext.java  
 \* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/local/LocalChannel.java  
 \* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/nio/package-info.java  
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 \* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/DefaultEventLoop.java  
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 \* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-



jar/io/netty/channel/local/LocalAddress.java  
\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/socket/oio/package-info.java  
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\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/socket/package-info.java  
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\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/ChannelConfig.java  
\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/oio/AbstractOioByteChannel.java  
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/opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/bootstrap/package-info.java  
\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/ChannelMetadata.java  
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\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/group/ChannelGroupFuture.java

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\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/socket/DatagramChannelConfig.java

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\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/socket/nio/NioDatagramChannelConfig.java

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\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/socket/ServerSocketChannel.java

\* /opt/cola/permits/1813842743\_1696535032.7543929/0/netty-transport-4-1-99-final-sources-jar/io/netty/channel/DefaultChannelPipeline.java

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jar/io/netty/channel/group/VoidChannelGroupFuture.java
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jar/io/netty/channel/ChannelInboundInvoker.java
*
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jar/io/netty/channel/DefaultSelectStrategy.java
* /opt/cola/permits/1813842743_1696535032.7543929/0/netty-transport-4-1-99-final-sources-
jar/io/netty/channel/WriteBufferWaterMark.java
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jar/io/netty/channel/SelectStrategy.java
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jar/io/netty/bootstrap/AbstractBootstrapConfig.java
* /opt/cola/permits/1813842743_1696535032.7543929/0/netty-transport-4-1-99-final-sources-
jar/io/netty/channel/socket/DuplexChannel.java
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jar/io/netty/channel/ChannelOutboundInvoker.java
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* /opt/cola/permits/1813842743_1696535032.7543929/0/netty-transport-4-1-99-final-sources-
jar/io/netty/channel/DefaultSelectStrategyFactory.java
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/opt/cola/permits/1813842743_1696535032.7543929/0/netty-transport-4-1-99-final-sources-
jar/io/netty/channel/PreferHeapByteBufAllocator.java
* /opt/cola/permits/1813842743_1696535032.7543929/0/netty-transport-4-1-99-final-sources-
jar/io/netty/channel/SelectStrategyFactory.java
* /opt/cola/permits/1813842743_1696535032.7543929/0/netty-transport-4-1-99-final-sources-
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jar/io/netty/channel/internal/package-info.java
* /opt/cola/permits/1813842743_1696535032.7543929/0/netty-transport-4-1-99-final-sources-
jar/io/netty/channel/socket/ChannelOutputShutdownException.java
* /opt/cola/permits/1813842743_1696535032.7543929/0/netty-transport-4-1-99-final-sources-
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jar/io/netty/channel/socket/ChannelOutputShutdownEvent.java
* /opt/cola/permits/1813842743_1696535032.7543929/0/netty-transport-4-1-99-final-sources-
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jar/io/netty/channel/ReflectiveChannelFactory.java  
\*

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jar/io/netty/channel/embedded/EmbeddedChannelId.java  
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jar/io/netty/channel/ChannelFactory.java  
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jar/io/netty/channel/EventLoopTaskQueueFactory.java

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\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/exceptions/response/ErrorResponseProcessor.java

\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/CoroutineHelper.java

\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/ExecutableRouteInfo.java

\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/RouteExecutor.java

\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/exceptions/response/HateoasErrorResponseProcessor.java

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\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/util/locale/HttpLocalizedMessageSource.java  
\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/cors/CrossOrigin.java  
\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/cors/CrossOriginUtil.java  
\*  
/opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/exceptions/response/HateoasErrorResponseProcessorReplacement.java  
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Found in path(s):

\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/util/DefaultHttpClientAddressResolver.java  
\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/types/files/StreamedFile.java  
\*  
/opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/util/locale/package-info.java  
\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-



jar/io/micronaut/http/server/multipart/package-info.java  
\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/types/CustomizableResponseTypeException.java  
\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/util/locale/HttpAbstractLocaleResolver.java  
\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/exceptions/UnsatisfiedArgumentHandler.java  
\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/cors/CorsOriginConverter.java  
\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/binding/package-info.java  
\*  
/opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/codec/package-info.java  
\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/util/package-info.java  
\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/exceptions/ServerStartupException.java  
\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/exceptions/URISyntaxHandler.java  
\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/HttpServerConfiguration.java  
\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/cors/CorsFilter.java  
\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/exceptions/HttpStatusHandler.java  
\*  
/opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/util/locale/CompositeHttpLocaleResolver.java  
\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/exceptions/ConversionErrorHandler.java  
\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/context/package-info.java  
\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/binding/LocaleArgumentBinder.java  
\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/exceptions/HttpServerException.java  
\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/util/locale/HttpFixedLocaleResolver.java  
\*  
/opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/util/HttpClientAddressResolver.java  
\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/exceptions/ExceptionHandler.java  
\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/websocket/ServerWebSocketProcessor.java  
\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/types/files/FileCustomizableResponseType.java

\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/context/ServerRequestContextInstrumentation.java

\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/types/CustomizableResponseType.java

\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/codec/TextStreamCodec.java

\*

/opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/util/locale/HttpLocaleResolutionConfiguration.java

\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/binding/BasicAuthArgumentBinder.java

\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/util/ProxyHeaderParser.java

\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/util/locale/HttpLocaleResolver.java

\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/cors/package-info.java

\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/exceptions/UnsatisfiedRouteHandler.java

\*

/opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/exceptions/JsonExceptionHandler.java

\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/package-info.java

\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/context/ServerRequestContextInvocationInstrumenter.java

\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/types/files/package-info.java

\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/exceptions/InternalServerException.java

\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/types/package-info.java

\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/exceptions/package-info.java

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/opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/cors/CorsUtil.java

\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/multipart/MultipartBody.java

\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/util/HttpHostResolver.java

\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/binding/RequestArgumentSatisfier.java

\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/cors/CorsOriginConfiguration.java

\* /opt/cola/permits/1813842780\_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-jar/io/micronaut/http/server/exceptions/ContentLengthExceededHandler.java

\*

```
/opt/cola/permits/1813842780_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-
jar/io/micronaut/http/server/exceptions/DuplicateRouteHandler.java
* /opt/cola/permits/1813842780_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-
jar/io/micronaut/http/server/util/locale/CookieLocaleResolver.java
* /opt/cola/permits/1813842780_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-
jar/io/micronaut/http/server/util/DefaultHttpHostResolver.java
* /opt/cola/permits/1813842780_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-
jar/io/micronaut/http/server/util/locale/RequestLocaleResolver.java
* /opt/cola/permits/1813842780_1696534997.6483414/0/micronaut-http-server-3-10-1-sources-
jar/io/micronaut/http/server/types/files/SystemFile.java
```

# 1.126 micronaut-aop 3.10.1

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```
* /opt/cola/permits/1813842803_1696535023.9745908/0/micronaut-aop-3-10-1-sources-
jar/io/micronaut/aop/InterceptPhase.java
* /opt/cola/permits/1813842803_1696535023.9745908/0/micronaut-aop-3-10-1-sources-
jar/io/micronaut/aop/MethodInvocationContext.java
* /opt/cola/permits/1813842803_1696535023.9745908/0/micronaut-aop-3-10-1-sources-
jar/io/micronaut/aop/Interceptor.java
*
/opt/cola/permits/1813842803_1696535023.9745908/0/micronaut-aop-3-10-1-sources-
jar/io/micronaut/aop/Introduction.java
* /opt/cola/permits/1813842803_1696535023.9745908/0/micronaut-aop-3-10-1-sources-
jar/io/micronaut/aop/internal/intercepted/InterceptedMethodUtil.java
* /opt/cola/permits/1813842803_1696535023.9745908/0/micronaut-aop-3-10-1-sources-
jar/io/micronaut/aop/Around.java
* /opt/cola/permits/1813842803_1696535023.9745908/0/micronaut-aop-3-10-1-sources-
```

```

jar/io/micronaut/aop/InterceptedProxy.java
* /opt/cola/permits/1813842803_1696535023.9745908/0/micronaut-aop-3-10-1-sources-
jar/io/micronaut/aop/Adapter.java
* /opt/cola/permits/1813842803_1696535023.9745908/0/micronaut-aop-3-10-1-sources-
jar/io/micronaut/aop/MethodInterceptor.java
* /opt/cola/permits/1813842803_1696535023.9745908/0/micronaut-aop-3-10-1-sources-
jar/io/micronaut/aop/exceptions/UnimplementedAdviceException.java
* /opt/cola/permits/1813842803_1696535023.9745908/0/micronaut-aop-3-10-1-sources-
jar/io/micronaut/aop/writer/AopProxyWriter.java
*
/opt/cola/permits/1813842803_1696535023.9745908/0/micronaut-aop-3-10-1-sources-
jar/io/micronaut/aop/package-info.java
* /opt/cola/permits/1813842803_1696535023.9745908/0/micronaut-aop-3-10-1-sources-
jar/io/micronaut/aop/util/CompletableFutureContinuation.kt
* /opt/cola/permits/1813842803_1696535023.9745908/0/micronaut-aop-3-10-1-sources-
jar/io/micronaut/aop/internal/intercepted/PublisherInterceptedMethod.java
* /opt/cola/permits/1813842803_1696535023.9745908/0/micronaut-aop-3-10-1-sources-
jar/io/micronaut/aop/util/KotlinInterceptedMethodHelper.kt
* /opt/cola/permits/1813842803_1696535023.9745908/0/micronaut-aop-3-10-1-sources-
jar/io/micronaut/aop/InterceptedMethod.java
* /opt/cola/permits/1813842803_1696535023.9745908/0/micronaut-aop-3-10-1-sources-
jar/io/micronaut/aop/chain/MethodInterceptorChain.java
* /opt/cola/permits/1813842803_1696535023.9745908/0/micronaut-aop-3-10-1-sources-
jar/io/micronaut/aop/InvocationContext.java
*
/opt/cola/permits/1813842803_1696535023.9745908/0/micronaut-aop-3-10-1-sources-
jar/io/micronaut/aop/exceptions/package-info.java
* /opt/cola/permits/1813842803_1696535023.9745908/0/micronaut-aop-3-10-1-sources-
jar/io/micronaut/aop/internal/intercepted/KotlinInterceptedMethod.java
* /opt/cola/permits/1813842803_1696535023.9745908/0/micronaut-aop-3-10-1-sources-
jar/io/micronaut/aop/chain/InterceptorChain.java
* /opt/cola/permits/1813842803_1696535023.9745908/0/micronaut-aop-3-10-1-sources-
jar/io/micronaut/aop/chain/package-info.java
* /opt/cola/permits/1813842803_1696535023.9745908/0/micronaut-aop-3-10-1-sources-
jar/io/micronaut/aop/Intercepted.java
* /opt/cola/permits/1813842803_1696535023.9745908/0/micronaut-aop-3-10-1-sources-
jar/io/micronaut/aop/writer/package-info.java
* /opt/cola/permits/1813842803_1696535023.9745908/0/micronaut-aop-3-10-1-sources-
jar/io/micronaut/aop/chain/AdapterIntroduction.java
* /opt/cola/permits/1813842803_1696535023.9745908/0/micronaut-aop-3-10-1-sources-
jar/io/micronaut/aop/util/DelegatingContextContinuation.kt
*
/opt/cola/permits/1813842803_1696535023.9745908/0/micronaut-aop-3-10-1-sources-
jar/io/micronaut/aop/HotSwappableInterceptedProxy.java
* /opt/cola/permits/1813842803_1696535023.9745908/0/micronaut-aop-3-10-1-sources-
jar/io/micronaut/aop/internal/intercepted/CompletionStageInterceptedMethod.java
* /opt/cola/permits/1813842803_1696535023.9745908/0/micronaut-aop-3-10-1-sources-
jar/io/micronaut/aop/Introduced.java

```

\* /opt/cola/permits/1813842803\_1696535023.9745908/0/micronaut-aop-3-10-1-sources-jar/io/micronaut/aop/internal/intercepted/SynchronousInterceptedMethod.java

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\* /opt/cola/permits/1813842803\_1696535023.9745908/0/micronaut-aop-3-10-1-sources-jar/io/micronaut/aop/internal/InterceptorRegistryBean.java

\* /opt/cola/permits/1813842803\_1696535023.9745908/0/micronaut-aop-3-10-1-sources-jar/io/micronaut/aop/internal/InterceptorBeanMapper.java

\* /opt/cola/permits/1813842803\_1696535023.9745908/0/micronaut-aop-3-10-1-sources-jar/io/micronaut/aop/kotlin/KotlinInterceptedMethod.java

\*

/opt/cola/permits/1813842803\_1696535023.9745908/0/micronaut-aop-3-10-1-sources-jar/io/micronaut/aop/InterceptorBindingDefinitions.java

\* /opt/cola/permits/1813842803\_1696535023.9745908/0/micronaut-aop-3-10-1-sources-jar/io/micronaut/aop/AroundConstruct.java

\* /opt/cola/permits/1813842803\_1696535023.9745908/0/micronaut-aop-3-10-1-sources-jar/io/micronaut/aop/InterceptorKind.java

\* /opt/cola/permits/1813842803\_1696535023.9745908/0/micronaut-aop-3-10-1-sources-jar/io/micronaut/aop/InterceptorRegistry.java

\* /opt/cola/permits/1813842803\_1696535023.9745908/0/micronaut-aop-3-10-1-sources-jar/io/micronaut/aop/chain/ConstructorInterceptorChain.java

\* /opt/cola/permits/1813842803\_1696535023.9745908/0/micronaut-aop-3-10-1-sources-jar/io/micronaut/aop/chain/DefaultInterceptorRegistry.java

\* /opt/cola/permits/1813842803\_1696535023.9745908/0/micronaut-aop-3-10-1-sources-jar/io/micronaut/aop/ConstructorInvocationContext.java

\*

/opt/cola/permits/1813842803\_1696535023.9745908/0/micronaut-aop-3-10-1-sources-jar/io/micronaut/aop/InterceptorBinding.java

\* /opt/cola/permits/1813842803\_1696535023.9745908/0/micronaut-aop-3-10-1-sources-jar/io/micronaut/aop/InterceptorBean.java

\* /opt/cola/permits/1813842803\_1696535023.9745908/0/micronaut-aop-3-10-1-sources-

jar/io/micronaut/aop/chain/AbstractInterceptorChain.java  
\* /opt/cola/permits/1813842803\_1696535023.9745908/0/micronaut-aop-3-10-1-sources-  
jar/io/micronaut/aop/ConstructorInterceptor.java

# 1.127 micronaut-http 3.10.1

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\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-  
jar/io/micronaut/http/uri/QueryStringDecoder.java

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*/
```

Found in path(s):

\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/bind/DefaultRequestBinderRegistry.java

\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/annotation/Consumes.java

\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/uri/DefaultUriBuilder.java

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/opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/annotation/HttpMethodMapping.java

\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/filter/FilterOrderProvider.java

\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/hateoas/package-info.java

\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/bind/binders/QueryValueArgumentBinder.java

\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/HttpRequest.java

\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/DefaultHttpFactories.java

\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/simple/cookies/SimpleCookies.java

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\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/exceptions/package-info.java

\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/bind/binders/HeaderAnnotationBinder.java

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\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/HttpMethod.java

\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/resource/package-info.java

\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/bind/binders/ParameterAnnotationBinder.java

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/opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/bind/binders/NonBlockingBodyArgumentBinder.java

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jar/io/micronaut/http/hateoas/Link.java  
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jar/io/micronaut/http/uri/UriMatcher.java  
\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-  
jar/io/micronaut/http/annotation/Patch.java  
\*  
/opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-  
jar/io/micronaut/http/annotation/FilterMatcher.java  
\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-  
jar/io/micronaut/http/codec/DefaultMediaTypeCodecRegistry.java  
\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-  
jar/io/micronaut/http/util/OutgoingHttpRequestProcessorImpl.java  
\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-  
jar/io/micronaut/http/multipart/FileUpload.java  
\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-  
jar/io/micronaut/http/annotation/Produces.java

\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/multipart/package-info.java  
\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/simple/cookies/SimpleCookieFactory.java  
\*  
/opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/codec/package-info.java  
\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/ssl/package-info.java  
\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/MutableHttpHeaders.java  
\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/codec/CodecConfiguration.java  
\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/multipart/CompletedPart.java  
\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/context/event/package-info.java  
\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/multipart/CompletedFileUpload.java  
\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/BasicAuth.java  
\*  
/opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/simple/SimpleHttpParameters.java  
\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/simple/SimpleHttpResponseFactory.java  
\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/filter/package-info.java  
\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/uri/UriMatchVariable.java  
\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/HttpRequestFactory.java  
\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/annotation/Status.java  
\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/annotation/package-info.java  
\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/bind/binders/package-info.java  
\*  
/opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/uri/UriMatchInfo.java  
\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/cookie/SameSite.java  
\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/cookie/package-info.java  
\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/io/micronaut/http/HttpResponseWrapper.java  
\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-

jar/io/micronaut/http/uri/UriMatchTemplate.java  
\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-  
jar/io/micronaut/http/hateoas/VndError.java  
\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-  
jar/io/micronaut/http/annotation/Filter.java  
\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-  
jar/io/micronaut/http/HttpResponseFactory.java  
\*

/opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-  
jar/io/micronaut/http/annotation/Controller.java  
\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-  
jar/io/micronaut/http/sse/package-info.java  
\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-  
jar/io/micronaut/http/bind/package-info.java

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\*/

Found in path(s):

\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-  
jar/io/micronaut/http/ssl/SslConfiguration.java  
\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-  
jar/io/micronaut/http/bind/binders/PartAnnotationBinder.java  
\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-  
jar/io/micronaut/http/util/HttpHeadersUtil.java  
\*

/opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-  
jar/io/micronaut/http/MediaTypeConvertersRegistrar.java  
\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-  
jar/io/micronaut/http/ssl/ClientSslConfiguration.java  
\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-  
jar/io/micronaut/http/ssl/ServerSslConfiguration.java  
\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-  
jar/io/micronaut/http/hateoas/GenericResource.java

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 */
```

Found in path(s):

```
* /opt/cola/permits/1813842764_1696535028.4447355/0/micronaut-http-3-10-1-sources-
jar/io/micronaut/http/CaseInsensitiveMutableHttpHeaders.java
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 * See the License for the specific language governing permissions and
 * limitations under the License.
 */
```

Found in path(s):

```
* /opt/cola/permits/1813842764_1696535028.4447355/0/micronaut-http-3-10-1-sources-
jar/io/micronaut/http/bind/binders/HttpCoroutineContextFactory.kt
* /opt/cola/permits/1813842764_1696535028.4447355/0/micronaut-http-3-10-1-sources-
jar/io/micronaut/http/PushCapableHttpRequest.java
* /opt/cola/permits/1813842764_1696535028.4447355/0/micronaut-http-3-10-1-sources-
jar/io/micronaut/http/ssl/AbstractClientSslConfiguration.java
*
```

```
/opt/cola/permits/1813842764_1696535028.4447355/0/micronaut-http-3-10-1-sources-
jar/io/micronaut/http/cookie/SameSiteConverter.java
* /opt/cola/permits/1813842764_1696535028.4447355/0/micronaut-http-3-10-1-sources-
jar/io/micronaut/http/util/HttpTypeInformationProvider.java
* /opt/cola/permits/1813842764_1696535028.4447355/0/micronaut-http-3-10-1-sources-
jar/io/micronaut/http/filter/FilterPatternStyle.java
```

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```
This file maps Internet media types to unique file extension(s).
Although created for httpd, this file is used by many software systems
and has been placed in the public domain for unlimited redistribution.
#
The table below contains both registered and (common) unregistered types.
A type that has no unique extension can be ignored -- they are listed
here to guide configurations toward known types and to make it easier to
identify "new" types. File extensions are also commonly used to indicate
content languages and encodings, so choose them carefully.
#
Internet media types should be registered as described in RFC 4288.
The registry is at <https://www.iana.org/assignments/media-types/>.
#
https://svn.apache.org/viewvc/httpd/httpd/trunk/docs/conf/mime.types?revision=1810121&view=co
#
MIME type (lowercased) Extensions
=====
application/1d-interleaved-parityfec
#
application/3gpdash-qoe-report+xml
application/3gpp-ims+xml
application/a2l
application/activemessage
application/alto-costmap+json
application/alto-costmapfilter+json
application/alto-directory+json
application/alto-endpointcost+json
application/alto-endpointcostparams+json
application/alto-endpointprop+json
application/alto-endpointpropparams+json
application/alto-error+json
application/alto-networkmap+json
application/alto-networkmapfilter+json
application/aml
application/andrew-inset ez
application/applefile
application/applixware aw
application/atf
application/atfx
application/atom+xml atom
```



application/atomcat+xml atomcat  
# application/atomdeleted+xml  
# application/atomicmail  
application/atomsvc+xml atomsvc  
# application/atxml  
# application/auth-policy+xml  
# application/bacnet-xdd+zip  
# application/batch-smtp  
# application/beep+xml  
# application/calendar+json  
# application/calendar+xml  
# application/call-completion  
#  
application/cals-1840  
# application/cbor  
# application/ccmp+xml  
application/ccxml+xml ccxml  
# application/cdfx+xml  
application/cdmi-capability cdmia  
application/cdmi-container cdmic  
application/cdmi-domain cdmid  
application/cdmi-object cdmio  
application/cdmi-queue cdmiq  
# application/cdni  
# application/cea  
# application/cea-2018+xml  
# application/cellml+xml  
# application/cfw  
# application/cms  
# application/cnrx+xml  
# application/coap-group+json  
# application/commonground  
# application/conference-info+xml  
# application/cpl+xml  
# application/csrattrs  
# application/csta+xml  
# application/cstadata+xml  
# application/csvm+json  
application/cu-seeme cu  
# application/cybercash  
# application/dash+xml  
# application/dashdelta  
application/davmount+xml davmount  
# application/dca-rft  
# application/dcd  
# application/dec-dx  
# application/dialog-info+xml  
# application/dicom

# application/dii  
# application/dit  
# application/dns  
application/docbook+xml dbk  
# application/dskpp+xml  
application/dssc+der dssc  
application/dssc+xml xdssc  
#  
application/dvcs  
application/ecmascript ecma  
# application/edi-consent  
# application/edi-x12  
# application/edifact  
# application/efi  
# application/emergencycalldata.comment+xml  
# application/emergencycalldata.deviceinfo+xml  
# application/emergencycalldata.providerinfo+xml  
# application/emergencycalldata.serviceinfo+xml  
# application/emergencycalldata.subscriberinfo+xml  
application/emma+xml emma  
# application/emotionml+xml  
# application/encaprtp  
# application/epp+xml  
application/epub+zip epub  
# application/eshop  
# application/example  
application/exi exi  
# application/fastinfoset  
# application/fastsoap  
# application/fdt+xml  
# application/fits  
application/font-tdpfr pfr  
# application/framework-attributes+xml  
# application/geo+json  
application/gml+xml gml  
application/gpx+xml gpx  
application/gxf gxf  
# application/gzip  
# application/h224  
# application/held+xml  
# application/http  
application/hyperstudio stk  
#  
application/ibe-key-request+xml  
# application/ibe-pkg-reply+xml  
# application/ibe-pp-data  
# application/iges  
# application/im-iscomposing+xml

# application/index  
# application/index.cmd  
# application/index.obj  
# application/index.response  
# application/index.vnd  
application/inkml+xml ink inkml  
# application/iotp  
application/ipfix ipfix  
# application/ipp  
# application/isup  
# application/its+xml  
application/java-archive jar  
application/java-serialized-object ser  
application/java-vm class  
application/javascript js  
application/javascript mjs  
# application/jose  
# application/jose+json  
# application/jrd+json  
application/json json  
# application/json-patch+json  
# application/json-seq  
application/jsonml+json jsonml  
# application/jwk+json  
# application/jwk-set+json  
# application/jwt  
# application/kpml-request+xml  
# application/kpml-response+xml  
# application/ld+json  
# application/lgr+xml  
# application/link-format  
# application/load-control+xml  
application/lost+xml lostxml  
#  
application/lostsync+xml  
# application/lxf  
application/mac-binhex40 hqx  
application/mac-compactpro cpt  
# application/macwriteii  
application/mads+xml mads  
application/marc mrc  
application/marcxml+xml mrcx  
application/mathematica ma nb mb  
application/mathml+xml mathml  
# application/mathml-content+xml  
# application/mathml-presentation+xml  
# application/mbms-associated-procedure-description+xml  
# application/mbms-deregister+xml

# application/mbms-envelope+xml  
# application/mbms-msk+xml  
# application/mbms-msk-response+xml  
# application/mbms-protection-description+xml  
# application/mbms-reception-report+xml  
# application/mbms-register+xml  
# application/mbms-register-response+xml  
# application/mbms-schedule+xml  
# application/mbms-user-service-description+xml  
application/mbox mbox  
# application/media-policy-dataset+xml  
# application/media\_control+xml  
application/mediaservercontrol+xml mscml  
# application/merge-patch+json  
application/metalink+xml metalink  
application/metalink4+xml meta4  
application/mets+xml mets  
#  
application/mf4  
# application/mikey  
application/mods+xml mods  
# application/moss-keys  
# application/moss-signature  
# application/mosskey-data  
# application/mosskey-request  
application/mp21 m21 mp21  
application/mp4 mp4s  
# application/mpeg4-generic  
# application/mpeg4-iod  
# application/mpeg4-iod-xmt  
# application/mrb-consumer+xml  
# application/mrb-publish+xml  
# application/msc-ivr+xml  
# application/msc-mixer+xml  
application/msword doc dot  
application/mxf mxf  
# application/nasdata  
# application/news-checkgroups  
# application/news-groupinfo  
# application/news-transmission  
# application/nlsml+xml  
# application/nss  
# application/ocsp-request  
# application/ocsp-response  
application/octet-stream bin dms lrf mar so dist distz pkg bpk dump elc deploy  
application/oda oda  
# application/odx  
application/oebps-package+xml opf

application/ogg ogx  
application/omdoc+xml omdoc  
application/onenote onetoc  
onetoc2 onetmp onepkg  
application/oxps oxps  
# application/p2p-overlay+xml  
# application/parityfec  
application/patch-ops-error+xml xer  
application/pdf pdf  
# application/pdx  
application/pgp-encrypted pgp  
# application/pgp-keys  
application/pgp-signature asc sig  
application/pics-rules prf  
# application/pidf+xml  
# application/pidf-diff+xml  
application/pkcs10 p10  
# application/pkcs12  
application/pkcs7-mime p7m p7c  
application/pkcs7-signature p7s  
application/pkcs8 p8  
application/pkix-attr-cert ac  
application/pkix-cert cer  
application/pkix-crl crl  
application/pkix-pkipath pkipath  
application/pkixcmp pki  
application/pls+xml pls  
# application/poc-settings+xml  
application/postscript ai eps ps  
# application/ppsp-tracker+json  
# application/problem+json  
# application/problem+xml  
# application/provenance+xml  
# application/prs.alvestrand.titrax-sheet  
application/prs.cww cww  
# application/prs.hpub+zip  
# application/prs.nprend  
# application/prs.plucker  
#  
application/prs.rdf+xml-crypt  
# application/prs.xsf+xml  
application/pskc+xml pskcxml  
# application/qsig  
# application/raptorfec  
# application/rdap+json  
application/rdf+xml rdf  
application/reginfo+xml rif  
application/relax-ng-compact-syntax rnc

```
application/remote-printing
application/reputon+json
application/resource-lists+xml rl
application/resource-lists-diff+xml rld
application/rfc+xml
application/riscos
application/rlmi+xml
application/rls-services+xml rs
application/rpki-ghostbusters gbr
application/rpki-manifest mft
application/rpki-roa roa
application/rpki-updown
application/rsd+xml rsd
application/rss+xml rss
application/rtf rtf
application/rtploopback
application/rtx
application/samlassertion+xml
application/samlmetadata+xml
application/sbml+xml sbml
application/scaip+xml
application/scim+json
application/scvp-cv-request scq
application/scvp-cv-response scs
application/scvp-vp-request spq
application/scvp-vp-response spp
application/sdp sdp
#
 application/sep+xml
application/sep-exi
application/session-info
application/set-payment
application/set-payment-initiation setpay
application/set-registration
application/set-registration-initiation setreg
application/sgml
application/sgml-open-catalog
application/shf+xml shf
application/sieve
application/simple-filter+xml
application/simple-message-summary
application/simplesymbolcontainer
application/slate
application/smil
application/smil+xml smi smil
application/smpte336m
application/soap+fastinfoset
application/soap+xml
```

application/sparql-query rq  
application/sparql-results+xml srx  
# application/spirits-event+xml  
# application/sql  
application/srgs gram  
application/srgs+xml grxml  
application/sru+xml sru  
application/ssdl+xml ssdl  
application/ssml+xml ssml  
# application/tamp-apex-update  
# application/tamp-apex-update-confirm  
# application/tamp-community-update  
# application/tamp-community-update-confirm  
#  
application/tamp-error  
# application/tamp-sequence-adjust  
# application/tamp-sequence-adjust-confirm  
# application/tamp-status-query  
# application/tamp-status-response  
# application/tamp-update  
# application/tamp-update-confirm  
application/tei+xml tei teicorpus  
application/thraud+xml tfi  
# application/timestamp-query  
# application/timestamp-reply  
application/timestamped-data tsd  
# application/ttml+xml  
# application/tve-trigger  
# application/ulpfec  
# application/urc-grpsheet+xml  
# application/urc-ressheet+xml  
# application/urc-targetdesc+xml  
# application/urc-uisocketdesc+xml  
# application/vcard+json  
# application/vcard+xml  
# application/vemmi  
# application/vividence.scriptfile  
# application/vnd.3gpp-prose+xml  
# application/vnd.3gpp-prose-pc3ch+xml  
# application/vnd.3gpp.access-transfer-events+xml  
# application/vnd.3gpp.bsf+xml  
# application/vnd.3gpp.mid-call+xml  
application/vnd.3gpp.pic-bw-large plb  
application/vnd.3gpp.pic-bw-small psb  
application/vnd.3gpp.pic-bw-var pvb  
#  
application/vnd.3gpp.sms  
# application/vnd.3gpp.sms+xml

```
application/vnd.3gpp.srvcc-ext+xml
application/vnd.3gpp.srvcc-info+xml
application/vnd.3gpp.state-and-event-info+xml
application/vnd.3gpp.ussd+xml
application/vnd.3gpp2.bcmcsinfo+xml
application/vnd.3gpp2.sms
application/vnd.3gpp2.tcap tcap
application/vnd.3lightssoftware.imagescal
application/vnd.3m.post-it-notes pwn
application/vnd.accpac.simply.aso aso
application/vnd.accpac.simply.imp imp
application/vnd.acucobol acu
application/vnd.acucorp atc acute
application/vnd.adobe.air-application-installer-package+zip air
application/vnd.adobe.flash.movie
application/vnd.adobe.formscentral.fcdt fcdt
application/vnd.adobe.fxp fxp fxpl
application/vnd.adobe.partial-upload
application/vnd.adobe.xdp+xml xdp
application/vnd.adobe.xfdf xfdf
application/vnd.aether.imp
application/vnd.ah-barcode
application/vnd.ahead.space ahead
application/vnd.airzip.filesecure.azf azf
application/vnd.airzip.filesecure.azs azs
application/vnd.amazon.ebook azw
#
application/vnd.amazon.mobi8-ebook
application/vnd.americandynamics.acc acc
application/vnd.amiga.ami ami
application/vnd.amundsen.maze+xml
application/vnd.android.package-archive apk
application/vnd.anki
application/vnd.anser-web-certificate-issue-initiation cii
application/vnd.anser-web-funds-transfer-initiation fti
application/vnd.antix.game-component atx
application/vnd.apache.thrift.binary
application/vnd.apache.thrift.compact
application/vnd.apache.thrift.json
application/vnd.api+json
application/vnd.apple.installer+xml mpkg
application/vnd.apple.mpegurl m3u8
application/vnd.arastra.swi
application/vnd.aristanetworks.swi swi
application/vnd.artsquare
application/vnd.astraea-software.iota iota
application/vnd.audiograph aep
application/vnd.autopackage
```



```

application/vnd.avistar+xml
application/vnd.balsamiq.bmml+xml
application/vnd.balsamiq.bmpr
application/vnd.bekitzur-stech+json
application/vnd.biopax.rdf+xml
application/vnd.blueice.multipass mpm
#
application/vnd.bluetooth.ep.oob
application/vnd.bluetooth.le.oob
application/vnd.bmi bmi
application/vnd.businessobjects rep
application/vnd.cab-jscript
application/vnd.canon-cpdl
application/vnd.canon-lips
application/vnd.cendio.thinlinc.clientconf
application/vnd.century-systems.tcp_stream
application/vnd.chemdraw+xml cdxml
application/vnd.chess-pgn
application/vnd.chipnuts.karaoke-mmd mmd
application/vnd.cinderella cdy
application/vnd.cirpack.isdn-ext
application/vnd.citationstyles.style+xml
application/vnd.claymore cla
application/vnd.cloanto.rp9 rp9
application/vnd.clonk.c4group c4g c4d c4f c4p c4u
application/vnd.cluetrust.cartomobile-config c11amc
application/vnd.cluetrust.cartomobile-config-pkg c11amz
application/vnd.coffeescript
application/vnd.collection+json
application/vnd.collection.doc+json
application/vnd.collection.next+json
application/vnd.comicbook+zip
#
application/vnd.commerce-battelle
application/vnd.commonspace csp
application/vnd.contact.cmsg cdbcmg
application/vnd.coreos.ignition+json
application/vnd.cosmocaller cmc
application/vnd.crick.clicker clkx
application/vnd.crick.clicker.keyboard clkk
application/vnd.crick.clicker.palette clkp
application/vnd.crick.clicker.template clkt
application/vnd.crick.clicker.wordbank clkw
application/vnd.criticaltools.wbs+xml wbs
application/vnd.ctc-posml pml
application/vnd.ctct.ws+xml
application/vnd.cups-pdf
application/vnd.cups-postscript

```

application/vnd.cups-ppd ppd  
# application/vnd.cups-raster  
# application/vnd.cups-raw  
# application/vnd.curl  
application/vnd.curl.car car  
application/vnd.curl.pcurl pcurl  
# application/vnd.cyan.dean.root+xml  
# application/vnd.cybank  
application/vnd.dart dart  
application/vnd.data-vision.rdz rdz  
# application/vnd.debian.binary-package  
application/vnd.dece.data uvf uvvf uvd uvvd  
application/vnd.dece.ttml+xml uvt uvvt  
application/vnd.dece. unspecified uvx  
uvvx  
application/vnd.dece.zip uvz uvvz  
application/vnd.denovo.fcselayout-link fe\_launch  
# application/vnd.desmume.movie  
# application/vnd.dir-bi.plate-dl-nosuffix  
# application/vnd.dm.delegation+xml  
application/vnd.dna dna  
# application/vnd.document+json  
application/vnd.dolby.mlp mlp  
# application/vnd.dolby.mobile.1  
# application/vnd.dolby.mobile.2  
# application/vnd.doremir.scorecloud-binary-document  
application/vnd.dpgraph dpg  
application/vnd.dreamfactory dfac  
# application/vnd.drive+json  
application/vnd.ds-keypoint kpxx  
# application/vnd.dtg.local  
# application/vnd.dtg.local.flash  
# application/vnd.dtg.local.html  
application/vnd.dvb.ait ait  
# application/vnd.dvb.dvbj  
# application/vnd.dvb.esgcontainer  
# application/vnd.dvb.ipdcdfnotifaccess  
# application/vnd.dvb.ipdcesgaccess  
# application/vnd.dvb.ipdcesgaccess2  
# application/vnd.dvb.ipdcesgpdd  
# application/vnd.dvb.ipdcroaming  
# application/vnd.dvb.iptv.alfec-base  
# application/vnd.dvb.iptv.alfec-enhancement  
#  
application/vnd.dvb.notif-aggregate-root+xml  
# application/vnd.dvb.notif-container+xml  
# application/vnd.dvb.notif-generic+xml  
# application/vnd.dvb.notif-ia-msglist+xml

```
application/vnd.dvb.notif-ia-registration-request+xml
application/vnd.dvb.notif-ia-registration-response+xml
application/vnd.dvb.notif-init+xml
application/vnd.dvb.pfr
application/vnd.dvb.service svc
application/vnd.dxr
application/vnd.dynageo geo
application/vnd.dzr
application/vnd.easykaraoke.cdgdownload
application/vnd.ecdis-update
application/vnd.ecowin.chart mag
application/vnd.ecowin.filerequest
application/vnd.ecowin.fileupdate
application/vnd.ecowin.series
application/vnd.ecowin.seriesrequest
application/vnd.ecowin.seriesupdate
application/vnd.emclient.accessrequest+xml
application/vnd.enliven nml
application/vnd.enphase.envoy
application/vnd.eprints.data+xml
application/vnd.epson.esf esf
application/vnd.epson.msf msf
application/vnd.epson.quickanime qam
application/vnd.epson.salt slt
application/vnd.epson.ssf ssf
#
application/vnd.ericsson.quickcall
application/vnd.eszigno3+xml es3 et3
application/vnd.etsi.aoc+xml
application/vnd.etsi.asic-e+zip
application/vnd.etsi.asic-s+zip
application/vnd.etsi.cug+xml
application/vnd.etsi.iptvcommand+xml
application/vnd.etsi.iptvdiscovery+xml
application/vnd.etsi.iptvprofile+xml
application/vnd.etsi.iptvsad-bc+xml
application/vnd.etsi.iptvsad-cod+xml
application/vnd.etsi.iptvsad-npvr+xml
application/vnd.etsi.iptvservice+xml
application/vnd.etsi.iptvsync+xml
application/vnd.etsi.iptvueprofile+xml
application/vnd.etsi.mcid+xml
application/vnd.etsi.mheg5
application/vnd.etsi.overload-control-policy-dataset+xml
application/vnd.etsi.pstn+xml
application/vnd.etsi.sci+xml
application/vnd.etsi.simservs+xml
application/vnd.etsi.timestamp-token
```

```
application/vnd.etsi.tsl+xml
application/vnd.etsi.tsl.der
application/vnd.eudora.data
application/vnd.ezpix-album ez2
application/vnd.ezpix-package ez3
#
 application/vnd.f-secure.mobile
application/vnd.fastcopy-disk-image
application/vnd.fdf fdf
application/vnd.fdsn.mseed mseed
application/vnd.fdsn.seed seed dataless
application/vnd.ffsns
application/vnd.filmit.zfc
application/vnd.fints
application/vnd.firemonkeys.cloudcell
application/vnd.flographit gph
application/vnd.fluxtime.clip ftc
application/vnd.font-fontforge-sfd
application/vnd.frameMaker fm frame maker book
application/vnd.frogans.fnc fnc
application/vnd.frogans.ltf ltf
application/vnd.fsc.weblaunch fsc
application/vnd.fujitsu.oasys oas
application/vnd.fujitsu.oasys2 oa2
application/vnd.fujitsu.oasys3 oa3
application/vnd.fujitsu.oasysgp fg5
application/vnd.fujitsu.oasysprs bh2
application/vnd.fujixerox.art-ex
application/vnd.fujixerox.art4
application/vnd.fujixerox.ddd ddd
application/vnd.fujixerox.docuworks xdw
application/vnd.fujixerox.docuworks.binder xbd
application/vnd.fujixerox.docuworks.container
#
 application/vnd.fujixerox.hbpl
application/vnd.fut-misnet
application/vnd.fuzzysheet fzs
application/vnd.genomatix.tuxedo txd
application/vnd.geo+json
application/vnd.geocube+xml
application/vnd.geogebra.file ggb
application/vnd.geogebra.tool ggt
application/vnd.geometry-explorer gex gre
application/vnd.geonext gxt
application/vnd.geoplan g2w
application/vnd.geospace g3w
application/vnd.gerber
application/vnd.globalplatform.card-content-mgt
```

```
application/vnd.globalplatform.card-content-mgt-response
application/vnd.gmx gmx
application/vnd.google-earth.kml+xml kml
application/vnd.google-earth.kmz kmz
application/vnd.gov.sk.e-form+xml
application/vnd.gov.sk.e-form+zip
application/vnd.gov.sk.xmldatacontainer+xml
application/vnd.grafeq gqf gqs
application/vnd.gridmp
application/vnd.groove-account gac
application/vnd.groove-help ghf
application/vnd.groove-identity-message gim
application/vnd.groove-injector grv
application/vnd.groove-tool-message gtm
application/vnd.groove-tool-template tpl
application/vnd.groove-vcard vcg
#
 application/vnd.hal+json
application/vnd.hal+xml hal
application/vnd.handheld-entertainment+xml zmm
application/vnd.hbci hbci
application/vnd.hcl-bireports
application/vnd.hdt
application/vnd.heroku+json
application/vnd.hhe.lesson-player les
application/vnd.hp-hpgl hpgl
application/vnd.hp-hpid hpid
application/vnd.hp-hps hps
application/vnd.hp-jlyt jlt
application/vnd.hp-pcl pcl
application/vnd.hp-pclxl pclxl
application/vnd.httpphone
application/vnd.hydrostatix.sof-data sfd-hdstx
application/vnd.hyperdrive+json
application/vnd.hzn-3d-crossword
application/vnd.ibm.afplinedata
application/vnd.ibm.electronic-media
application/vnd.ibm.minipay mpy
application/vnd.ibm.modcap afp listafp list3820
application/vnd.ibm.rights-management irm
application/vnd.ibm.secure-container sc
application/vnd.iccprofile icc icm
#
 application/vnd.ieee.1905
application/vnd.igloader igl
application/vnd.immervision-ivp ivp
application/vnd.immervision-ivu ivu
application/vnd.ims.imsccv1p1
```

# application/vnd.ims.imsccv1p2  
# application/vnd.ims.imsccv1p3  
# application/vnd.ims.lis.v2.result+json  
# application/vnd.ims.lti.v2.toolconsumerprofile+json  
# application/vnd.ims.lti.v2.toolproxy+json  
# application/vnd.ims.lti.v2.toolproxy.id+json  
# application/vnd.ims.lti.v2.toolsettings+json  
# application/vnd.ims.lti.v2.toolsettings.simple+json  
# application/vnd.informedcontrol.rms+xml  
# application/vnd.informix-visionary  
# application/vnd.infotech.project  
# application/vnd.infotech.project+xml  
# application/vnd.innopath.wamp.notification  
application/vnd.insors.igm igm  
application/vnd.intercon.formnet xpw xpx  
application/vnd.intergeo i2g  
# application/vnd.intertrust.digibox  
# application/vnd.intertrust.nncp  
application/vnd.intu.qbo qbo  
application/vnd.intu.qfx qfx  
# application/vnd.iptc.g2.catalogitem+xml  
# application/vnd.iptc.g2.conceptitem+xml  
#  
application/vnd.iptc.g2.knowledgeitem+xml  
# application/vnd.iptc.g2.newsitem+xml  
# application/vnd.iptc.g2.newsmessage+xml  
# application/vnd.iptc.g2.packageitem+xml  
# application/vnd.iptc.g2.planningitem+xml  
application/vnd.ipunplugged.rcprofile rcprofile  
application/vnd.irepository.package+xml irp  
application/vnd.is-xpr xpr  
application/vnd.isac.fcs fcs  
application/vnd.jam jam  
# application/vnd.japannet-directory-service  
# application/vnd.japannet-jpnstore-wakeup  
# application/vnd.japannet-payment-wakeup  
# application/vnd.japannet-registration  
# application/vnd.japannet-registration-wakeup  
# application/vnd.japannet-setstore-wakeup  
# application/vnd.japannet-verification  
# application/vnd.japannet-verification-wakeup  
application/vnd.jcp.javame.midlet-rms rms  
application/vnd.jisp jisp  
application/vnd.joost.joda-archive joda  
# application/vnd.jsk.isdn-ngn  
application/vnd.kahootz ktz ktr  
application/vnd.kde.karbon karbon  
application/vnd.kde.kchart chrt

application/vnd.kde.kformula kfo  
application/vnd.kde.kivio flw  
application/vnd.kde.kontour kon  
application/vnd.kde.kpresenter kpr  
kpt  
application/vnd.kde.kspread ksp  
application/vnd.kde.kword kwd kwt  
application/vnd.kenameaapp htke  
application/vnd.kidspiration kia  
application/vnd.kinar kne knp  
application/vnd.koan skp skd skt skm  
application/vnd.kodak-descriptor sse  
application/vnd.las.las+xml lasxml  
# application/vnd.liberty-request+xml  
application/vnd.llamagraphics.life-balance.desktop lbd  
application/vnd.llamagraphics.life-balance.exchange+xml lbe  
application/vnd.lotus-1-2-3 123  
application/vnd.lotus-approach apr  
application/vnd.lotus-freelance pre  
application/vnd.lotus-notes nsf  
application/vnd.lotus-organizer org  
application/vnd.lotus-screencam scm  
application/vnd.lotus-wordpro lwp  
application/vnd.macports.portpkg portpkg  
# application/vnd.mapbox-vector-tile  
# application/vnd.marlin.drm.actiontoken+xml  
# application/vnd.marlin.drm.conftoken+xml  
#  
application/vnd.marlin.drm.license+xml  
# application/vnd.marlin.drm.mdcf  
# application/vnd.mason+json  
# application/vnd.maxmind.maxmind-db  
application/vnd.mcd mcd  
application/vnd.medcalldata mc1  
application/vnd.mediastation.cdkey cdkey  
# application/vnd.meridian-slideshow  
application/vnd.mfer mwf  
application/vnd.mfmp mfm  
# application/vnd.micro+json  
application/vnd.micrografx.flo flo  
application/vnd.micrografx.igx igx  
# application/vnd.microsoft.portable-executable  
# application/vnd.miele+json  
application/vnd.mif mif  
# application/vnd.minisoft-hp3000-save  
# application/vnd.mitsubishi.misty-guard.trustweb  
application/vnd.mobius.daf daf  
application/vnd.mobius.dis dis

application/vnd.mobius.mbk mbk  
application/vnd.mobius.mqy mqy  
application/vnd.mobius.msl msl  
application/vnd.mobius.plc plc  
application/vnd.mobius.txf txf  
application/vnd.mophun.application mpn  
application/vnd.mophun.certificate mpc  
# application/vnd.motorola.flexsuite  
#  
application/vnd.motorola.flexsuite.adi  
# application/vnd.motorola.flexsuite.fis  
# application/vnd.motorola.flexsuite.gotap  
# application/vnd.motorola.flexsuite.kmr  
# application/vnd.motorola.flexsuite.ttc  
# application/vnd.motorola.flexsuite.wem  
# application/vnd.motorola.iprm  
application/vnd.mozilla.xul+xml xul  
# application/vnd.ms-3mfdocument  
application/vnd.ms-artgalry cil  
# application/vnd.ms-asf  
application/vnd.ms-cab-compressed cab  
# application/vnd.ms-color.iccprofile  
application/vnd.ms-excel xls xlm xla xlc xlt xlw  
application/vnd.ms-excel.addin.macroenabled.12 xlam  
application/vnd.ms-excel.sheet.binary.macroenabled.12 xlsb  
application/vnd.ms-excel.sheet.macroenabled.12 xlsx  
application/vnd.ms-excel.template.macroenabled.12 xltm  
application/vnd.ms-fontobject eot  
application/vnd.ms-htmlhelp chm  
application/vnd.ms-ims ims  
application/vnd.ms-lrm lrm  
# application/vnd.ms-office.activex+xml  
application/vnd.ms-officetheme thmx  
# application/vnd.ms-opentype  
#  
application/vnd.ms-package.obfuscated-opentype  
application/vnd.ms-pki.seccat cat  
application/vnd.ms-pki.stl stl  
# application/vnd.ms-playready.initiator+xml  
application/vnd.ms-powerpoint ppt pps pot  
application/vnd.ms-powerpoint.addin.macroenabled.12 ppam  
application/vnd.ms-powerpoint.presentation.macroenabled.12 pptm  
application/vnd.ms-powerpoint.slide.macroenabled.12 sldm  
application/vnd.ms-powerpoint.slideshow.macroenabled.12 ppsm  
application/vnd.ms-powerpoint.template.macroenabled.12 potm  
# application/vnd.ms-printdevicecapabilities+xml  
# application/vnd.ms-printing.printticket+xml  
# application/vnd.ms-printschematicket+xml



application/vnd.ms-project mpp mpt  
# application/vnd.ms-tnef  
# application/vnd.ms-windows.devicepairing  
# application/vnd.ms-windows.nwprinting.oob  
# application/vnd.ms-windows.printerpairing  
# application/vnd.ms-windows.wsd.oob  
# application/vnd.ms-wmdrm.lic-chlg-req  
# application/vnd.ms-wmdrm.lic-resp  
# application/vnd.ms-wmdrm.meter-chlg-req  
#  
application/vnd.ms-wmdrm.meter-resp  
application/vnd.ms-word.document.macroenabled.12 docm  
application/vnd.ms-word.template.macroenabled.12 dotm  
application/vnd.ms-works wps wks wcm wdb  
application/vnd.ms-wpl wpl  
application/vnd.ms-xpsdocument xps  
# application/vnd.msa-disk-image  
application/vnd.mseq mseq  
# application/vnd.msign  
# application/vnd.multiad.creator  
# application/vnd.multiad.creator.cif  
# application/vnd.music-niff  
application/vnd.musician mus  
application/vnd.muvee.style msty  
application/vnd.mynfc taglet  
# application/vnd.ncd.control  
# application/vnd.ncd.reference  
# application/vnd.nervana  
# application/vnd.netfpx  
application/vnd.neurolanguage.nlu nlu  
# application/vnd.nintendo.nitro.rom  
# application/vnd.nintendo.snes.rom  
application/vnd.nitf ntf nitf  
application/vnd.noblenet-directory nnd  
application/vnd.noblenet-sealer nns  
application/vnd.noblenet-web nnw  
# application/vnd.nokia.catalogs  
# application/vnd.nokia.conml+wbxml  
# application/vnd.nokia.conml+xml  
#  
application/vnd.nokia.iptv.config+xml  
# application/vnd.nokia.isds-radio-presets  
# application/vnd.nokia.landmark+wbxml  
# application/vnd.nokia.landmark+xml  
# application/vnd.nokia.landmarkcollection+xml  
# application/vnd.nokia.n-gage.ac+xml  
application/vnd.nokia.n-gage.data ngdat  
application/vnd.nokia.n-gage.symbian.install n-gage

```
application/vnd.nokia.ncd
application/vnd.nokia.pcd+wxml
application/vnd.nokia.pcd+xml
application/vnd.nokia.radio-preset rpst
application/vnd.nokia.radio-presets rpss
application/vnd.novadigm.edm edm
application/vnd.novadigm.edx edx
application/vnd.novadigm.ext ext
application/vnd.ntt-local.content-share
application/vnd.ntt-local.file-transfer
application/vnd.ntt-local.ogw_remote-access
application/vnd.ntt-local.sip-ta_remote
application/vnd.ntt-local.sip-ta_tcp_stream
application/vnd.oasis.opendocument.chart odc
application/vnd.oasis.opendocument.chart-template otc
application/vnd.oasis.opendocument.database odb
application/vnd.oasis.opendocument.formula odf
application/vnd.oasis.opendocument.formula-template odft
application/vnd.oasis.opendocument.graphics odg
application/vnd.oasis.opendocument.graphics-template otg
application/vnd.oasis.opendocument.image odi
application/vnd.oasis.opendocument.image-template oti
application/vnd.oasis.opendocument.presentation odp
application/vnd.oasis.opendocument.presentation-template otp
application/vnd.oasis.opendocument.spreadsheet ods
application/vnd.oasis.opendocument.spreadsheet-template ots
application/vnd.oasis.opendocument.text odt
application/vnd.oasis.opendocument.text-master odm
application/vnd.oasis.opendocument.text-template ott
application/vnd.oasis.opendocument.text-web oth
#
application/vnd.obn
application/vnd.ofn.110n+json
application/vnd.oipf.contentaccessdownload+xml
application/vnd.oipf.contentaccessstreaming+xml
application/vnd.oipf.cspg-hexbinary
application/vnd.oipf.dae.svg+xml
application/vnd.oipf.dae.xhtml+xml
#
application/vnd.oipf.mippvcontrolmessage+xml
application/vnd.oipf.pae.gem
application/vnd.oipf.spdiscovery+xml
application/vnd.oipf.spdlist+xml
application/vnd.oipf.ueprofile+xml
application/vnd.oipf.userprofile+xml
application/vnd.olpc-sugar xo
application/vnd.oma-scws-config
application/vnd.oma-scws-http-request
```

```

application/vnd.oma-scws-http-response
application/vnd.oma.bcast.associated-procedure-parameter+xml
application/vnd.oma.bcast.drm-trigger+xml
application/vnd.oma.bcast.imd+xml
application/vnd.oma.bcast.ltkm
application/vnd.oma.bcast.notification+xml
application/vnd.oma.bcast.provisioningtrigger
application/vnd.oma.bcast.sgboot
application/vnd.oma.bcast.sgdd+xml
application/vnd.oma.bcast.sgdu
application/vnd.oma.bcast.simple-symbol-container
application/vnd.oma.bcast.smartcard-trigger+xml
application/vnd.oma.bcast.sprov+xml
application/vnd.oma.bcast.stkm
application/vnd.oma.cab-address-book+xml
application/vnd.oma.cab-feature-handler+xml
#
 application/vnd.oma.cab-pcc+xml
application/vnd.oma.cab-sub-invite+xml
application/vnd.oma.cab-user-prefs+xml
application/vnd.oma.dcd
application/vnd.oma.dcdc
application/vnd.oma.dd2+xml dd2
application/vnd.oma.drm.risd+xml
application/vnd.oma.group-usage-list+xml
application/vnd.oma.lwm2m+json
application/vnd.oma.lwm2m+tlv
application/vnd.oma.pal+xml
application/vnd.oma.poc.detailed-progress-report+xml
application/vnd.oma.poc.final-report+xml
application/vnd.oma.poc.groups+xml
application/vnd.oma.poc.invocation-descriptor+xml
application/vnd.oma.poc.optimized-progress-report+xml
application/vnd.oma.push
application/vnd.oma.scidm.messages+xml
application/vnd.oma.xcap-directory+xml
application/vnd.omads-email+xml
application/vnd.omads-file+xml
application/vnd.omads-folder+xml
application/vnd.omaloc-supl-init
application/vnd.onepager
application/vnd.openblox.game+xml
application/vnd.openblox.game-binary
application/vnd.openeye.oeb
application/vnd.openofficeorg.extension oxt
#
 application/vnd.openxmlformats-officedocument.custom-properties+xml
application/vnd.openxmlformats-officedocument.customxmlproperties+xml

```

# application/vnd.openxmlformats-officedocument.drawing+xml  
# application/vnd.openxmlformats-officedocument.drawingml.chart+xml  
# application/vnd.openxmlformats-officedocument.drawingml.chartshapes+xml  
# application/vnd.openxmlformats-officedocument.drawingml.diagramcolors+xml  
# application/vnd.openxmlformats-officedocument.drawingml.diagramdata+xml  
# application/vnd.openxmlformats-officedocument.drawingml.diagramlayout+xml  
# application/vnd.openxmlformats-officedocument.drawingml.diagramstyle+xml  
# application/vnd.openxmlformats-officedocument.extended-properties+xml  
# application/vnd.openxmlformats-officedocument.presentationml.commentauthors+xml  
# application/vnd.openxmlformats-officedocument.presentationml.comments+xml  
# application/vnd.openxmlformats-officedocument.presentationml.handoutmaster+xml  
#  
application/vnd.openxmlformats-officedocument.presentationml.notesmaster+xml  
# application/vnd.openxmlformats-officedocument.presentationml.noteslide+xml  
application/vnd.openxmlformats-officedocument.presentationml.presentation pptx  
# application/vnd.openxmlformats-officedocument.presentationml.presentation.main+xml  
# application/vnd.openxmlformats-officedocument.presentationml.presprops+xml  
application/vnd.openxmlformats-officedocument.presentationml.slide sldx  
# application/vnd.openxmlformats-officedocument.presentationml.slide+xml  
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# application/vnd.powerbuilder75-s  
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# application/vnd.radisys.msml-dialog-transform+xml  
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# application/vnd.rapid  
# application/vnd.rar  
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application/vnd.recordare.musicxml+xml musicxml  
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application/vnd.rim.cod cod  
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# application/vnd.s3sms  
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# application/vnd.sbm.mid2  
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application/vnd.shana.informed.interchange iif  
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twds  
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# application/vnd.syncml.dmtnds+xml  
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# application/vnd.uplanet.list-wbxml  
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# application/vnd.vd-study  
# application/vnd.vectorworks  
# application/vnd.vel+json  
# application/vnd.verimatrix.vcas  
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vst vss vsw  
application/vnd.visionary vis  
# application/vnd.vividence.scriptfile  
application/vnd.vsf vsf  
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# application/vnd.wv.csp+xml  
# application/vnd.wv.ssp+xml  
# application/vnd.xacml+json  
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application/vnd.xfdl xfdl  
# application/vnd.xfdl.webform  
# application/vnd.xmi+xml

```
application/vnd.xmpie.cpkg
#
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application/vnd.xmpie.xlim
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application/vnd.yamaha.hv-voice hvp
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application/vnd.yamaha.smaf-audio saf
application/vnd.yamaha.smaf-phrase spf
application/vnd.yamaha.through-ngn
application/vnd.yamaha.tunnel-udpencap
application/vnd.yaoweme
application/vnd.yellowriver-custom-menu cmp
application/vnd.zul zir zirz
application/vnd.zzazz.deck+xml zaz
application/voicexml+xml vxml
application/vq-rtcpxr
application/watcherinfo+xml
application/whoispp-query
application/whoispp-response
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application/winhelp hlp
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application/wspolicy+xml wspolicy
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application/x-abiword abw
application/x-ace-compressed ace
#
application/x-amf
application/x-apple-diskimage dmg
application/x-authorware-bin aab x32 u32 vox
application/x-authorware-map aam
application/x-authorware-seg aas
application/x-bcpio bcpio
application/x-bittorrent torrent
application/x-blorb blb blorb
application/x-bzip bz
application/x-bzip2 bz2 boz
application/x-cbr cbr cba cbt cbz cb7
application/x-cdlink vcd
application/x-cfs-compressed cfs
```

application/x-chat chat  
application/x-chess-pgn pgn  
# application/x-compress  
application/x-conference nsc  
application/x-cpio cpio  
application/x-csh csh  
application/x-debian-package deb udeb  
application/x-dgc-compressed dgc  
application/x-director dir dcr dxr cst cct cxt w3d fgd swa  
application/x-doom wad  
application/x-dtbncx+xml ncx  
application/x-dtbook+xml dtb  
application/x-dtbresource+xml res  
application/x-dvi dvi  
application/x-envoy evy  
application/x-eva eva  
application/x-font-bdf bdf  
#  
application/x-font-dos  
# application/x-font-framemaker  
application/x-font-ghostscript gsf  
# application/x-font-libgrx  
application/x-font-linux-psf psf  
application/x-font-pcf pcf  
application/x-font-snf snf  
# application/x-font-speedo  
# application/x-font-sunos-news  
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# application/x-font-vfont  
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application/x-futuresplash spl  
application/x-gca-compressed gca  
application/x-glulx ulx  
application/x-gnumeric gnumeric  
application/x-gramps-xml gramps  
application/x-gtar gtar  
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application/x-hdf hdf  
application/x-install-instructions install  
application/x-iso9660-image iso  
application/x-java-jnlp-file jnlp  
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application/x-ms-wmz wmz  
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application/x-mscardfile crd  
application/x-msclip clp  
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dll com bat msi  
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application/x-nzb nzb  
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application/x-pkcs7-certificates p7b spc  
application/x-pkcs7-certreqresp p7r  
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application/x-shar shar  
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application/x-stuffitx sitx  
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application/x-sv4crc sv4crc  
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texi  
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application/x-xliff+xml xlf  
application/x-xpinstall xpi

application/x-xz xz  
application/x-zmachine z1 z2 z3 z4 z5 z6 z7 z8  
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# application/xcap-att+xml  
# application/xcap-caps+xml  
application/xcap-diff+xml xdf  
# application/xcap-el+xml  
# application/xcap-error+xml  
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application/xproc+xml xpl  
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application/xspf+xml xspf  
application/xv+xml mxml xhvm xvm xvm  
application/yang yang  
application/yin+xml yin  
application/zip zip  
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# audio/32kadpcm  
# audio/3gpp  
# audio/3gpp2  
# audio/ac3  
audio/adpcm adp  
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# audio/amr-wb  
# audio/amr-wb+  
# audio/aptx  
# audio/asc  
# audio/atrac-advanced-lossless  
# audio/atrac-x  
# audio/atrac3  
audio/basic au snd  
# audio/bv16  
# audio/bv32

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audio/cn
audio/dat12
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audio/dsr-es201108
audio/dsr-es202050
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audio/dsr-es202212
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audio/g726-40
audio/g728
audio/g729
audio/g7291
audio/g729d
audio/g729e
audio/gsm
audio/gsm-efr
audio/gsm-hr-08
audio/ilbc
audio/ip-mr_v2.5
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# audio/isac  
# audio/116  
# audio/120  
# audio/124  
# audio/18  
# audio/lpc  
audio/midi mid midi kar rmi  
# audio/mobile-xmf  
audio/mp4 m4a mp4a  
# audio/mp4a-latm  
# audio/mpa  
# audio/mpa-robust  
audio/mpeg mpga mp2 mp2a mp3 m2a m3a  
# audio/mpeg4-generic  
# audio/musepack  
audio/ogg oga ogg spx  
# audio/opus  
# audio/parityfec  
# audio/pcma  
# audio/pcma-wb  
# audio/pcmu  
# audio/pcmu-wb  
# audio/prs.sid  
# audio/qcelp  
# audio/raptorfec  
# audio/red  
# audio/rtp-enc-aescm128  
# audio/rtp-midi  
# audio/rtploopback  
# audio/rtx  
audio/s3m s3m  
audio/silk sil  
# audio/smv  
# audio/smv-qcp  
# audio/smv0  
# audio/sp-midi  
# audio/speex  
# audio/t140c  
# audio/t38  
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audio/telephone-event  
# audio/tone  
# audio/uemclip  
# audio/ulpfec  
# audio/vdvi  
# audio/vmr-wb  
# audio/vnd.3gpp.iuftp  
# audio/vnd.4sb

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audio/vnd.audiokoz
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audio/vnd.cns.infl
audio/vnd.dece.audio uva uvva
audio/vnd.digital-winds eol
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audio/vnd.dts dts
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audio/vnd.rip rip
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audio/vorbis-config
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audio/x-caf caf
audio/x-flac flac
audio/x-matroska mka
audio/x-mpegurl m3u
audio/x-ms-wax wax
audio/x-ms-wma wma
```



audio/x-pn-realaudio ram ra  
audio/x-pn-realaudio-plugin rmp  
# audio/x-tta  
audio/x-wav wav  
audio/xm xm  
chemical/x-cdx cdx  
chemical/x-cif cif  
chemical/x-cmdf cmdf  
chemical/x-cml cml  
chemical/x-csml csml  
# chemical/x-pdb  
chemical/x-xyz xyz  
font/collection ttc  
font/otf otf  
# font/sfnt  
font/ttf ttf  
font/woff woff  
font/woff2 woff2  
image/bmp bmp  
image/cgm cgm  
# image/dicom-rle  
# image/emf  
# image/example  
# image/fits  
image/g3fax g3  
image/gif gif  
image/ief ief  
# image/jls  
# image/jp2  
image/jpeg jpeg jpg jpe  
# image/jpm  
# image/jpx  
image/ktx ktx  
# image/naplps  
image/png png  
image/prs.btif btif  
# image/prs.pti  
#  
image/pwg-raster  
image/sgi sgi  
image/svg+xml svg svgz  
# image/t38  
image/tiff tiff tif  
# image/tiff-fx  
image/vnd.adobe.photoshop psd  
# image/vnd.airzip.accelerator.azv  
# image/vnd.cns.inf2  
image/vnd.dece.graphic uvi uvvi uvg uvvg

image/vnd.djvu djvu djv  
image/vnd.dvb.subtitle sub  
image/vnd.dwg dwg  
image/vnd.dxf dxf  
image/vnd.fastbidsheet fbs  
image/vnd.fpx fpx  
image/vnd.fst fst  
image/vnd.fujixerox.edmics-mmr mmr  
image/vnd.fujixerox.edmics-rlc rlc  
# image/vnd.globalgraphics.pgb  
# image/vnd.microsoft.icon  
# image/vnd.mix  
# image/vnd.mozilla.apng  
image/vnd.ms-modi mdi  
image/vnd.ms-photo wdp  
image/vnd.net-fpx npx  
# image/vnd.radiance  
# image/vnd.sealed.png  
# image/vnd.sealedmedia.softseal.gif  
# image/vnd.sealedmedia.softseal.jpg  
# image/vnd.svf  
# image/vnd.tencent.tap  
# image/vnd.valve.source.texture  
image/vnd.wap.wbmp wbmp  
image/vnd.xiff xif  
# image/vnd.zbrush.pcx  
image/webp webp  
# image/wmf  
image/x-3ds 3ds  
image/x-cmu-raster ras  
image/x-cmx cmx  
image/x-freehand fh  
fhc fh4 fh5 fh7  
image/x-icon ico  
image/x-mrsid-image sid  
image/x-pcx pcx  
image/x-pict pic pct  
image/x-portable-anymap pnm  
image/x-portable-bitmap pbm  
image/x-portable-graymap pgm  
image/x-portable-pixmap ppm  
image/x-rgb rgb  
image/x-tga tga  
image/x-xbitmap xbm  
image/x-xpixmap xpm  
image/x-xwindowdump xwd  
# message/cpim  
# message/delivery-status

# message/disposition-notification  
# message/example  
# message/external-body  
# message/feedback-report  
# message/global  
# message/global-delivery-status  
# message/global-disposition-notification  
# message/global-headers  
# message/http  
# message/imdn+xml  
# message/news  
# message/partial  
message/rfc822 eml mime  
# message/s-http  
# message/sip  
# message/sipfrag  
# message/tracking-status  
# message/vnd.si.simp  
# message/vnd.wfa.wsc  
# model/example  
# model/gltf+json  
model/iges igs iges  
model/mesh msh mesh silo  
model/vnd.collada+xml dae  
model/vnd.dwf dwf  
#  
model/vnd.flatland.3dml  
model/vnd.gdl gdl  
# model/vnd.gs-gdl  
# model/vnd.gs.gdl  
model/vnd.gtw gtw  
# model/vnd.moml+xml  
model/vnd.mts mts  
# model/vnd.opengex  
# model/vnd.parasolid.transmit.binary  
# model/vnd.parasolid.transmit.text  
# model/vnd.rosette.annotated-data-model  
# model/vnd.valve.source.compiled-map  
model/vnd.vtu vtu  
model/vrml wrl vrml  
model/x3d+binary x3db x3dbz  
# model/x3d+fastinfoset  
model/x3d+vrml x3dv x3dvz  
model/x3d+xml x3d x3dz  
# model/x3d-vrml  
# multipart/alternative  
# multipart/appledouble  
# multipart/byteranges

```
multipart/digest
multipart/encrypted
multipart/example
multipart/form-data
multipart/header-set
multipart/mixed
multipart/parallel
multipart/related
multipart/report
multipart/signed
multipart/voice-message
multipart/x-mixed-replace
text/1d-interleaved-parityfec
text/cache-manifest appcache
text/calendar ics ifb
text/css css
text/csv csv
text/csv-schema
#
text/directory
text/dns
text/ecmascript
text/encaprtf
text/enriched
text/example
text/fwdred
text/grammar-ref-list
text/html html htm
text/javascript
text/jcr-cnd
text/markdown
text/mizar
text/n3 n3
text/parameters
text/parityfec
text/plain txt text conf def list log in
text/provenance-notation
text/prs.fallenstein.rst
text/prs.lines.tag dsc
text/prs.prop.logic
text/raptorfec
text/red
text/rfc822-headers
text/richtext rtx
text/rtf
text/rtp-enc-aescm128
text/rtploopback
text/rtx
```

text/sgml sgml sgm  
# text/t140  
text/tab-separated-values tsv  
text/troff t tr roff man me ms  
text/turtle ttl  
# text/ulpfec  
text/uri-list uri uris urls  
text/vcard vcard  
# text/vnd.a  
# text/vnd.abc  
text/vnd.curl curl  
text/vnd.curl.dcurl dcurl  
text/vnd.curl.mcurl mcurl  
text/vnd.curl.scurl scurl  
# text/vnd.debian.copyright  
# text/vnd.dmclientscript  
text/vnd.dvb.subtitle sub  
# text/vnd.esmertec.theme-descriptor  
text/vnd.fly fly  
text/vnd.fmi.flexstor flx  
text/vnd.graphviz gv  
text/vnd.in3d.3dml 3dml  
text/vnd.in3d.spot spot  
#  
text/vnd.iptc.newsml  
# text/vnd.iptc.nitf  
# text/vnd.latex-z  
# text/vnd.motorola.reflex  
# text/vnd.ms-mediapackage  
# text/vnd.net2phone.commcenter.command  
# text/vnd.radisys.msml-basic-layout  
# text/vnd.si.uricatalogue  
text/vnd.sun.j2me.app-descriptor jad  
# text/vnd.trolltech.linguist  
# text/vnd.wap.si  
# text/vnd.wap.sl  
text/vnd.wap.wml wml  
text/vnd.wap.wmlscript wmls  
text/x-asm s asm  
text/x-c c cc cxx cpp h hh dic  
text/x-fortran f for f77 f90  
text/x-java-source java  
text/x-nfo nfo  
text/x-opml opml  
text/x-pascal p pas  
text/x-setext etx  
text/x-sfv sfv  
text/x-uuencode uu

text/x-vcalendar vcs  
text/x-vcard vcf  
# text/xml  
# text/xml-external-parsed-entity  
# video/1d-interleaved-parityfec  
video/3gpp 3gp  
# video/3gpp-tt  
video/3gpp2 3g2  
# video/bmpeg  
# video/bt656  
# video/celb  
# video/dv  
# video/encaprtsp  
# video/example  
video/h261 h261  
video/h263 h263  
#  
video/h263-1998  
# video/h263-2000  
video/h264 h264  
# video/h264-rcdo  
# video/h264-svc  
# video/h265  
# video/iso.segment  
video/jpeg jpgv  
# video/jpeg2000  
video/jpm jpm jpgm  
video/mj2 mj2 mjp2  
# video/mp1s  
# video/mp2p  
# video/mp2t  
video/mp4 mp4 mp4v mpg4  
# video/mp4v-es  
video/mpeg mpeg mpg mpe m1v m2v  
# video/mpeg4-generic  
# video/mpv  
# video/nv  
video/ogg ogv  
# video/parityfec  
# video/pointer  
video/quicktime qt mov  
# video/raptorfec  
# video/raw  
# video/rtp-enc-aescm128  
# video/rtploopback  
# video/rtx  
# video/smp292m  
# video/ulpfec

```
video/vc1
video/vnd.cctv
video/vnd.dece.hd uvh uvvh
video/vnd.dece.mobile uvm uvvm
video/vnd.dece.mp4
video/vnd.dece.pd uvp uvvp
video/vnd.dece.sd uvs uvvs
video/vnd.dece.video uvv uvvv
video/vnd.directv.mpeg
video/vnd.directv.mpeg-tts
video/vnd.dlna.mpeg-tts
video/vnd.dvb.file dvb
video/vnd.fvt fvt
video/vnd.hns.video
video/vnd.iptvforum.1dparityfec-1010
#
 video/vnd.iptvforum.1dparityfec-2005
video/vnd.iptvforum.2dparityfec-1010
video/vnd.iptvforum.2dparityfec-2005
video/vnd.iptvforum.ttsavc
video/vnd.iptvforum.ttsmpeg2
video/vnd.motorola.video
video/vnd.motorola.videop
video/vnd.mpegurl mxu m4u
video/vnd.ms-playready.media.pyv pyv
video/vnd.nokia.interleaved-multimedia
video/vnd.nokia.videovoip
video/vnd.objectvideo
video/vnd.radgamettools.bink
video/vnd.radgamettools.smacker
video/vnd.sealed.mpeg1
video/vnd.sealed.mpeg4
video/vnd.sealed.swf
video/vnd.sealedmedia.softseal.mov
video/vnd.uvu.mp4 uvu uvvu
video/vnd.vivo viv
video/vp8
video/webm webm
video/x-f4v f4v
video/x-fli fli
video/x-flv flv
video/x-m4v m4v
video/x-matroska mkv mk3d mks
video/x-mng mng
video/x-ms-asf asf asx
video/x-ms-vob vob
video/x-ms-wm wm
video/x-ms-wmv wmv
```

video/x-ms-wmx wmx  
video/x-ms-wvx wvx  
video/x-msvideo avi  
video/x-sgi-movie movie  
video/x-smv smv  
x-conference/x-cooltalk ice

#### Found

in path(s):

\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/META-INF/http/mime.types

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Found in path(s):

\* /opt/cola/permits/1813842764\_1696535028.4447355/0/micronaut-http-3-10-1-sources-jar/META-INF/native-image/io.micronaut.http/micronaut-http/native-image.properties

## 1.128 micronaut-core-reactive 3.10.1

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\*/

Found in path(s):

\* /opt/cola/permits/1813842721\_1696535006.3432643/0/micronaut-core-reactive-3-10-1-sources-jar/io/micronaut/core/async/publisher/PublishersOptimizations.java

\* /opt/cola/permits/1813842721\_1696535006.3432643/0/micronaut-core-reactive-3-10-1-sources-



jar/io/micronaut/core/async/ReactiveStreamsTypeInfoProvider.java

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```

Found in path(s):

```
* /opt/cola/permits/1813842721_1696535006.3432643/0/micronaut-core-reactive-3-10-1-sources-jar/META-INF/native-image/io.micronaut/micronaut-core-reactive/native-image.properties
```

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```

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```

```
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```

```
*/
```

Found in path(s):

```
* /opt/cola/permits/1813842721_1696535006.3432643/0/micronaut-core-reactive-3-10-1-sources-jar/io/micronaut/core/async/annotation/SingleResult.java
```

```
* /opt/cola/permits/1813842721_1696535006.3432643/0/micronaut-core-reactive-3-10-1-sources-jar/io/micronaut/core/async/publisher/CompletableFuturePublisher.java
```

```
*
```

```
/opt/cola/permits/1813842721_1696535006.3432643/0/micronaut-core-reactive-3-10-1-sources-jar/io/micronaut/core/async/subscriber/SingleThreadedBufferingSubscriber.java
```

```
* /opt/cola/permits/1813842721_1696535006.3432643/0/micronaut-core-reactive-3-10-1-sources-jar/io/micronaut/core/async/publisher/Publishers.java
```

```
* /opt/cola/permits/1813842721_1696535006.3432643/0/micronaut-core-reactive-3-10-1-sources-jar/io/micronaut/core/async/processor/SingleThreadedBufferingProcessor.java
```

```
* /opt/cola/permits/1813842721_1696535006.3432643/0/micronaut-core-reactive-3-10-1-sources-jar/io/micronaut/core/async/subscriber/CompletionAwareSubscriber.java
```

```
* /opt/cola/permits/1813842721_1696535006.3432643/0/micronaut-core-reactive-3-10-1-sources-jar/io/micronaut/core/async/publisher/SingleSubscriberPublisher.java
```

```
* /opt/cola/permits/1813842721_1696535006.3432643/0/micronaut-core-reactive-3-10-1-sources-jar/io/micronaut/core/async/processor/package-info.java
```

```
* /opt/cola/permits/1813842721_1696535006.3432643/0/micronaut-core-reactive-3-10-1-sources-
```

```
jar/io/micronaut/core/async/subscriber/Emitter.java
*
/opt/cola/permits/1813842721_1696535006.3432643/0/micronaut-core-reactive-3-10-1-sources-
jar/io/micronaut/core/async/subscriber/package-info.java
* /opt/cola/permits/1813842721_1696535006.3432643/0/micronaut-core-reactive-3-10-1-sources-
jar/io/micronaut/core/async/package-info.java
* /opt/cola/permits/1813842721_1696535006.3432643/0/micronaut-core-reactive-3-10-1-sources-
jar/io/micronaut/core/async/subscriber/TypedSubscriber.java
* /opt/cola/permits/1813842721_1696535006.3432643/0/micronaut-core-reactive-3-10-1-sources-
jar/io/micronaut/core/async/subscriber/Completable.java
* /opt/cola/permits/1813842721_1696535006.3432643/0/micronaut-core-reactive-3-10-1-sources-
jar/io/micronaut/core/async/processor/SingleSubscriberProcessor.java
* /opt/cola/permits/1813842721_1696535006.3432643/0/micronaut-core-reactive-3-10-1-sources-
jar/io/micronaut/core/async/publisher/AsyncSingleResultPublisher.java
* /opt/cola/permits/1813842721_1696535006.3432643/0/micronaut-core-reactive-3-10-1-sources-
jar/io/micronaut/core/async/publisher/package-info.java
```

## 1.129 micronaut-websocket 3.10.1

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```

Found in path(s):

```
* /opt/cola/permits/1813842648_1696534993.578374/0/micronaut-websocket-3-10-1-sources-
jar/io/micronaut/websocket/WebSocketClientFactory.java
* /opt/cola/permits/1813842648_1696534993.578374/0/micronaut-websocket-3-10-1-sources-
jar/io/micronaut/websocket/WebSocketClientFactoryResolver.java
* /opt/cola/permits/1813842648_1696534993.578374/0/micronaut-websocket-3-10-1-sources-
jar/io/micronaut/websocket/WebSocketPongMessage.java
```

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```

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```
* /opt/cola/permits/1813842648_1696534993.578374/0/micronaut-websocket-3-10-1-sources-
jar/io/micronaut/websocket/context/DefaultWebSocketBeanRegistry.java
* /opt/cola/permits/1813842648_1696534993.578374/0/micronaut-websocket-3-10-1-sources-
jar/io/micronaut/websocket/exceptions/WebSocketClientException.java
*
/opt/cola/permits/1813842648_1696534993.578374/0/micronaut-websocket-3-10-1-sources-
jar/io/micronaut/websocket/bind/package-info.java
* /opt/cola/permits/1813842648_1696534993.578374/0/micronaut-websocket-3-10-1-sources-
jar/io/micronaut/websocket/WebSocketClientRegistry.java
* /opt/cola/permits/1813842648_1696534993.578374/0/micronaut-websocket-3-10-1-sources-
jar/io/micronaut/websocket/annotation/OnMessage.java
* /opt/cola/permits/1813842648_1696534993.578374/0/micronaut-websocket-3-10-1-sources-
jar/io/micronaut/websocket/context/WebSocketBeanRegistry.java
* /opt/cola/permits/1813842648_1696534993.578374/0/micronaut-websocket-3-10-1-sources-
jar/io/micronaut/websocket/bind/WebSocketStateBinder.java
* /opt/cola/permits/1813842648_1696534993.578374/0/micronaut-websocket-3-10-1-sources-
jar/io/micronaut/websocket/WebSocketSession.java
* /opt/cola/permits/1813842648_1696534993.578374/0/micronaut-websocket-3-10-1-sources-
jar/io/micronaut/websocket/annotation/ServerWebSocket.java
* /opt/cola/permits/1813842648_1696534993.578374/0/micronaut-websocket-3-10-1-sources-
jar/io/micronaut/websocket/annotation/OnError.java
*
/opt/cola/permits/1813842648_1696534993.578374/0/micronaut-websocket-3-10-1-sources-
jar/io/micronaut/websocket/WebSocketBroadcaster.java
* /opt/cola/permits/1813842648_1696534993.578374/0/micronaut-websocket-3-10-1-sources-
jar/io/micronaut/websocket/annotation/package-info.java
* /opt/cola/permits/1813842648_1696534993.578374/0/micronaut-websocket-3-10-1-sources-
jar/io/micronaut/websocket/context/package-info.java
* /opt/cola/permits/1813842648_1696534993.578374/0/micronaut-websocket-3-10-1-sources-
jar/io/micronaut/websocket/annotation/WebSocketComponent.java
* /opt/cola/permits/1813842648_1696534993.578374/0/micronaut-websocket-3-10-1-sources-
```

jar/io/micronaut/websocket/bind/WebSocketState.java  
\* /opt/cola/permits/1813842648\_1696534993.578374/0/micronaut-websocket-3-10-1-sources-  
jar/io/micronaut/websocket/annotation/OnOpen.java  
\* /opt/cola/permits/1813842648\_1696534993.578374/0/micronaut-websocket-3-10-1-sources-  
jar/io/micronaut/websocket/exceptions/WebSocketSessionException.java  
\*  
/opt/cola/permits/1813842648\_1696534993.578374/0/micronaut-websocket-3-10-1-sources-  
jar/io/micronaut/websocket/annotation/WebSocketMapping.java  
\* /opt/cola/permits/1813842648\_1696534993.578374/0/micronaut-websocket-3-10-1-sources-  
jar/io/micronaut/websocket/annotation/ClientWebSocket.java  
\* /opt/cola/permits/1813842648\_1696534993.578374/0/micronaut-websocket-3-10-1-sources-  
jar/io/micronaut/websocket/interceptor/WebSocketSessionAware.java  
\* /opt/cola/permits/1813842648\_1696534993.578374/0/micronaut-websocket-3-10-1-sources-  
jar/io/micronaut/websocket/event/WebSocketMessageProcessedEvent.java  
\* /opt/cola/permits/1813842648\_1696534993.578374/0/micronaut-websocket-3-10-1-sources-  
jar/io/micronaut/websocket/WebSocketVersion.java  
\* /opt/cola/permits/1813842648\_1696534993.578374/0/micronaut-websocket-3-10-1-sources-  
jar/io/micronaut/websocket/event/WebSocketSessionOpenEvent.java  
\*  
/opt/cola/permits/1813842648\_1696534993.578374/0/micronaut-websocket-3-10-1-sources-  
jar/io/micronaut/websocket/event/package-info.java  
\* /opt/cola/permits/1813842648\_1696534993.578374/0/micronaut-websocket-3-10-1-sources-  
jar/io/micronaut/websocket/annotation/OnClose.java  
\* /opt/cola/permits/1813842648\_1696534993.578374/0/micronaut-websocket-3-10-1-sources-  
jar/io/micronaut/websocket/CloseReason.java  
\* /opt/cola/permits/1813842648\_1696534993.578374/0/micronaut-websocket-3-10-1-sources-  
jar/io/micronaut/websocket/package-info.java  
\* /opt/cola/permits/1813842648\_1696534993.578374/0/micronaut-websocket-3-10-1-sources-  
jar/io/micronaut/websocket/exceptions/WebSocketException.java  
\* /opt/cola/permits/1813842648\_1696534993.578374/0/micronaut-websocket-3-10-1-sources-  
jar/io/micronaut/websocket/event/WebSocketEvent.java  
\* /opt/cola/permits/1813842648\_1696534993.578374/0/micronaut-websocket-3-10-1-sources-  
jar/io/micronaut/websocket/exceptions/package-info.java  
\* /opt/cola/permits/1813842648\_1696534993.578374/0/micronaut-websocket-3-10-1-sources-  
jar/io/micronaut/websocket/WebSocketClient.java  
\*  
/opt/cola/permits/1813842648\_1696534993.578374/0/micronaut-websocket-3-10-1-sources-  
jar/io/micronaut/websocket/context/WebSocketBean.java  
\* /opt/cola/permits/1813842648\_1696534993.578374/0/micronaut-websocket-3-10-1-sources-  
jar/io/micronaut/websocket/interceptor/package-info.java  
\* /opt/cola/permits/1813842648\_1696534993.578374/0/micronaut-websocket-3-10-1-sources-  
jar/io/micronaut/websocket/bind/WebSocketStateBinderRegistry.java  
\* /opt/cola/permits/1813842648\_1696534993.578374/0/micronaut-websocket-3-10-1-sources-  
jar/io/micronaut/websocket/event/WebSocketSessionClosedEvent.java  
\* /opt/cola/permits/1813842648\_1696534993.578374/0/micronaut-websocket-3-10-1-sources-  
jar/io/micronaut/websocket/interceptor/ClientWebSocketInterceptor.java

# 1.130 micronaut-json-core 3.10.1

## 1.130.1 Available under license :

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```
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 */
```

Found in path(s):

```
* /opt/cola/permits/1813842712_1696535008.1760628/0/micronaut-json-core-3-10-1-sources-
jar/io/micronaut/json/tree/JsonString.java
* /opt/cola/permits/1813842712_1696535008.1760628/0/micronaut-json-core-3-10-1-sources-
jar/io/micronaut/json/tree/JsonScalar.java
* /opt/cola/permits/1813842712_1696535008.1760628/0/micronaut-json-core-3-10-1-sources-
jar/io/micronaut/json/tree/JsonContainer.java
*
/opt/cola/permits/1813842712_1696535008.1760628/0/micronaut-json-core-3-10-1-sources-
jar/io/micronaut/json/tree/JsonBoolean.java
* /opt/cola/permits/1813842712_1696535008.1760628/0/micronaut-json-core-3-10-1-sources-
jar/io/micronaut/json/tree/JsonNull.java
* /opt/cola/permits/1813842712_1696535008.1760628/0/micronaut-json-core-3-10-1-sources-
jar/io/micronaut/json/tree/JsonObject.java
* /opt/cola/permits/1813842712_1696535008.1760628/0/micronaut-json-core-3-10-1-sources-
jar/io/micronaut/json/tree/JsonNode.java
* /opt/cola/permits/1813842712_1696535008.1760628/0/micronaut-json-core-3-10-1-sources-
jar/io/micronaut/json/JsonMapper.java
* /opt/cola/permits/1813842712_1696535008.1760628/0/micronaut-json-core-3-10-1-sources-
jar/io/micronaut/json/tree/JsonNumber.java
* /opt/cola/permits/1813842712_1696535008.1760628/0/micronaut-json-core-3-10-1-sources-
jar/io/micronaut/json/JsonStreamConfig.java
* /opt/cola/permits/1813842712_1696535008.1760628/0/micronaut-json-core-3-10-1-sources-
jar/io/micronaut/json/JsonFeatures.java
*
```

```
/opt/cola/permits/1813842712_1696535008.1760628/0/micronaut-json-core-3-10-1-sources-
jar/io/micronaut/json/convert/JsonConverterRegistrar.java
* /opt/cola/permits/1813842712_1696535008.1760628/0/micronaut-json-core-3-10-1-sources-
jar/io/micronaut/json/JsonConfiguration.java
* /opt/cola/permits/1813842712_1696535008.1760628/0/micronaut-json-core-3-10-1-sources-
jar/io/micronaut/json/bind/JsonBeanPropertyBinderExceptionHandler.java
* /opt/cola/permits/1813842712_1696535008.1760628/0/micronaut-json-core-3-10-1-sources-
jar/io/micronaut/json/tree/JsonArray.java
```

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```
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```

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```
*/
```

Found in path(s):

```
* /opt/cola/permits/1813842712_1696535008.1760628/0/micronaut-json-core-3-10-1-sources-
jar/io/micronaut/json/codec/JsonMediaTypeCodec.java
```

```
* /opt/cola/permits/1813842712_1696535008.1760628/0/micronaut-json-core-3-10-1-sources-
jar/io/micronaut/json/JsonObjectSerializer.java
```

```
* /opt/cola/permits/1813842712_1696535008.1760628/0/micronaut-json-core-3-10-1-sources-
jar/io/micronaut/json/bind/JsonBeanPropertyBinder.java
```

```
*
```

```
/opt/cola/permits/1813842712_1696535008.1760628/0/micronaut-json-core-3-10-1-sources-
jar/io/micronaut/json/codec/JsonStreamMediaTypeCodec.java
```

```
* /opt/cola/permits/1813842712_1696535008.1760628/0/micronaut-json-core-3-10-1-sources-
jar/io/micronaut/json/convert/JsonNodeConvertibleValues.java
```

```
* /opt/cola/permits/1813842712_1696535008.1760628/0/micronaut-json-core-3-10-1-sources-
jar/io/micronaut/json/bind/package-info.java
```

```
* /opt/cola/permits/1813842712_1696535008.1760628/0/micronaut-json-core-3-10-1-sources-
jar/io/micronaut/json/codec/MapperMediaTypeCodec.java
```

## 1.131 micronaut-buffer-netty 3.10.1

## 1.131.1 Available under license :

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Found in path(s):

```
* /opt/cola/permits/1813842772_1696535037.7839/0/micronaut-buffer-netty-3-10-1-sources-
jar/io/micronaut/buffer/netty/ByteBufAllocatorConfiguration.java
* /opt/cola/permits/1813842772_1696535037.7839/0/micronaut-buffer-netty-3-10-1-sources-
jar/io/micronaut/buffer/netty/DefaultByteBufAllocatorConfiguration.java
```

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Found in path(s):

```
* /opt/cola/permits/1813842772_1696535037.7839/0/micronaut-buffer-netty-3-10-1-sources-
jar/io/micronaut/buffer/netty/NettyByteBuffer.java
* /opt/cola/permits/1813842772_1696535037.7839/0/micronaut-buffer-netty-3-10-1-sources-
jar/io/micronaut/buffer/netty/NettyByteBufferFactory.java
* /opt/cola/permits/1813842772_1696535037.7839/0/micronaut-buffer-netty-3-10-1-sources-
```

```
jar/io/micronaut/buffer/netty/package-info.java
*
/opt/cola/permits/1813842772_1696535037.7839/0/micronaut-buffer-netty-3-10-1-sources-
jar/io/micronaut/buffer/netty/NettyFeature.java
```

## 1.132 micronaut-context 3.10.1

### 1.132.1 Available under license :

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```
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/ScheduledExecutorTaskScheduler.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/instrument/InstrumentedExecutorService.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/instrument/InvocationInstrumenterWrappedCallable.java
*
/opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/async/AsyncInterceptor.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/io/watch/event/WatchEventType.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/annotation/Scheduled.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/runtime/event/ApplicationStartupEvent.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/runtime/server/package-info.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/instrument/InstrumentedExecutor.java
*
```



```

/opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/runtime/converters/time/package-info.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/executor/ExecutorType.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/runtime/Micronaut.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/runtime/event/AbstractEmbeddedApplicationEvent.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/processor/ScheduledMethodProcessor.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/instrument/InvocationInstrumenter.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/runtime/exceptions/ApplicationStartupException.java
*
/opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/exceptions/TaskExecutionException.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/runtime/package-info.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/processor/package-info.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/runtime/event/package-info.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/cron/package-info.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/exceptions/SchedulerConfigurationException.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/runtime/context/scope/refresh/package-info.java
*
/opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/executor/ThreadSelection.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/package-info.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/TaskExecutors.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/instrument/Instrumentation.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/runtime/ApplicationConfiguration.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/executor/DefaultExecutorSelector.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/executor/package-info.java
*
/opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/runtime/converters/reactive/package-info.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-

```

```

jar/io/micronaut/runtime/server/EmbeddedServer.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/runtime/context/scope/refresh/RefreshEvent.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/instrument/package-info.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/runtime/context/env/ConfigurationAdvice.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/runtime/event/ApplicationShutdownEvent.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/runtime/server/event/package-info.java
*
/opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/io/watch/WatchServiceFactory.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/executor/ExecutorConfiguration.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/runtime/event/annotation/package-info.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/runtime/context/scope/package-info.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/instrument/NoopInstrumentation.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/TaskScheduler.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/runtime/context/scope/ThreadLocalCustomScope.java
*
/opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/runtime/context/scope/refresh/RefreshInterceptor.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/executor/NamedThreadFactory.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/io/watch/FileWatchCondition.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/runtime/converters/time/TimeConverterRegistrar.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/async/package-info.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/runtime/context/env/package-info.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/instrument/RunnableInstrumenter.java
*
/opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/executor/ScheduledExecutorServiceConfig.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/runtime/server/event/ServerShutdownEvent.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/instrument/MultipleInvocationInstrumenter.java

```

\* /opt/cola/permits/1813842672\_1696534995.6416516/0/micronaut-context-3-10-1-sources-jar/io/micronaut/runtime/context/env/ConfigurationIntroductionAdvice.java

\* /opt/cola/permits/1813842672\_1696534995.6416516/0/micronaut-context-3-10-1-sources-jar/io/micronaut/runtime/context/scope/ScopedProxy.java

\* /opt/cola/permits/1813842672\_1696534995.6416516/0/micronaut-context-3-10-1-sources-jar/io/micronaut/scheduling/executor/ExecutorFactory.java

\* /opt/cola/permits/1813842672\_1696534995.6416516/0/micronaut-context-3-10-1-sources-jar/io/micronaut/scheduling/executor/DefaultThreadFactory.java

\*

/opt/cola/permits/1813842672\_1696534995.6416516/0/micronaut-context-3-10-1-sources-jar/io/micronaut/scheduling/io/watch/event/FileChangedEvent.java

\* /opt/cola/permits/1813842672\_1696534995.6416516/0/micronaut-context-3-10-1-sources-jar/io/micronaut/scheduling/executor/IOExecutorServiceConfig.java

\* /opt/cola/permits/1813842672\_1696534995.6416516/0/micronaut-context-3-10-1-sources-jar/io/micronaut/scheduling/instrument/InvocationInstrumenterFactory.java

\* /opt/cola/permits/1813842672\_1696534995.6416516/0/micronaut-context-3-10-1-sources-jar/io/micronaut/scheduling/executor/UserExecutorConfiguration.java

\* /opt/cola/permits/1813842672\_1696534995.6416516/0/micronaut-context-3-10-1-sources-jar/io/micronaut/scheduling/io/watch/FileWatchConfiguration.java

\* /opt/cola/permits/1813842672\_1696534995.6416516/0/micronaut-context-3-10-1-sources-jar/io/micronaut/runtime/context/scope/refresh/RefreshScope.java

\*

/opt/cola/permits/1813842672\_1696534995.6416516/0/micronaut-context-3-10-1-sources-jar/io/micronaut/scheduling/annotation/ExecuteOn.java

\* /opt/cola/permits/1813842672\_1696534995.6416516/0/micronaut-context-3-10-1-sources-jar/io/micronaut/scheduling/executor/ExecutorSelector.java

\* /opt/cola/permits/1813842672\_1696534995.6416516/0/micronaut-context-3-10-1-sources-jar/io/micronaut/runtime/exceptions/package-info.java

\* /opt/cola/permits/1813842672\_1696534995.6416516/0/micronaut-context-3-10-1-sources-jar/io/micronaut/runtime/context/CompositeMessageSource.java

\* /opt/cola/permits/1813842672\_1696534995.6416516/0/micronaut-context-3-10-1-sources-jar/io/micronaut/scheduling/NextFireTime.java

\* /opt/cola/permits/1813842672\_1696534995.6416516/0/micronaut-context-3-10-1-sources-jar/io/micronaut/scheduling/instrument/InstrumentedScheduledExecutorService.java

\* /opt/cola/permits/1813842672\_1696534995.6416516/0/micronaut-context-3-10-1-sources-jar/io/micronaut/scheduling/annotation/Async.java

\*

/opt/cola/permits/1813842672\_1696534995.6416516/0/micronaut-context-3-10-1-sources-jar/io/micronaut/scheduling/io/watch/package-info.java

\* /opt/cola/permits/1813842672\_1696534995.6416516/0/micronaut-context-3-10-1-sources-jar/io/micronaut/scheduling/io/watch/event/package-info.java

\* /opt/cola/permits/1813842672\_1696534995.6416516/0/micronaut-context-3-10-1-sources-jar/io/micronaut/runtime/EmbeddedApplication.java

\* /opt/cola/permits/1813842672\_1696534995.6416516/0/micronaut-context-3-10-1-sources-jar/io/micronaut/runtime/server/event/ServerStartupEvent.java

\* /opt/cola/permits/1813842672\_1696534995.6416516/0/micronaut-context-3-10-1-sources-jar/io/micronaut/scheduling/TaskExceptionHandler.java

\* /opt/cola/permits/1813842672\_1696534995.6416516/0/micronaut-context-3-10-1-sources-

```
jar/io/micronaut/scheduling/instrument/ReactiveInvocationInstrumenterFactory.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/runtime/event/annotation/EventListener.java
*
/opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/DefaultTaskExceptionHandler.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/ReschedulingTask.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/instrument/InvocationInstrumenterWrappedRunnable.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/runtime/context/scope/ThreadLocal.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/annotation/package-info.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/io/watch/DefaultWatchThread.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/exceptions/package-info.java
*
/opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/runtime/context/scope/Refreshable.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/instrument/ExecutorServiceInstrumenter.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/annotation/Schedules.java
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jar/io/micronaut/runtime/context/scope/refresh/RefreshEventListener.java
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/runtime/converters/reactive/ReactiveTypeConverterRegistrar.java
```

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jar/io/micronaut/runtime/server/watch/event/FileWatchRestartListener.java
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 *MapClaims.java
 * Note: rewritten to standard Java 8 DateTime by zemiak (c) 2016
 * Forked from: https://github.com/frode-carlsen/cron
 */
```

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```
* /opt/cola/permits/1813842672_1696534995.6416516/0/micronaut-context-3-10-1-sources-
jar/io/micronaut/scheduling/cron/CronExpression.java
```

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```
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/ExtendedOpenSslSession.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/OpenSslX509KeyManagerFactory.java
*
/opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/OpenSslKeyMaterial.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/OpenSslSession.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/DefaultOpenSslKeyMaterial.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/OpenSslKeyMaterialProvider.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/OpenSslCachingKeyMaterialProvider.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/OpenSslCachingX509KeyManagerFactory.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/OpenSslX509TrustManagerWrapper.java
*
/opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/OpenSslPrivateKey.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/SignatureAlgorithmConverter.java
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jar/io/netty/handler/ipfilter/IpFilterRule.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/OpenSslServerSessionContext.java
*
/opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ipfilter/IpSubnetFilterRule.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/OpenSslApplicationProtocolNegotiator.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/JdkApplicationProtocolNegotiator.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ipfilter/IpFilterRuleType.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/OpenSslDefaultApplicationProtocolNegotiator.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/util/BouncyCastleSelfSignedCertGenerator.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/JdkSslServerContext.java
*
/opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/SslProvider.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/SslContext.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/JettyAlpnSslEngine.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/ApplicationProtocolConfig.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
```

jar/io/netty/handler/ssl/CipherSuiteFilter.java  
 \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
 jar/io/netty/handler/ssl/SupportedCipherSuiteFilter.java  
 \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
 jar/io/netty/handler/ssl/IdentityCipherSuiteFilter.java  
 \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
 jar/io/netty/handler/ssl/ApplicationProtocolNegotiator.java  
 \*  
 /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
 jar/io/netty/handler/ssl/util/LazyX509Certificate.java  
 \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
 jar/io/netty/handler/ssl/Java7SslParametersUtils.java  
 \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
 jar/io/netty/handler/ssl/JdkDefaultApplicationProtocolNegotiator.java  
 \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
 jar/io/netty/handler/ssl/OpenSslEngine.java  
 \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
 jar/io/netty/handler/ssl/OpenSslEngineMap.java  
 \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
 jar/io/netty/handler/ssl/JdkNpnApplicationProtocolNegotiator.java  
 \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
 jar/io/netty/handler/ipfilter/UniqueIpFilter.java  
 \*  
 /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
 jar/io/netty/handler/ssl/OpenSslContext.java  
 \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
 jar/io/netty/handler/ssl/SniHandler.java  
 \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
 jar/io/netty/handler/ssl/SslUtils.java  
 \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
 jar/io/netty/handler/ssl/util/ThreadLocalInsecureRandom.java  
 \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
 jar/io/netty/handler/ssl/JettyNpnSslEngine.java  
 \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
 jar/io/netty/handler/ssl/util/OpenJdkSelfSignedCertGenerator.java  
 \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
 jar/io/netty/handler/ipfilter/RuleBasedIpFilter.java  
 \*  
 /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
 jar/io/netty/handler/traffic/GlobalChannelTrafficCounter.java  
 \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
 jar/io/netty/handler/ssl/JdkAlpnApplicationProtocolNegotiator.java  
 \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
 jar/io/netty/handler/ssl/CipherSuiteConverter.java  
 \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
 jar/io/netty/handler/ipfilter/AbstractRemoteAddressFilter.java  
 \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
 jar/io/netty/handler/ssl/ApplicationProtocolUtil.java



\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/OpenSslSessionContext.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/OpenSslClientContext.java  
\*  
/opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/JdkSslEngine.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/util/SimpleTrustManagerFactory.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/PemReader.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/OpenSsl.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/OpenSslNpnApplicationProtocolNegotiator.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ipfilter/package-info.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/OpenSslSessionStats.java  
\*  
/opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/JdkBaseApplicationProtocolNegotiator.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/JdkSslClientContext.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/util/FingerprintTrustManagerFactory.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/OpenSslServerContext.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/util/InsecureTrustManagerFactory.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/JdkSslContext.java

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\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/traffic/package-info.java

\*

/opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/traffic/TrafficCounter.java

\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/traffic/ChannelTrafficShapingHandler.java

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\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/ReferenceCountedOpenSslEngine.java

\*

/opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/flush/FlushConsolidationHandler.java

\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/Java8SslUtils.java

\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/flush/package-info.java

\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/OpenSslKeyMaterialManager.java

\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/util/X509TrustManagerWrapper.java

\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/OpenSslCertificateException.java

```
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/PemX509Certificate.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/ReferenceCountedOpenSslServerContext.java
*
/opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/PemPrivateKey.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/ReferenceCountedOpenSslClientContext.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/PemEncoded.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/DelegatingSslContext.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/flow/package-info.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/PemValue.java
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// Try the OpenJDK's proprietary implementation.
```

```
Found in path(s):
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/util/SelfSignedCertificate.java
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\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/EnhancingX509ExtendedTrustManager.java

\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/StacklessSSLHandshakeException.java

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\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/pcap/State.java

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- \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/timeout/IdleState.java
- \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/SslHandler.java
- \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/stream/ChunkedNioFile.java
- \*
- /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/NotSslRecordException.java
- \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/timeout/package-info.java
- \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/timeout/WriteTimeoutException.java
- \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/stream/package-info.java
- \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/stream/ChunkedFile.java
- \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/timeout/WriteTimeoutHandler.java
- \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/logging/LogLevel.java
- \*
- /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/logging/LoggingHandler.java
- \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/timeout/TimeoutException.java
- \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/logging/package-info.java
- \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/timeout/IdleStateHandler.java
- \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/util/package-info.java
- \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/timeout/IdleStateEvent.java
- \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/stream/ChunkedNioStream.java
- \*
- /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/timeout/ReadTimeoutHandler.java
- \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/stream/ChunkedInput.java
- \* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-

jar/io/netty/handler/stream/ChunkedWriteHandler.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
jar/io/netty/handler/timeout/ReadTimeoutException.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
jar/io/netty/handler/stream/ChunkedStream.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
jar/io/netty/handler/ssl/package-info.java  
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jar/io/netty/handler/ssl/ocsp/package-info.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/SslCloseCompletionEvent.java
*
/opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/ocsp/OcspClientHandler.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/JdkAlpnSslUtils.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/SslClientHelloHandler.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/ConscryptAlpnSslEngine.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/AbstractSniHandler.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/SniCompletionEvent.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/Conscrypt.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/JdkAlpnSslEngine.java
*
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/opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/SslCompletionEvent.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/OptionalSslHandler.java  
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\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/SslMasterKeyHandler.java  
\*  
/opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/util/TrustManagerFactoryWrapper.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/util/X509KeyManagerWrapper.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/PseudoRandomFunction.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/OpenSslPrivateKeyMethod.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/address/DynamicAddressConnectHandler.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/util/KeyManagerFactoryWrapper.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/address/package-info.java  
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jar/io/netty/handler/ssl/util/LazyJavaxX509Certificate.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
jar/io/netty/handler/ssl/SslContextBuilder.java  
\*  
/opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
jar/io/netty/handler/ssl/ApplicationProtocolAccessor.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
jar/io/netty/handler/ssl/ApplicationProtocolNegotiationHandler.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
jar/io/netty/handler/ssl/ApplicationProtocolNames.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
jar/io/netty/handler/ssl/OpenSslSessionTicketKey.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
jar/io/netty/handler/ssl/ClientAuth.java

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jar/io/netty/handler/ssl/GroupsConverter.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
jar/io/netty/handler/ssl/OpenSslContextOption.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
jar/io/netty/handler/ssl/OpenSslSessionCache.java  
\*  
/opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
jar/io/netty/handler/ssl/BouncyCastle.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
jar/io/netty/handler/ssl/SslContextOption.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
jar/io/netty/handler/ssl/OpenSslAsyncPrivateKeyMethod.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
jar/io/netty/handler/ssl/SslProtocols.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
jar/io/netty/handler/ssl/AsyncRunnable.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
jar/io/netty/handler/ssl/OpenSslClientSessionCache.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
jar/io/netty/handler/ssl/BouncyCastleAlpnSslUtils.java  
\*  
/opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
jar/io/netty/handler/ssl/Ciphers.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
jar/io/netty/handler/ssl/OpenSslSessionId.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-  
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jar/io/netty/handler/pcap/PcapWriter.java

```
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/pcap/IPPacket.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/pcap/EthernetPacket.java
*
/opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/pcap/PcapWriteHandler.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/pcap/UDPPacket.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/pcap/TCPpacket.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/pcap/PcapHeaders.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
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*/opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/SslHandshakeCompletionEvent.java
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*/opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
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jar/io/netty/handler/ssl/BouncyCastlePemReader.java
* /opt/cola/permits/1813842844_1696534987.658168/0/netty-handler-4-1-99-final-sources-
jar/io/netty/handler/ssl/OpenSslCertificateCompressionAlgorithm.java
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Found in path(s):

\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/META-INF/maven/io.netty/netty-handler/pom.xml  
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\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ipfilter/IpSubnetFilter.java  
\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/SslClosedEngineException.java

\*

/opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/logging/ByteBufFormat.java

\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/address/ResolveAddressHandler.java

\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/util/FingerprintTrustManagerFactoryBuilder.java

\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ssl/SslHandshakeTimeoutException.java

\* /opt/cola/permits/1813842844\_1696534987.658168/0/netty-handler-4-1-99-final-sources-jar/io/netty/handler/ipfilter/IpSubnetFilterRuleComparator.java

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jar/io/netty/handler/flow/FlowControlHandler.java

## 1.134 micronaut-jackson-core 3.10.1

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\* /opt/cola/permits/1813842658\_1696535036.1849675/0/micronaut-jackson-core-3-10-1-sources-  
jar/io/micronaut/jackson/core/parser/JacksonCoreProcessor.java  
\* /opt/cola/permits/1813842658\_1696535036.1849675/0/micronaut-jackson-core-3-10-1-sources-  
jar/io/micronaut/jackson/core/env/CloudFoundryVcapApplicationPropertySourceLoader.java  
\*  
/opt/cola/permits/1813842658\_1696535036.1849675/0/micronaut-jackson-core-3-10-1-sources-  
jar/io/micronaut/jackson/core/env/CloudFoundryVcapServicesPropertySourceLoader.java  
\* /opt/cola/permits/1813842658\_1696535036.1849675/0/micronaut-jackson-core-3-10-1-sources-

jar/io/micronaut/jackson/core/env/JsonPropertySourceLoader.java  
\* /opt/cola/permits/1813842658\_1696535036.1849675/0/micronaut-jackson-core-3-10-1-sources-jar/io/micronaut/jackson/core/env/EnvJsonPropertySourceLoader.java  
\* /opt/cola/permits/1813842658\_1696535036.1849675/0/micronaut-jackson-core-3-10-1-sources-jar/io/micronaut/jackson/core/env/package-info.java  
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\* /opt/cola/permits/1813842658\_1696535036.1849675/0/micronaut-jackson-core-3-10-1-sources-jar/io/micronaut/jackson/core/tree/TreeGenerator.java  
\* /opt/cola/permits/1813842658\_1696535036.1849675/0/micronaut-jackson-core-3-10-1-sources-jar/io/micronaut/jackson/core/tree/JsonNodeTraversingParser.java  
\*  
/opt/cola/permits/1813842658\_1696535036.1849675/0/micronaut-jackson-core-3-10-1-sources-jar/io/micronaut/jackson/core/tree/JsonNodeTreeCodec.java

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